TROX® TECHNIK
The art of handling air

MINI PLEAT FILTER PANELS FOR CLEAN ROOM TECHNOLOGY, TYPE MFPCR

TESTED TO VDI 6022

TYPE MFPCR

FOR THE MOST DEMANDING REQUIREMENTS ON THE PURITY OF INDOOR AIR, WORKSTATIONS, AND DEVICES

HEPA and ULPA filters as high-efficiency particulate filters for the separation of suspended particles in clean room systems. Used for industrial, research, medical, pharmaceutical, and nuclear engineering applications.

- Filter classes H14, U15, U16
- Performance tested in accordance with EN 1822-1 and ISO 29463-2 to ISO 29463-5
- 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 variable pleat depths
- Fitting into filter fan units, clean room workbenches, or operating theatre ceilings
- Automatic filter scan test

Introduction

Application

- Mini Pleat filter panel type MFPCR for the separation of suspended particles such as aerosols, toxic dusts, viruses, bacteria from the supply and extract air in clean room systems with controlled air cleanliness and airflow.
- Particulate filters: Final filters for the most critical requirements of air cleanliness and sterility in areas such as production, research, medicine, pharmaceuticals industry, and nuclear engineering

Special characteristics

- Ideal pleat geometry of the filter medium
- Low-turbulence airflow on the downstream side
- Filter scan test ensures leak-free construction as well as compliance with the stated efficiency and differential pressure

Classification

- Meets the hygiene requirements

Nominal sizes

■ B × H × D [mm]

Description

Filter classes

Filter groups

- HEPA according to EN 1822
- ULPA according to EN 1822

Filter classes

- H14
- U15
- U16

Options

- FT: Pleat depth
- PU: Protection grid on the upstream side
- PD: Protection grid on the downstream side
- PB: Protection grid on both sides
- CSU: Continuous seal on the upstream side
- CSD: Continuous seal on the downstream side
- CSB: Continuous seal on both sides
- OT: Oil mist test (only for filter class H14)
- LFU: Full-surface laminator fleece on the upstream side
- LFU: Full-surface laminator fleece on the downstream side
- LFS: Laminator fleece strip

Construction

- ALB: Frame made of extruded aluminium sections (depth 69 mm)
- ALC: Rahmen Aluminium-Strangpressprofil (Tiefe 78 mm)
- ALG: Frame made of extruded aluminium sections (depth 90 mm)

Construction features

■ Perimeter continuous seal on the upstream side as standard
■ Some constructions with optional continuous seal on thedownstream side or on both sides
■ Protection grid made of expanded metal, can be fitted on thedownstream or upstream side or both sides as required

Materials and surfaces

■ Filter media made of high-quality, moisture-resistant glassfibre papers, pleated
■ Spacers made of thermoplastic hot-melt adhesive provide auniform spacing of the pleats
■ Joint sealing compound made of permanently elastic two-component polyurethane adhesive
■ Frame made from extruded aluminium sections

Standards and guidelines

■ Testing of particulate filters to 1822-1 and ISO 29463-2 toISO 29463-5 (EPA, HEPA and ULPA particulate filters):European standard for the testing of filtration performance inthe factory, particle counting method using a liquid testaerosol
■ Uniform classification of particulate filters according toefficiency, using a test aerosol whose average particle sizelies within the minimum efficiency (MPPS)
■ Particulate filters are classified according to the valuesdetermined for the local filtration efficiency and the overallfiltration efficiency as EPA (filter classes E10, E11, E12),HEPA (filter classes H13, H14) or ULPA (filter classes U15,U16, U17)
■ Hygiene meets the requirements of 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

TECHNICAL INFORMATION

Technical data, Specification text, Order code

Filter class according to EN 1822	H14	U15	U16
Efficiency [%] according to EN 1822	> 99.995 %	> 99.9995 %	> 99.99995 %
Nominal face velocity [m/s]	0.45	0.45	0.45
Initial differential pressure [Pa] at nominal face velocity for frame ALB	110	130	–
Initial differential pressure [Pa] at nominal face velocity for frame ALC	95	115	140
Initial differential pressure [Pa] at nominal face velocity for frame ALG	85	100	120
Max. operating temperature [°C]	80	80	80
Maximum relative humidity [%]	100	100	100

Specification text
Mini Pleat filter panels MFPCR for the separation of suspended particles such as aerosols, toxic dusts, viruses and bacteria from the supply and extract air in clean room systems with controlled air cleanliness and airflow. Use 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. Mini Pleat filter plates for clean room technology, consisting of an extruded aluminium frame, filter media of high-quality, moisture-resistant glass fibre papers with spacers made of thermoplastic hot-melt adhesive. Different pleat depths enable perfect adjustment to individual requirements. Mini Pleat filter panels for clean room technology available in standard and special sizes, filter classes H14, U15, U16. As standard, Mini Pleat filter panels for clean room technology are fitted with a perimeter continuous seal on the upstream side. Some constructions are available with an optional seal on the downstream side or on both sides, or with a protection grid (arrangement as required) and full-surface laminator fleece or laminator fleece strip. As standard, Mini Pleat filter panels for clean room technology are subjected to an automatic filter scan test.

Special characteristics

- Ideal pleat geometry of the filter medium
- Low-turbulence airflow on the downstream side
- Filter scan test ensures leak-free construction as well as compliance with the stated efficiency and differential pressure

Materials and surfaces
■ Filter media made of high-quality, moisture-resistant glassfibre papers, pleated
■ Spacers made of thermoplastic hot-melt adhesive provide auniform spacing of the pleats
■ Joint sealing compound made of permanently elastic two-component polyurethane adhesive
■ Frame made from extruded aluminium sections

Construction

■ ALB: Frame made of extruded aluminium sections (depth69 mm)
■ ALC: Rahmen Aluminium-Strangpressprofil (Tiefe 78 mm)
■ ALG: Frame made of extruded aluminium sections (depth90 mm)

Sizing data
■ Filter class [EN 1822]
■ Volume flow rate [m³/h]
■ Initial differential pressure [Pa]
■ Nominal size [mm]

MFPCR	–	H14	–	ALC	/	1220 × 610 × 78	×	58	/	PD	/	CSU	/	ST	/	LFU
|		|		|		|		|		|		|		|
1		2		3		4		5		6		7		8		9

1 Type
MFPCR Mini Pleat filter panel for clean room technology

2 Filter class
H14 Particulate filter according to EN 1822
U15 Particulate filter according to EN 1822
U16 Particulate filter according to EN 1822

3 Construction
ALB Frame made of extruded aluminium sections (depth 69 mm)
ALC Frame made of extruded aluminium sections (depth 78 mm)
ALG Frame made of extruded aluminium sections (depth 90 mm)

4 Nominal size [mm]
B × H × T

5 Pleat depth [mm]
FT

6 Protection grid
No entry: none
PU Protection grid on the upstream side
PD Protection grid on the downstream side
PB Protection grid on both sides

7 Seal
CSU Continuous seal on the upstream side
CSD Continuous seal on the downstream side
CSB Continuous seal on both sides

8 Testing
ST Scan test

9 Laminator
No entry: none
LFU Full-surface laminator fleece on the upstream side
LFD Full-surface laminator fleece on the downstream side
LFS Laminator fleece strip

MFPCR–H14–ALC/1220×610×78×58/PD/CSU/ST
Filter class H14 particulate filter according to EN 1822
Construction frame made of extruded aluminium sections (depth 78 mm)
Nominal size 1220 × 610 × 78 mm
Pleat depth 58
Protection grid downstream side
Seal Continuous seal on the upstream side
Test scan test

Dimensions

①					②		③	④	⑤
B [mm]	H [mm]	T [mm]	Pleat depth	Filter class	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
305	305	69	50	H14	42	150	110	2,8	1
457	457	69	50	H14	94	340	110	6,3	2
305	610	69	50	H14	83	300	110	5,7	2

①					②		③	④	⑤
B [mm]	H [mm]	T [mm]	Pleat depth	Filter class	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
457	610	69	50	H14	125	450	110	8,5	3
610	610	69	50	H14	168	605	110	11,2	4
762	610	69	50	H14	210	755	110	14	4
915	610	69	50	H14	251	905	110	16,8	5
1220	610	69	50	H14	335	1205	110	22,3	6
1525	610	69	50	H14	418	1505	110	27,8	8
1830	610	69	50	H14	503	1810	110	33,3	9
762	762	69	50	H14	261	940	110	17,5	5
915	762	69	50	H14	314	1130	110	21	5
1220	762	69	50	H14	418	1505	110	27,9	7
1525	762	69	50	H14	522	1880	110	34,8	9
1830	762	69	50	H14	628	2260	110	41,7	10
915	915	69	50	H14	376	1355	110	25,2	6
1220	915	69	50	H14	501	1805	110	33,5	8
1525	915	69	50	H14	628	2260	110	41,9	10
1830	915	69	50	H14	753	2710	110	50,2	12
305	305	69	50	U15	42	150	130	2,8	1
457	457	69	50	U15	94	340	130	6,3	2
305	610	69	50	U15	83	300	130	5,7	2
457	610	69	50	U15	125	450	130	8,5	3
610	610	69	50	U15	168	605	130	11,2	4
762	610	69	50	U15	210	755	130	14	4
915	610	69	50	U15	251	905	130	16,8	5
1220	610	69	50	U15	335	1205	130	22,3	6
1525	610	69	50	U15	418	1505	130	27,8	8
1830	610	69	50	U15	503	1810	130	33,3	9
762	762	69	50	U15	261	940	130	17,5	5
915	762	69	50	U15	314	1130	130	21	5
1220	762	69	50	U15	418	1505	130	27,9	7
1525	762	69	50	U15	522	1880	130	34,8	9
1830	762	69	50	U15	628	2260	130	41,7	10
915	915	69	50	U15	376	1355	130	25,2	6
1220	915	69	50	U15	501	1805	130	33,5	8
1525	915	69	50	U15	628	2260	130	41,9	10
1830	915	69	50	U15	753	2710	130	50,2	12

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①					②		③	④	⑤
B [mm]	H [mm]	T [mm]	Pleat depth	Filter class	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
305	305	78	58	H14	42	150	95	3,3	2
457	457	78	58	H14	94	340	95	7,3	3
305	610	78	58	H14	83	300	95	6,6	3
457	610	78	58	H14	125	450	95	9,8	3
610	610	78	58	H14	168	605	95	13	4
762	610	78	58	H14	210	755	95	16,2	5
915	610	78	58	H14	251	905	95	19,4	5
1220	610	78	58	H14	335	1205	95	25,9	7
1525	610	78	58	H14	418	1505	95	32,3	9
1830	610	78	58	H14	503	1810	95	38,7	10
762	762	78	58	H14	261	940	95	20,3	5
915	762	78	58	H14	314	1130	95	24,3	6
1220	762	78	58	H14	418	1505	95	32,4	8
1525	762	78	58	H14	522	1880	95	40,4	10
1830	762	78	58	H14	628	2260	95	48,4	12
915	915	78	58	H14	376	1355	95	29,3	7
1220	915	78	58	H14	501	1805	95	38,9	9
1525	915	78	58	H14	628	2260	95	48,6	12
1830	915	78	58	H14	753	2710	95	58,2	14
305	305	78	58	U15	42	150	115	3,3	2
457	457	78	58	U15	94	340	115	7,3	3
305	610	78	58	U15	83	300	115	6,6	3
457	610	78	58	U15	125	450	115	9,8	3
610	610	78	58	U15	168	605	115	13	4
762	610	78	58	U15	210	755	115	16,2	5
915	610	78	58	U15	251	905	115	19,4	5
1220	610	78	58	U15	335	1205	115	25,9	7
1525	610	78	58	U15	418	1505	115	32,3	9
1830	610	78	58	U15	503	1810	115	38,7	10
762	762	78	58	U15	261	940	115	20,3	5
915	762	78	58	U15	314	1130	115	24,3	6
1220	762	78	58	U15	418	1505	115	32,4	8
1525	762	78	58	U15	522	1880	115	40,4	10
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915	915	78	58	U15	376	1355	115	29,3	7
1220	915	78	58	U15	501	1805	115	38,9	9
1525	915	78	58	U15	628	2260	115	48,6	12
1830	915	78	58	U15	753	2710	115	58,2	14
305	305	78	58	U16	42	150	140	3,3	2
457	457	78	58	U16	94	340	140	7,3	3
305	610	78	58	U16	83	300	140	6,6	3
457	610	78	58	U16	125	450	140	9,8	3
610	610	78	58	U16	168	605	140	13	4
762	610	78	58	U16	210	755	140	16,2	5
915	610	78	58	U16	251	905	140	19,4	5
1220	610	78	58	U16	335	1205	140	25,9	7
1525	610	78	58	U16	418	1505	140	32,3	9
1830	610	78	58	U16	503	1810	140	38,7	10
762	762	78	58	U16	261	940	140	20,3	5
915	762	78	58	U16	314	1130	140	24,3	6
1220	762	78	58	U16	418	1505	140	32,4	8
1525	762	78	58	U16	522	1880	140	40,4	10
1830	762	78	58	U16	628	2260	140	48,4	12
915	915	78	58	U16	376	1355	140	29,3	7
1220	915	78	58	U16	501	1805	140	38,9	9
1525	915	78	58	U16	628	2260	140	48,6	12
1830	915	78	58	U16	753	2710	140	58,2	14

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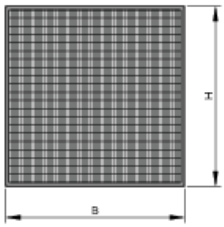
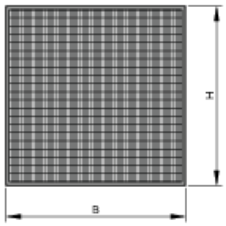
①					②		③	④	⑤
B [mm]	H [mm]	T [mm]	Pleat depth	Filter class	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
305	305	90	70	H14	42	150	85	3,8	2
457	457	90	70	H14	94	340	85	8,6	3
305	610	90	70	H14	83	300	85	7,7	3
457	610	90	70	H14	125	450	85	11,5	3
610	610	90	70	H14	168	605	85	15,2	5
762	610	90	70	H14	210	755	85	18,9	5
915	610	90	70	H14	251	905	85	22,7	6
1220	610	90	70	H14	335	1205	85	30,2	8
1525	610	90	70	H14	418	1505	85	37,6	10
1830	610	90	70	H14	503	1810	85	45,1	12
762	762	90	70	H14	261	940	85	23,7	6
915	762	90	70	H14	314	1130	85	28,4	7
1220	762	90	70	H14	418	1505	85	37,8	9
1525	762	90	70	H14	522	1880	85	47,1	12
1830	762	90	70	H14	628	2260	85	56,6	14
915	915	90	70	H14	376	1355	85	34,1	8
1220	915	90	70	H14	501	1805	85	45,4	10
1525	915	90	70	H14	628	2260	85	56,6	14
1830	915	90	70	H14	753	2710	85	67,9	16
305	305	90	70	U15	42	150	100	3,8	2
457	457	90	70	U15	94	340	100	8,6	3
305	610	90	70	U15	83	300	100	7,7	3
457	610	90	70	U15	125	450	100	11,5	3
610	610	90	70	U15	168	605	100	15,2	5
762	610	90	70	U15	210	755	100	18,9	5
915	610	90	70	U15	251	905	100	22,7	6
1220	610	90	70	U15	335	1205	100	30,2	8
1525	610	90	70	U15	418	1505	100	37,6	10
1830	610	90	70	U15	503	1810	100	45,1	12
762	762	90	70	U15	261	940	100	23,7	6
915	762	90	70	U15	314	1130	100	28,4	7
1220	762	90	70	U15	418	1505	100	37,8	9
1525	762	90	70	U15	522	1880	100	47,1	12
1830	762	90	70	U15	628	2260	100	56,5	14
915	915	90	70	U15	376	1355	100	34,1	8
1220	915	90	70	U15	501	1805	100		10
1525	915	90	70	U15	628	2260	100	56,6	14
1830	915	90	70	U15	753	2710	100	67,9	16
305	305	90	70	U16	42	150	120	3,8	2
457	457	90	70	U16	94	340	120	8,6	3
305	610	90	70	U16	83	300	120	7,7	3
457	610	90	70	U16	125	450	120	11,5	3
610	610	90	70	U16	168	605	120	15,2	5
762	610	90	70	U16	210	755	120	18,9	5
915	610	90	70	U16	251	905	120	22,7	6
1220	610	90	70	U16	335	1205	120	30,2	8
1525	610	90	70	U16	418	1505	120	37,6	10
1830	610	90	70	U16	503	1810	120	45,1	12
762	762	90	70	U16	261	940	120	23,7	6
915	762	90	70	U16	314	1130	120	28,4	7
1220	762	90	70	U16	418	1505	120	37,8	9
1525	762	90	70	U16	522	1880	120	47,1	12
1830	762	90	70	U16	628	2260	120	56,5	14
915	915	90	70	U16	376	1355	120	34,1	8
1220	915	90	70	U16	501	1805	120	45,4	10
1525	915	90	70	U16	628	2260	120	56,6	14
1830	915	90	70	U16	753	2710	120	67,9	16

MFPCR-...-ALB



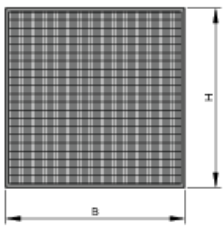
MFPCR-...-ALB

MFPCR-...-ALC



MFPCR-...-ALC

MFPCR-...-ALG



MFPCR-...-ALG

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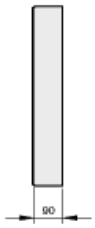

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