



# PRODUCT CATALOGUE

*Advanced filtration for a better future!*



**AIR FILTER** TECHNOLOGY



## **Pioneering Air Filtration Solutions**

Since its inception, Ulpatek has consistently delivered quality and innovation, setting reference points in the air filtration sector. With our extensive industry knowledge, advanced manufacturing facilities, and commitment to quality, we have paved our way to becoming a trusted name in over 80 countries worldwide. Our continuous dedication to research & development and engineering infrastructure ensures that our products meet global standards. It's not just about selling products; at Ulpatek, we offer solutions. Dive into our catalogue to discover the products that make us a preferred brand across borders.

## The Milestones of Our Existence

ULPATEK, with its roots in hygienic ventilation expertise, has today transformed into a global frontrunner in air filtration; representing innovation, quality, and unwavering trust.

1979  
-----  
2006

A team with both local and international experience, having worked at TETISAN - a company with over 45 years of expertise in industrial air conditioning and hygienic ventilation - has come together.



2007

Establishment of ULPATEK to address the filtration requirements of all air conditioning systems, from simple ventilation systems to advanced cleanrooms.



2008

Introduction of the TÜBİTAK-awarded HEPA/ULPA Scanning System.



2014

Transfer of Tetisan's cleanroom equipment production to Ulpatek with technological development.



2015

Exports to 50 countries.



2017

Relocation to a new factory, leading to an increase in production capacity.



2018

Gathering systems such as the New Topas Brand Scan Test, ULPATEK Scan Test, Performance Test, DOP Test, ISO 16890 Test, and Filter Media Test System under the ULPALAB.



2020

Uninterrupted filter supply to the global market and city hospitals during the pandemic period.



2023

Exports to 80 countries.





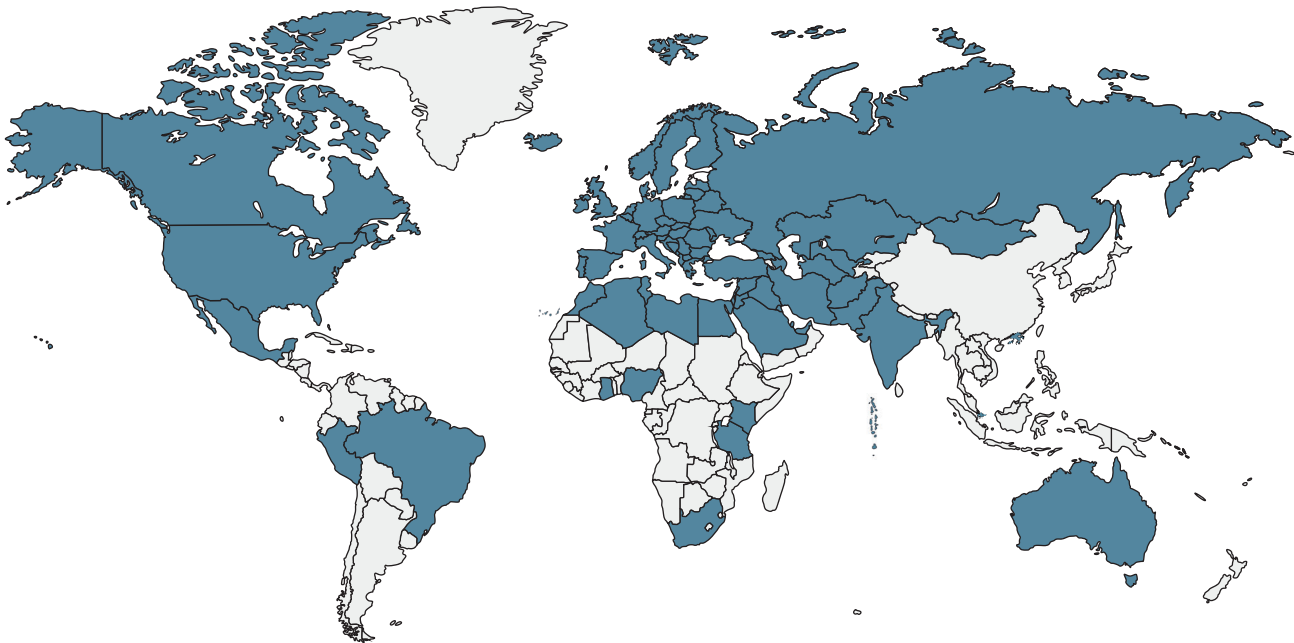
# Advanced Manufacturing Facility

Welcome to Ulpatek's latest manufacturing center, where advanced technology meets sustainability. Designed with precision and environmental consciousness in mind, this facility ensures top-quality production while prioritizing safety and efficiency.



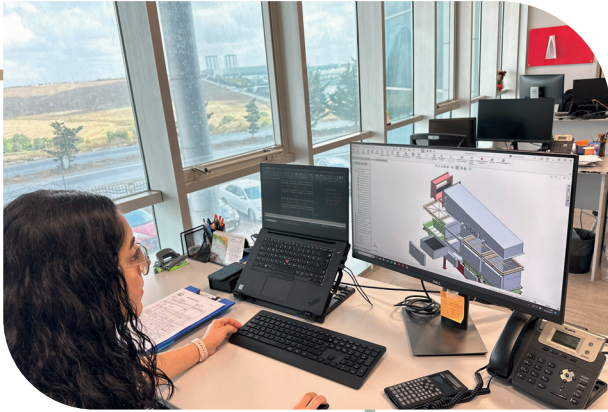
## Global Presence

At Ulpatek, our dedication to superiority is without limits. With our products and services reaching over 80 countries worldwide, we are proud to have a truly global footprint. Our wide reach shows trust in our brand and showcases our dedication to meeting diverse demands and adapting to varied market nuances.



## Product Excellence

We pride ourselves on our commitment to product excellence. Every piece we create is thoroughly tested in ULPALAB (Ulpatek Filter Testing Laboratory), ensuring that it meets the highest standards of quality and durability. Our expert engineers merge skill and creativity, precisely developing our products.



## Whatever You Need, We Have the Filter, We Have the Solution

From simple ventilation systems to advanced clean rooms, our filters offer unmatched performance. Whatever the challenge, we deliver the solution.

COARSE FILTRATION

FINE DUST FILTRATION

HIGH EFFICIENCY FILTRATION (EPA, HEPA, ULPA)

GAS-PHASE FILTRATION

ACCESSORIES

CLEANROOM EQUIPMENT

LIFE SCIENCE

HEALTHCARE

FOOD & BEVERAGE

POWER PLANTS

COMMERCIAL BUILDINGS

INDUSTRIAL



AIR FILTER TECHNOLOGY

## Comparison Table

ASHRAE Standard 52.2.2017				ISO 16890: 2018				EN 779: 2012					
Min. Efficiency Reporting Value  (MERV)	Composite Average Particle Size Efficiency (E <sub>m</sub> ) % in Size Range			Composite Average Particle Size Efficiency % in Size Range E <sub>m</sub> = (E <sub>i</sub> + E <sub>d</sub> ) / 2		Initial Efficiency (E <sub>i</sub> )	Initial Arrestance (A <sub>m</sub> )	Filter Class	Average Arrestance (A <sub>m</sub> ) of Synthetic Dust	Average Efficiency (E <sub>m</sub> ) at 0.4 μm	Minimum Efficiency (E <sub>min</sub> ) at 0.4 μm		
	Range 1	Range 2	Range 3	ePM <sub>1</sub> %	ePM <sub>2,5</sub> %	ePM <sub>10</sub> %	Coarse %						
	0.3-1.0 (mm)	1.0-3.0 (mm)	3.0-10.0 (mm)	0.3-1.0 (mm)	0.3-2,5 (mm)	0.3-10 (mm)	ISO Fine Dust		%	%	%		
1			E <sub>3</sub> ≥ 20				A <sub>m</sub> < 50	G1	50 ≤ A <sub>m</sub> ≤ 65				
2			E <sub>3</sub> ≥ 20					G2	65 ≤ A <sub>m</sub> ≤ 80				
3			E <sub>3</sub> ≥ 20							G3	80 ≤ A <sub>m</sub> ≤ 90		
4			E <sub>3</sub> ≥ 20									A <sub>m</sub> ≥ 50	G4
5			E <sub>3</sub> ≥ 20				G3	80 ≤ A <sub>m</sub> ≤ 90					
6			E <sub>3</sub> ≥ 35						G4	A <sub>m</sub> ≤ 90			
7			E <sub>3</sub> ≥ 50				G4	A <sub>m</sub> ≤ 90					
8		E <sub>2</sub> ≥ 20	E <sub>3</sub> ≥ 70						E <sub>i</sub> > 50	M5		40 ≤ E <sub>m</sub> ≤ 60	
9		E <sub>2</sub> ≥ 35	E <sub>3</sub> ≥ 75				E <sub>i</sub> > 70	M6					60 ≤ E <sub>m</sub> ≤ 80
10		E <sub>2</sub> ≥ 50	E <sub>3</sub> ≥ 80						E <sub>m</sub> ≥ 50	E <sub>i</sub> > 80			80 ≤ E <sub>m</sub> ≤ 90
11	E <sub>1</sub> ≥ 20	E <sub>2</sub> ≥ 65	E <sub>3</sub> ≥ 85				E <sub>m</sub> ≥ 70	E <sub>m</sub> > 80				E <sub>i</sub> > 90	
12	E <sub>1</sub> ≥ 35	E <sub>2</sub> ≥ 80	E <sub>3</sub> ≥ 90						E <sub>m</sub> > 80		F9		
13	E <sub>1</sub> ≥ 50	E <sub>2</sub> ≥ 85	E <sub>3</sub> ≥ 90	E <sub>m</sub> ≥ 50	E <sub>m</sub> ≥ 65	E <sub>i</sub> > 80		F7					
14	E <sub>1</sub> ≥ 75	E <sub>2</sub> ≥ 90	E <sub>3</sub> ≥ 95	E <sub>m</sub> ≥ 70	E <sub>m</sub> > 80	E <sub>i</sub> > 90			F8		90 ≤ E <sub>m</sub> ≤ 95		E <sub>min</sub> ≥ 55
15	E <sub>1</sub> ≥ 85	E <sub>2</sub> ≥ 90	E <sub>3</sub> ≥ 95	E <sub>m</sub> > 80				F9					
16	E <sub>1</sub> ≥ 95	E <sub>2</sub> ≥ 95	E <sub>3</sub> ≥ 95										

ASHRAE Standard 52.2.2017

ISO 16890: 2018

EN 779: 2012

Min. Efficiency Reporting Value

(MERV)

Composite Average Particle Size Efficiency (E<sub>m</sub>) % in Size Range

Range 1

Range 2

Range 3

Composite Average Particle Size Efficiency % in Size Range  
E<sub>m</sub>= (E<sub>i</sub> + E<sub>d</sub>) / 2

ePM<sub>1</sub> %

ePM<sub>2,5</sub> %

ePM<sub>10</sub> %

Coarse %

Initial Efficiency (E<sub>i</sub>)

Initial Arrestance (A<sub>m</sub>)

Filter Class

Average Arrestance (A<sub>m</sub>) of Synthetic Dust

Average Efficiency (E<sub>m</sub>) at 0.4 μm

Minimum Efficiency (E<sub>min</sub>) at 0.4 μm

0.3-1.0 (mm)

1.0-3.0 (mm)

3.0-10.0 (mm)

0.3-1.0 (mm)

0.3-2,5 (mm)

0.3-10 (mm)

ISO Fine Dust

%

%

%

E<sub>3</sub> ≥ 20

E<sub>3</sub> ≥ 20

E<sub>3</sub> ≥ 20

E<sub>3</sub> ≥ 20

E<sub>3</sub> ≥ 20

E<sub>3</sub> ≥ 35

E<sub>3</sub> ≥ 50

E<sub>2</sub> ≥ 20

E<sub>2</sub> ≥ 35

E<sub>2</sub> ≥ 50

E<sub>1</sub> ≥ 20

E<sub>1</sub> ≥ 35

E<sub>1</sub> ≥ 50

E<sub>1</sub> ≥ 75

E<sub>1</sub> ≥ 85

E<sub>1</sub> ≥ 95

E<sub>3</sub> ≥ 75

E<sub>3</sub> ≥ 80

E<sub>3</sub> ≥ 85

E<sub>m</sub> ≥ 50

E<sub>m</sub> ≥ 65

E<sub>i</sub> > 80

E<sub>m</sub> ≥ 70

E<sub>m</sub> > 80

E<sub>m</sub> > 80

E<sub>i</sub> > 50

E<sub>i</sub> > 70

E<sub>i</sub> > 80

E<sub>i</sub> > 90

E<sub>m</sub> > 80

A<sub>m</sub> < 50

A<sub>m</sub> ≥ 50

G1

G2

G3

G4

50 ≤ A<sub>m</sub> ≤ 65

65 ≤ A<sub>m</sub> ≤ 80

80 ≤ A<sub>m</sub> ≤ 90

A<sub>m</sub> ≤ 90

40 ≤ E<sub>m</sub> ≤ 60

60 ≤ E<sub>m</sub> ≤ 80

80 ≤ E<sub>m</sub> ≤ 90

90 ≤ E<sub>m</sub> ≤ 95

95 ≤ E<sub>m</sub>

E<sub>min</sub> ≥ 35

E<sub>min</sub> ≥ 55

E<sub>min</sub> ≥ 70

A<sub>m</sub>= Average Arrestance, E<sub>m</sub>= Average Efficiency, E<sub>min</sub>= Minimum Efficiency, E<sub>d</sub>= Discharged Efficiency, E<sub>i</sub>= Initial Efficiency

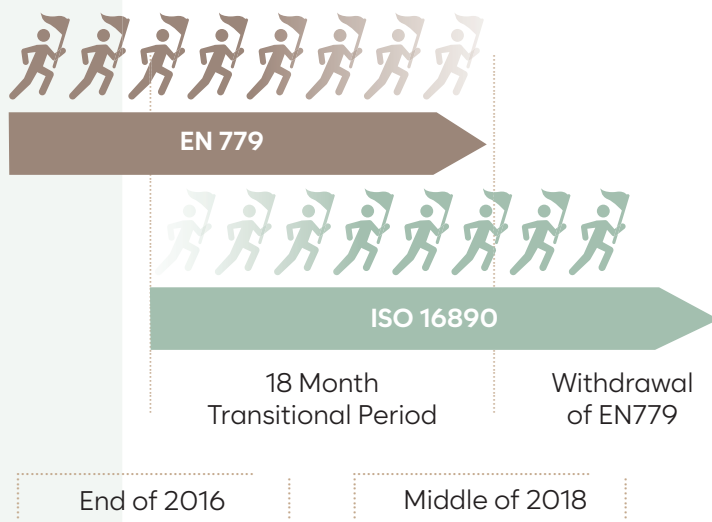
## ISO 16890 Standard for Air Filters Used in General Ventilation

ISO 16890 standard is used as a standard for air filter instead of EN 779 and ASHRAE 52.2. Measuring the efficiency of an air filter at a particle size range of 0,3  $\mu m$  to 10  $\mu m$ . The classification is carried out according to standard for particle size range 0,3-1,0  $\mu m$ , 0,3-2,5  $\mu m$  and 0,3-10  $\mu m$ . The process is considered while choosing filters according to more detailed and global standard.

### Why EN 779 replaced?

A synthetic powder called ASHRAE dust is used in the efficiency test of an air filter according to EN 779: 2012 standard. The test is done by loading the filter with this powder in the laboratory environment. By this way, the efficiency of the filter can be calculated in the particle size of only 0.4  $\mu m$ . In operating conditions, filters are exposed to pollutants with a variety of different sized particulate. Therefore, the data obtained in the laboratory is insufficient to determine the performance of an air filter.

The EN 779: 2012 standard which was used in the classification of Coarse filters, Medium Filters and Fine Filters replaced by the ISO 16890 standard. With this change in standard, filter users will be able to choose the filter much more accurate according to their needs.

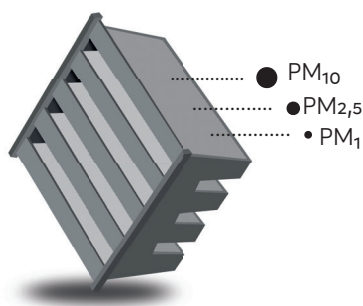




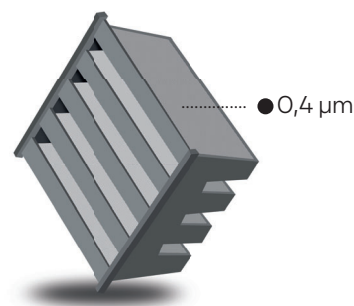
## ISO 16890 Classifications

ISO ePM <sub>1</sub>	ISO ePM <sub>2,5</sub>	ISO ePM <sub>10</sub>	ISO Coarse
ePM <sub>1</sub> 95%	ePM <sub>2,5</sub> 95%	ePM <sub>10</sub> 95%	ISO Coarse 95%
ePM <sub>1</sub> 90%	ePM <sub>2,5</sub> 90%	ePM <sub>10</sub> 90%	ISO Coarse 90%
ePM <sub>1</sub> 85%	ePM <sub>2,5</sub> 85%	ePM <sub>10</sub> 85%	ISO Coarse 85%
ePM <sub>1</sub> 80%	ePM <sub>2,5</sub> 80%	ePM <sub>10</sub> 80%	ISO Coarse 80%
ePM <sub>1</sub> 75%	ePM <sub>2,5</sub> 75%	ePM <sub>10</sub> 75%	ISO Coarse 75%
ePM <sub>1</sub> 70%	ePM <sub>2,5</sub> 70%	ePM <sub>10</sub> 70%	ISO Coarse 70%
ePM <sub>1</sub> 65%	ePM <sub>2,5</sub> 65%	ePM <sub>10</sub> 65%	ISO Coarse 65%
ePM <sub>1</sub> 60%	ePM <sub>2,5</sub> 60%	ePM <sub>10</sub> 60%	ISO Coarse 60%
ePM <sub>1</sub> 55%	ePM <sub>2,5</sub> 55%	ePM <sub>10</sub> 55%	ISO Coarse 55%
ePM <sub>1</sub> 50%	ePM <sub>2,5</sub> 50%	ePM <sub>10</sub> 50%	ISO Coarse 50%
Requirement	Requirement	Requirement	ISO Coarse 45%
≥50% Initial Efficiency	≥50% Initial Efficiency	≥50% Initial Efficiency	ISO Coarse 40%
≥50% Discharged Efficiency	≥50% Discharged Efficiency	No discharged requirement	ISO Coarse 35%
			ISO Coarse 30%
			ISO Coarse 25%
			ISO Coarse 20%
			ISO Coarse 15%
			ISO Coarse 10%
			ISO Coarse 5%
			No discharged requirement

ISO 16890



EN 779:2012

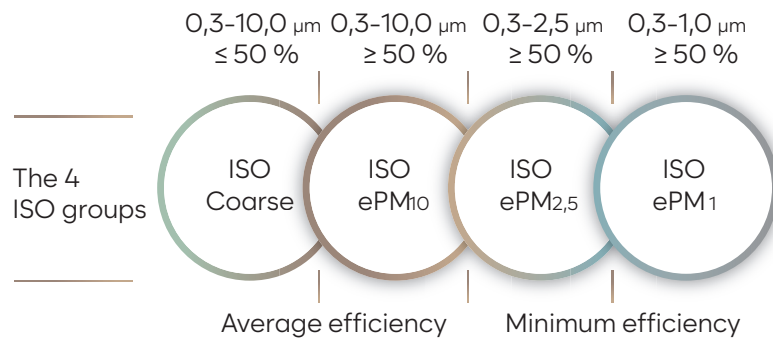


ISO 16890 standard considers for the particle size (Particulate Matter = PM) between 0,3 µm and 10 µm for efficiency evaluation.

For example; According to the test result, the F8 class V-Compact Filter is classified as "ISO ePM<sub>1</sub>70%". This means that the filter separates %70 of PM<sub>1</sub> particles. The "e" stands for efficiency in combination with the particulate matter (PM).

Product Code	Classification according to EN 779	Particulate Matter Efficiency (%)			Classification according to ISO 16890
		ISO ePM <sub>1</sub>	ISO ePM <sub>2,5</sub>	ISO ePM <sub>10</sub>	
FV-F8-592-592-292	F8	73	80	93	ISO ePM <sub>1</sub> 70%

## Particle collective



EN ISO 16890 Classification				
	ePM <sub>1</sub>	ePM <sub>2,5</sub>	ePM <sub>10</sub>	ISO Coarse
ePM <sub>1min</sub>	≥50%	—	—	—
ePM <sub>2,5min</sub>	—	≥50%	—	—
ePM <sub>10min</sub>	—	—	≥50%	≤50%

## EN 779 vs. ISO 16890 Differences

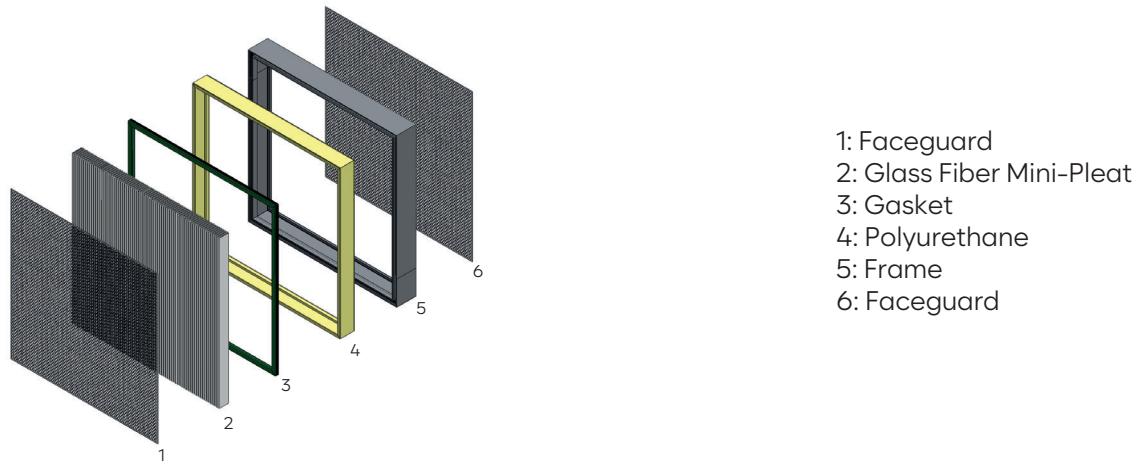
EN 779 (cancelled)	Filter classes F7-F8-F9 M5-M6 G2-G3-G4	The evaluation is carried out with a particle size of only 0,4 µm.	Determining of average efficiency / arrestance after loading synthetic dust. Mean of test measurements at 0,4 µm particulate size.	Dust holding capacity for synthetic test dust ASHRAE	Test final ΔP G1, G2, G3, G4 = 250 Pa M5, M6, F7, F8, F9 = 450 Pa	Covers Europe (EN: European Standard).
ISO 16890	Four ISO groups ISO ePM <sub>1</sub> ISO ePM <sub>2,5</sub> ISO ePM <sub>10</sub> ISO Coarse	The evaluation is carried out with a particle size from 0,3 µm-10 µm.	The efficiency is measured according to the particle range. Measuring efficiencies after 24 hours of IPA process. Calculating the ePM <sub>x</sub> efficiency with mean of test measurements.	Dust holding capacity for synthetic test dust ISO A2/AC Fine	Test final ΔP ePM <sub>10</sub> ≤ 50% = 200 Pa ePM <sub>x</sub> ≥ 50% = 300 Pa	Global (ISO, International Standard Organization).

EN 779:2012	EN ISO 16890 - range of actual measured average efficiencies		
Filter Class	ePM <sub>1</sub>	ePM <sub>2,5</sub>	ePM <sub>10</sub>
M5	5%-35%	10%-40%	40%-70%
M6	10%-40%	20%-50%	60%-80%
F7	40%-65%	65%-75%	80%-90%
F8	65%-90%	75%-95%	90%-100%
F9	80%-90%	85%-95%	90%-100%



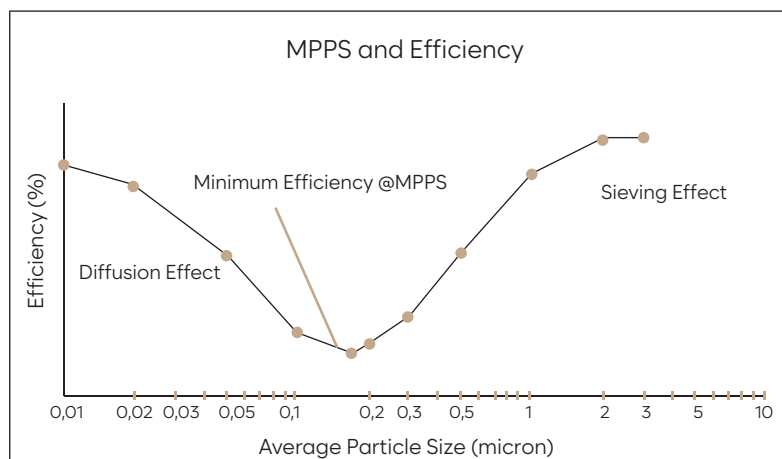
## What is HEPA Filter?

A High Efficiency Particulate Air (HEPA) filter is a type of air filter designed to remove very fine airborne particles, such as virus, bacteria, and mold spores, from the air. These filters are commonly used in various applications, including pharmaceutical cleanrooms, healthcare facilities, microelectronics, and food & beverage, to improve indoor air quality and protect sensitive equipment or processes.



## Understanding Most Penetrating Particle Size (MPPS)

MPPS refers to the particle size that is most difficult to capture and this value is between 0.1-0.2 microns. The standard determines efficiency based on this critical value. We can say that particles smaller or larger than MPPS are captured at higher efficiency compared to MPPS.



## HEPA Filter Efficiency

The minimum efficiency of HEPA filters are 99.95% for class H13 and 99.995% for class H14 at most penetrating particle size (MPPS) according to the EN1822 standard.

We can give an example to explain what removal efficiency means;

The maximum number of particles that can pass through H14 filter is 5 from 100,000 particles of MPPS ( $(0.005 \times 100.000) / 100 = 5$ )

The maximum number of particles that can pass through H13 filter is 50 from 100,000 particles of MPPS ( $(0.05 \times 100.000) / 100 = 50$ )

## EN 1822 and ISO 29463: HEPA Filter Tests and Standards

EN 1822, a European standard, provides a detailed classification system for HEPA and ULPA filters based on their filtration efficiency and ability to capture particles of various sizes. It outlines testing methods such as the leak test, the efficiency test, and the scanning test to ensure the filters meet their specified performance criteria.

ISO 29463, on the other hand, is an international standard that was derived from and is largely harmonized with EN 1822. It consists of a series of standards (ISO 29463-1 to ISO 29463-5) that cover the general requirements, test procedures, performance classification, and marking of HEPA and ULPA filters in a global context. The purpose of ISO 29463 is to establish a uniform international standard, making it easier for manufacturers and customers to compare and select filters that meet their specific needs.

ISO 29463													EN 1822-1: 2019			
Class	Group	Overall Value		Local Value		Overall Efficiency Test		Local Efficiency Test (As agreed between supplier and customer)								
ISO 15	E	≥95	≤5	–	–	●	●	Group E filters not tested for classification.						E11		
ISO 20		≥99	≤1	–	–	●	●							–		
ISO 25		≥99,5	≤0,5	–	–	●	●							E12		
ISO 30		≥99,9	≤0,1	–	–	●	●							–		
ISO 35	H	≥99,95	≤0,05	≥99,75	≥0,25	●	●	●	●	●	●	●	H13			
ISO 40		≥99,99	≤0,01	≥99,95	≥0,05	●	●	●	●	●	–	–	–			
ISO 45		≥99,995	≤0,005	≥99,975	≥0,025	●	●	●	●	●	–	–	H14			
ISO 50	U	≥99,999	≤0,001	≥99,995	≥0,005	●	●	●	–	–	●	–	–	–		
ISO 55		≥99,9995	≤0,0005	≥99,9975	≥0,0025	●	●	●	–	–	●	–	–	U15		
ISO 60		≥99,9999	≤0,0001	≥99,9995	≥0,0005	●	●	●	–	–	●	–	–	–		
ISO 65		≥99,99995	≤0,00005	≥99,99975	≥0,00025	●	●	●	–	–	●	–	–	U16		
ISO 70		≥99,99999	≤0,00001	≥99,9999	≥0,0001	●	●	●	–	–	●	–	–	–		
ISO 75		≥99,999995	≤0,000005	≥99,9999	≥0,0001	●	●	●	–	–	●	–	–	U17		
Test Methods: Efficiency/Leak Tests:At Rated Airflow Efficiency Tests:At MPPS (Most Penetrating Particle Size)						ISO 29463-4		ISO 29463-5		ISO 29463-4						
						Test with Movable Probe	Test with Static Probe	Annex C	Annex A	Annex B	Annex E	Annex F	Annex G	Scan Tests per EN 1822		
								Scan Test at MPPS	Oil Thread Leak Test	Photometer Leak Test	PSL Leak Test	0.3-0.5 μm Leak Test	Photometer Overall Test			

## EN ISO 14644-1

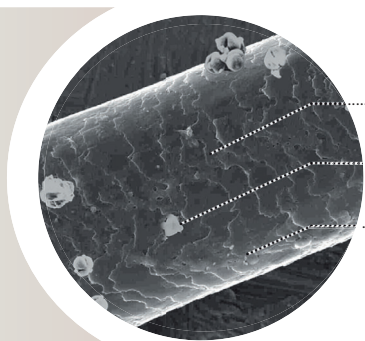
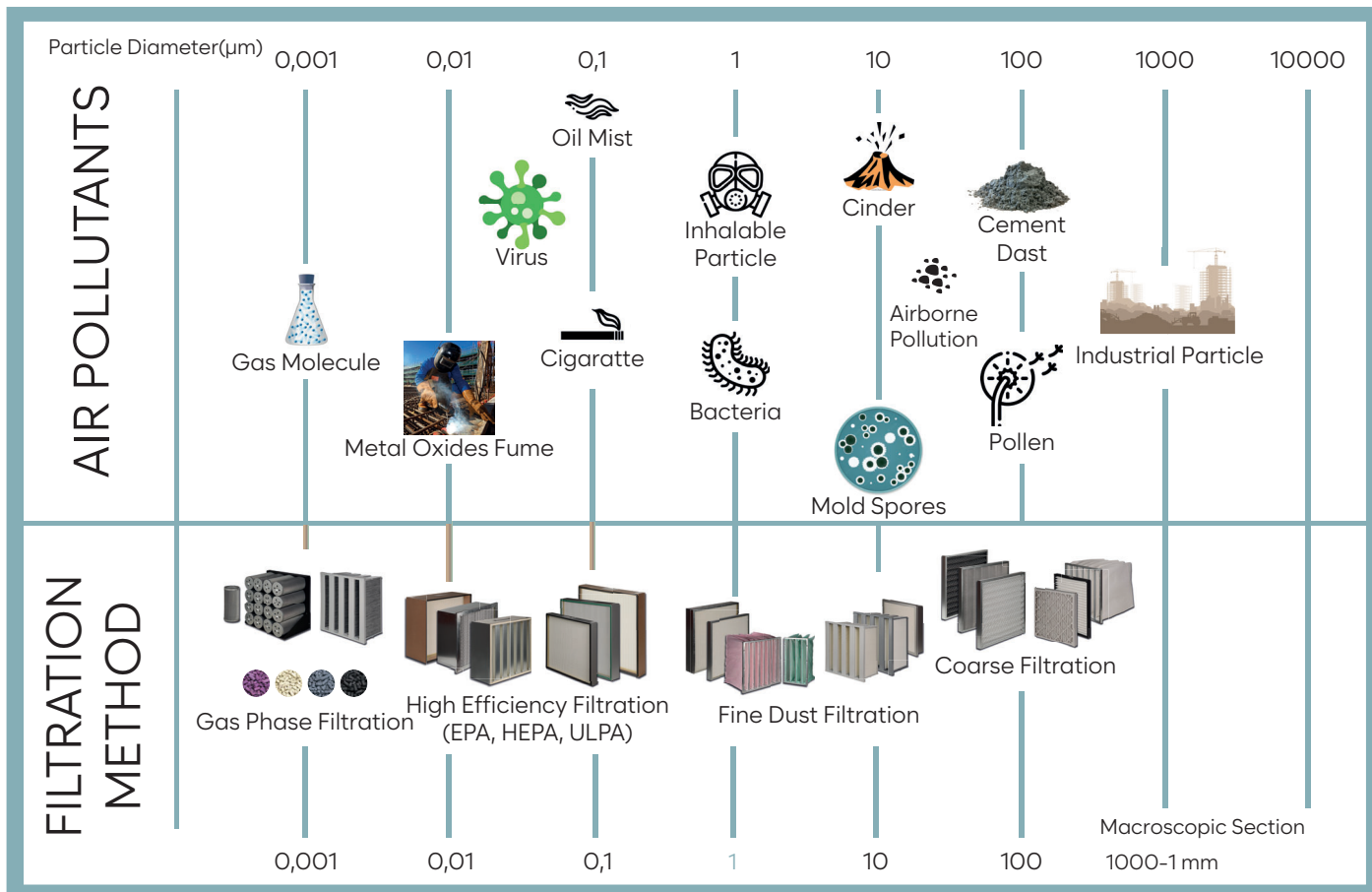
ISO 14644-1 defines the classification of air cleanliness in cleanrooms and associated controlled environments exclusively in terms of concentration of airborne particles. Only particle populations having cumulative distributions based on threshold (lower limit) particle sizes ranging from 0,1 µm to 5 µm are considered for classification purposes.

### Cleanroom Classification

ISO Class Number	Maximum allowable concentrations (particles/m <sup>3</sup> ) for particles equal to and greater than the considered sizes (a)						Fed Std.209 (Class) particles/ft <sup>3</sup>
	0,1 µm	0,2 µm	0,3 µm	0,5 µm	1,0 µm	5,0 µm	
ISO 1	10	(d)	(d)	(d)	(d)	(e)	–
ISO 2	100	24(b)	10(b)	(d)	(d)	(e)	–
ISO 3	1.000	237	102	35(b)	(d)	(e)	1
ISO 4	10.000	2.370	1.020	352	83(b)	(e)	10
ISO 5	100.000	23.700	10.200	3.520	832	(d), (e), (f)	100
ISO 6	1.000.000	237.000	102.000	35.200	8.320	293	1.000
ISO 7	(c)	(c)	(c)	352.000	83.200	2.930	10.000
ISO 8	(c)	(c)	(c)	3.520.000	832.000	29.300	100.000
ISO 9	(c)	(c)	(c)	35.200.000	8.320.000	293.000	–

# Particle Matter

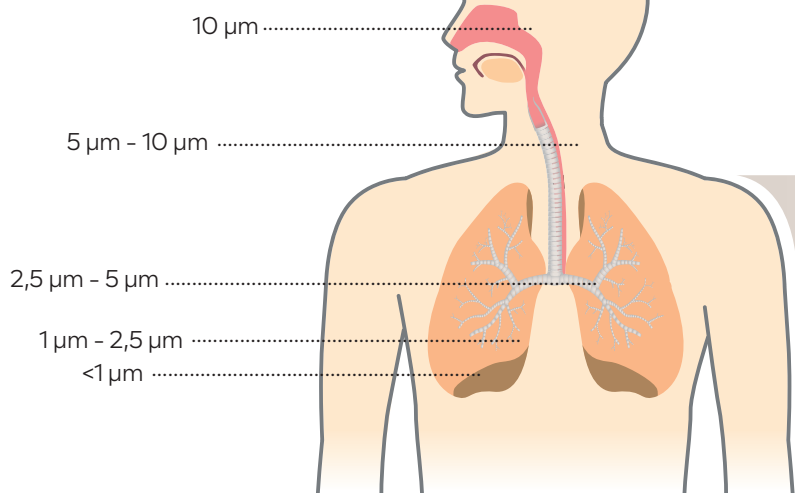
Airborne pollution sources are various which can be from natural sources like volcanos, thermal sources, pollens, sand storms and from industrial life like factories, automobile emissions, jet fuels, garbage dumps etc. Pollutants are divided in to three physical conditions as solids, liquids and gases. Effective pollution control can be easily made by particulate and gas phase filtration. These filtration methods and applications are define at ISO 16890, EN 1822, ISO 29463, ISO 10121-3. Airborne pollutants comparison chart shows size differences related particulate and gas phase filtration.



Human hair 75 - 150 micron

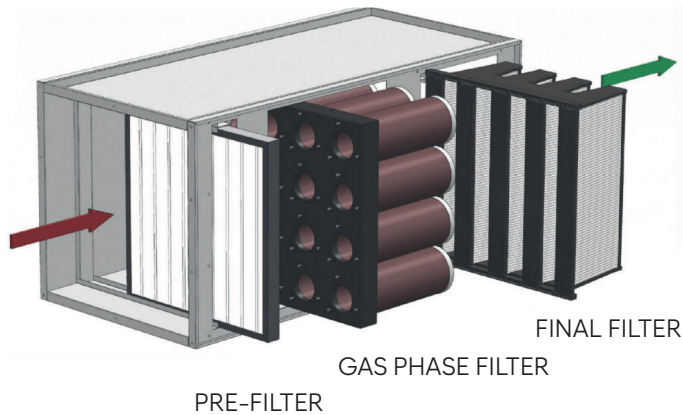
Particulates 5 - 10 micron

Particulates < 1 micron



## Gas Phase Filtration

Gas phase filtration and particulate filtration work together for acceptable indoor air quality in controlled environments. Gas pollutants are filtered with Ulpatek's gas phase air filters which are produced from one or mix filter media. Particulate pollutants are controlled with particulate filters which are mentioned in related standards as coarse, fine and high efficiency filters. Gas phase filter media (pellets) generally are produced using carbon, zeolite, alumina or coconut-based media. Gas phase filtration occurs with the two different methods which are physical and chemical.



In order to apply the control methods for the gas phase pollutants, we have to know the pollutants and its effects. Main airborne pollution effects;



ULP-Bi-On KOH

ULP-Bi-On Cl

ULP-Bi-On K/4%

ULP-Bi-On +11%

ULP-Bi-On AC  
Active Max

ULP-Bi-On  
Triple Blend

- Potassium Hydroxide
- Greatest purity and bigger surface area
- Broad spectrum of gas removal

- Sodium Thiosulphate
- Chlorine and acid gases removal

- Potassium Iodure
- Formaldehyde and organic aldehydes removal

- Potassium Permanganate
- Irreversible removal

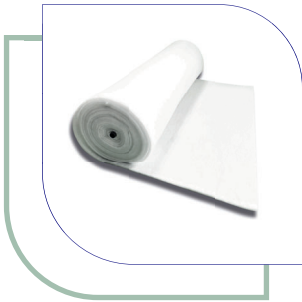
- Thermally activated bituminous carbon
- No impregnates
- High gas removal capacity

- Contains a 50:25:25 blend, respectively of ULP-Bi-On KOH, ULP-Bi-On AC Active Max, ULP-Bi-On +6%

**Ulpatek has various type of media which are selected according to the target pollutants.**

Product Family	Gas Phase Pollutants												
	C <sub>x</sub> H <sub>y</sub>	Cl <sub>2</sub>	Odors	VOC's	H <sub>2</sub> S	SO <sub>2</sub>	NO <sub>2</sub>	HCHO	HCl	Hg	Reactive Iodine	Merc	NH <sub>3</sub>
ULP-Bi-On AC Active Max	✓		✓	✓									
ULP-Bi-On +11%					✓	✓	✓	✓					
ULP-Bi-On +11% / AC					✓	✓	✓	✓	✓				
ULP-Bi-On KOH		✓			✓	✓			✓			✓	
ULP-Bi-On KI4%					✓	✓		✓		✓	✓	✓	
ULP-Bi-On ACPA				✓									✓
ULP-Bi-On Cl		✓											
ULP-Bi-On S										✓			
ULP-Bi-On Triple Blend		✓	✓	✓	✓	✓	✓						

## SYNTHETIC ROLL FILTER



**Applications:**  
Pre-filter for ventilation equipment and HVAC  
Basic ventilation systems

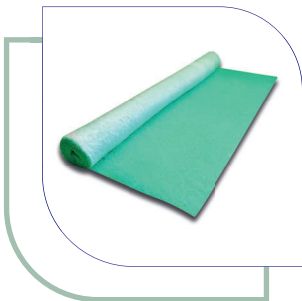
**Highlights:**

- Fire resistant (M1 / F1)
- MERV 2 - MERV 10 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	G2, G3, G4, M5
Filter Class (ISO 16890)	Coarse 25%, 45%, 55%, 80%
Media	Synthetic Fiber
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Thickness	10 - 15 - 20 - 25- 30 mm

## GLASS FIBER ROLL FILTER



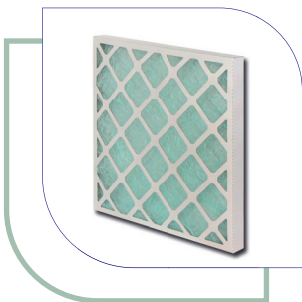
**Applications:**  
Pre-filter for ventilation equipment and HVAC  
Paint booths

**Highlights:**

- High dust holding capacity
- Dust / paint holder
- MERV 5 - MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G3, G4
Filter Class (ISO 16890)	Coarse 45%, 55%
Media	Glass Fiber
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	120°C
Thickness	75 - 100 mm

## GLASS FIBER PANEL FILTER



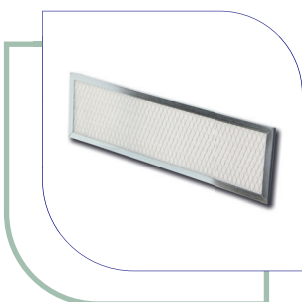
**Applications:**  
Pre-filter for ventilation equipment and HVAC  
Paint booths

**Highlights:**

- High dust holding capacity
- Dust / paint holder
- MERV 5 - MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G3, G4
Filter Class (ISO 16890)	Coarse 45%, 55%
Media	Glass Fiber
Frame	Cardboard
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C

## FANCOIL FILTER



**Applications:**  
Fan-coil Units

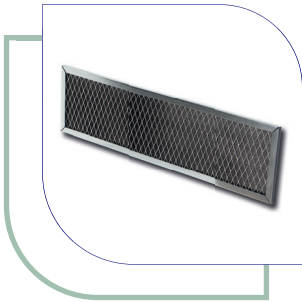
**Highlights:**

- Robust construction
- MERV 2 - MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G2, G3, G4
Filter Class (ISO 16890)	Coarse 25%, 45%, 55%
Media	Synthetic Fiber
Frame	Galvanized
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	6 - 8 - 10 mm
Expended Metal(Mesh)	Double Side



## POLYURETHANE FANCOIL FILTER



### Applications:

- Fan-coil Units

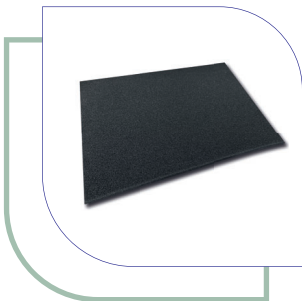
### Highlights:

- Robust construction
- Washable
- MERV 2 - MERV 4 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	G2
Filter Class (ISO 16890)	Coarse 25%
Media	Polyurethane
Frame	Galvanized
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	6 - 8 - 10 mm
Expended Metal(Mesh)	Double Side

## POLYURETHANE FILTER MAT



### Applications:

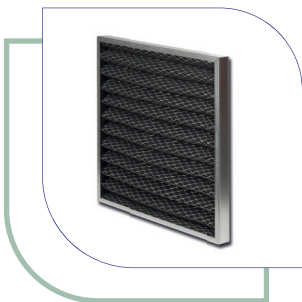
Pre-filter for ventilation equipment and HVAC

### Highlights:

- Washable
- MERV 2 - MERV 6 acc. to ASHRAE 52.2

Filter Class (EN 779)	G2, G3
Filter Class (ISO 16890)	Coarse 25%, 40%
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	6 - 8 - 10 - 20 mm

## POLYURETHANE ZIG-ZAG FILTER



### Applications:

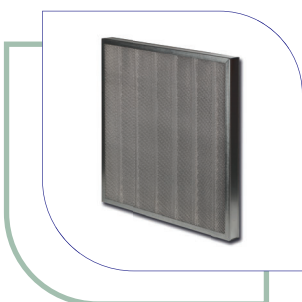
Pre-filter for ventilation equipment and HVAC

### Highlights:

- Washable
- Optimized operational costs
- Easy to handle and install
- Robust construction (two side mesh)
- MERV 5, MERV 6 acc. to ASHRAE 52.2

Filter Class (EN 779)	G3
Filter Class (ISO 16890)	Coarse %40
Media	Polyurethane
Frame	Galvanized, Stainless Steel
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## METAL FILTER



### Applications:

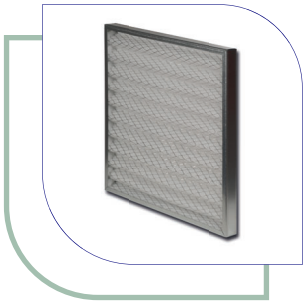
Grease or oil mist separation in kitchen ventilation applications  
Coarse particle trapper

### Highlights:

- Resistance to high temperatures
- Robust construction
- Washable
- Optimized operational cost
- MERV 2 - MERV 6 acc. to ASHRAE 52.2

Filter Class (EN 779)	G2, G3
Filter Class (ISO 16890)	Coarse 25%, 40%
Media	Expanded metal, wire mesh (Aluminium, Galvanized, Stainless Steel)
Frame	Galvanized, Aluminium, Stainless Steel
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	200°C
Standard depth	25 - 48 mm

## ZIG-ZAG FILTER



### Applications:

Pre-filter for ventilation equipment and HVAC  
Highly effective with coarse dust

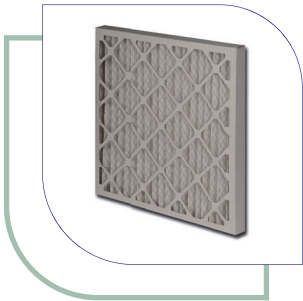
### Highlights:

- Robust design
- Easy installation
- Various frame sizes with any dimensions
- MERV 5 - MERV 8 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	G3, G4
Filter Class (ISO 16890)	Coarse 45%, 55%
Media	Synthetic Fiber
Frame	Galvanized Metal, Stainless Steel
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## CARDBOARD FRAME ZIG-ZAG FILTER



### Applications:

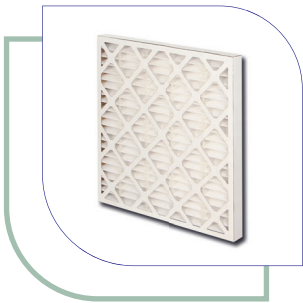
Pre-filter for ventilation equipment and HVAC  
Highly effective with coarse dust

### Highlights:

- Simple and light weight
- Disposable
- Moisture resistant cardboard
- MERV 7, MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G4
Filter Class (ISO 16890)	Coarse 65%
Media	Synthetic Fiber
Frame	Cardboard
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## CARDBOARD FRAME ZIG-ZAG FILTER (METAL FREE)



### Applications:

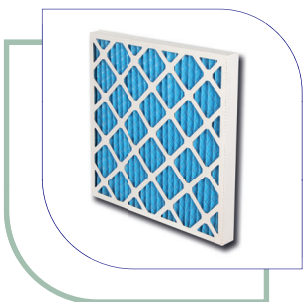
Pre-filter for ventilation equipment and HVAC  
Highly effective with coarse dust

### Highlights:

- Disposable
- Simple and light weight
- Higher filtration area
- Energy efficient
- Longer lifespan with high holding capacity
- Hot-melt reinforced pleats, robust construction
- MERV 7, MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G4
Filter Class (ISO 16890)	Coarse 65%
Media	Synthetic Fiber
Frame	Cardboard
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## SYNTHETIC BLUE ZIG-ZAG FILTER



### Applications:

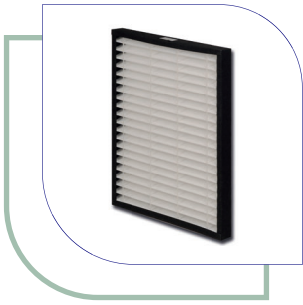
Pre-filter for ventilation equipment and HVAC  
Highly effective with coarse dust

### Highlights:

- Robust fiber structure
- Disposable
- Simple and light weight
- Moisture resistant cardboard
- Various capacity options enable energy-efficient models with high dust holding capacity (H model)
- MERV 7, MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G4
Filter Class (ISO 16890)	Coarse 55%
Media	Synthetic Blue
Frame	Cardboard
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## SYNTHETIC FRAME ZIG-ZAG FILTER (METAL FREE)



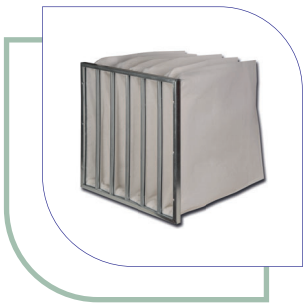
**Applications:**  
Pre-filter for ventilation equipment and HVAC  
Highly effective with coarse dust

- Highlights:**
- Robust construction with synthetic frame
  - Highly resistant to moisture
  - Disposable
  - Simple and light weight
  - Higher filtration area
  - Energy efficient
  - Longer lifespan with high holding capacity
  - Hot-melt reinforced pleats
  - MERV 7, MERV 8 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	G4
Filter Class (ISO 16890)	Coarse 65%
Media	Synthetic Fiber
Frame	Synthetic
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm

## PRO BAG FILTER



**Applications:**  
Pre-filter for ventilation equipment and HVAC  
Power plants

- Highlights:**
- Self supporting pockets
  - No special mechanical support required
  - High dust holding capacity
  - Robust construction
  - MERV 5 - MERV 8 acc. to ASHRAE 52.2

Filter Class (EN 779)	G3, G4
Filter Class (ISO 16890)	Coarse 45%, 55%
Media	Synthetic Fiber
Frame	Galvanized
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +50 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Frame depth	20 - 25 mm

## Recommendations for Coarse Filtration Filters

**Regular Inspection:** Check the filter regularly for visible signs of clogging or damage. A blocked filter can hinder system performance and can be detrimental to subsequent fine filters.

**Final Pressure Drop:** According to the EN 13053 standard, the final pressure drop is determined. ISO Coarse class is calculated by adding 50 Pascal (Pa) to the initial pressure drop of clean filters or by calculating a value up to three times smaller than the initial pressure drop of clean filters.

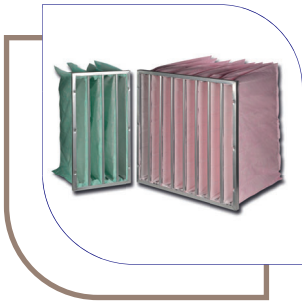
This method is used to determine a recommended final pressure drop value at the end of the filter's service life.

**Correct Installation:** Ensure the filter is correctly installed, following the manufacturer's directions. An improperly installed filter can compromise its effectiveness. The filter pleats or pockets must be mounted vertically on the ground.

**Maintain a Stock:** These filters are recommended to be kept in stock as they hold the most particles and require the highest replacement frequency compared to other stage filters. Always keep a replacement on hand to ensure minimal downtime during replacements.

**Washing or Cleaning:** Most of the coarse filters are designed for single use, some of the types might be washable or cleanable. It's essential to refer to the manufacturer's guidelines. However, repeated cleaning can reduce the filter's efficiency, so always ensure it's still performing as needed.

## SYNTHETIC BAG FILTER



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

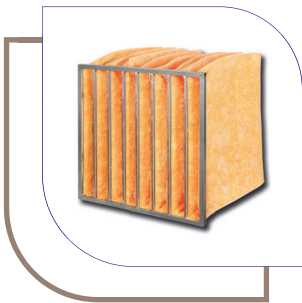
### Highlights:

- Middle support prevents bypass between filter pockets
- Any special dimensions
- MERV 9 - MERV 16 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	M5, M6, F7, F8, F9
Filter Class (ISO 16890)	Coarse 85%, ePM10 70%, ePM2,5 60%, 75%, 85%
Media	Synthetic Fiber
Frame	Galvanized
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	80°C
Frame depth	20 - 25 mm

## GLASS FIBER BAG FILTER



### Applications:

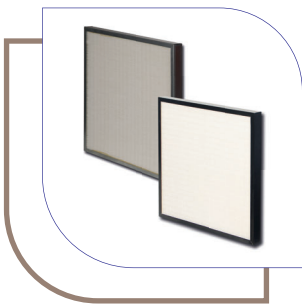
Capturing fine particles  
Second or final stage in HVAC  
Pre-filter for HEPA filters

### Highlights:

- High dust holding capacity
- Longer lifespan
- Low initial pressure drop
- Less energy consumption
- Middle support prevents bypass between filter pockets
- MERV 9 - MERV 16 acc. to ASHRAE 52.2

Filter Class (EN 779)	M5, M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 60%, 65%, ePM1 55%, 80%, 85%
Media	Glass Fiber
Frame	Galvanized
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	100°C
Frame depth	20 - 25 mm

## PANEL FILTER (METAL-PLASTIC FRAME)



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

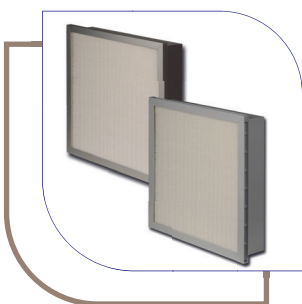
### Highlights:

- Eurovent certified
- Large filtration area
- Simple and light weight
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2



Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 75%, ePM1 55%, 75%, 85%
Media	Glass Fiber
Frame	Galvanized, Plastic
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	80°C
Standard depth	48 - 96 mm
Faceguard / Gasket	Available on request

## RIGID FILTER (ALUMINIUM-PLASTIC FRAME)



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

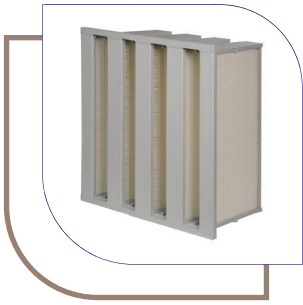
### Highlights:

- Eurovent certified
- Large filtration area
- Simple and light weight
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2



Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 75%, ePM1 55%, 75%, 80%, 85%
Media	Glass Fiber
Frame	Aluminium, Polystyrene (PS)
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	80°C
Depth	100 and 130 mm
Faceguard	Available on request

## HVAC MODEL V-COMPACT FILTER



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

### Highlights:

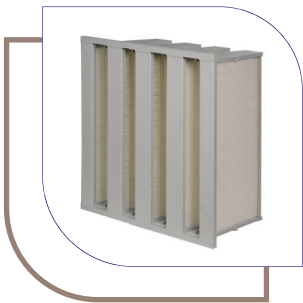
- Eurovent certified
- Large filtration area
- Simple and light weight
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2



### SPECIFICATION

Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 75%, ePM1 55%, 75%, 80%
Media	Glass Fiber
Frame	Polystyrene (PS)
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Faceguard	Available on request

## ENERGY MODEL V-COMPACT FILTER



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

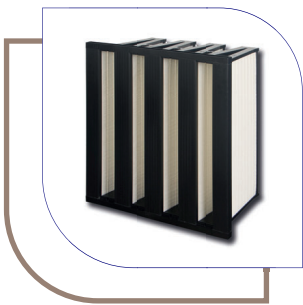
### Highlights:

- Eurovent certified
- Large filtration area
- Simple and light weight
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2



Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 75%, ePM1 55%, 75%, 85%
Media	Glass Fiber
Frame	Polystyrene (PS)
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Faceguard	Available on request

## SUPERIOR MODEL V-COMPACT FILTER



### Applications:

Capturing fine particles  
Final stage filter for comfort ventilation  
Pre-filter for HEPA filters

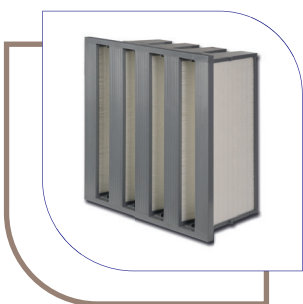
### Highlights:

- Eurovent certified
- Energy class A+
- Extremely large filtration area
- Very low initial pressure drop
- Simple and light weight
- Very high dust holding capacity
- MERV 13, MERV 15, MERV 16 acc. to ASHRAE 52.2



Filter Class (EN 779)	F7, F9
Filter Class (ISO 16890)	ePM1 65%, 80%
Media	Synthetic Nano
Frame	Polystyrene (PS)
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	80°C
Faceguard / Gasket	Available on request

## HIGH TEMPERATURE V-COMPACT FILTER



### Applications:

Capturing fine particles  
Second or final stage filter in HVAC  
Pre-filter for HEPA filters

### Highlights:

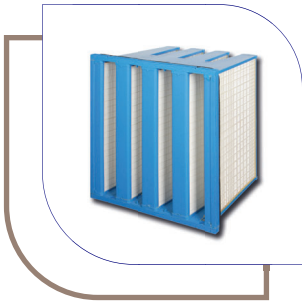
- Eurovent certified
- High temperature resistant
- Large filtration area
- Simple and light weight
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2



Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 75%, ePM1 55%, 75%, 85%
Media	Glass Fiber
Frame	Polycarbonate
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P \times 3$ whichever is lower
Max. Operating Temp.	120°C
Faceguard / Gasket	Available on request



## X LARGE V-COMPACT FILTER



**Applications:**  
Gas turbine air intake systems

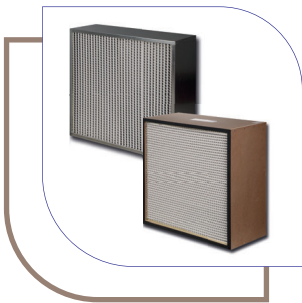
**Highlights:**

- Large filtration area
- High dust holding capacity
- Low initial pressure drop
- MERV 11 - MERV 16 acc. to ASHRAE 52.2

### SPECIFICATION

Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 65%, ePM1 55% ,75% ,85%
Media	Glass Fiber
Frame	Polystyrene (PS)
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	80°C
Faceguard / Gasket	Available on request

## FINE DUST FILTER WITH ALUMINIUM SEPERATOR (METAL-MDF FRAME)



**Applications:**  
Capturing fine particles  
Suitable for ATEX environment  
High temperature conditions

**Highlights:**

- Static electricity grounding (optional)
- Corrugated aluminium separator
- Robust construction with metal frame
- MERV 11 - MERV 16 acc. to ASHRAE 52.2

Filter Class (EN 779)	M6, F7, F8, F9
Filter Class (ISO 16890)	ePM10 70%, ePM1 55% ,70% ,80%
Media	Glass Fiber
Frame	Galvanized, Stainless Steel, MDF
Rec. Final Pressure Drop EN 13053	Initial $\Delta P$ +100 Pa or initial $\Delta P$ x3 whichever is lower
Max. Operating Temp.	up to 80°C, 120°C, 260°C
Faceguard	Available on request
Gasket	Silicon, EPDM and PU Foam
Flange	Without, single, double
Seperator	Corrugated Aluminium

## Recommendations for Fine Filtration Filters

**Regular Inspection:** Check the filter regularly for visible signs of clogging or damage. A blocked filter can hinder system performance and can be detrimental to subsequent fine filters.

**Final Pressure Drop:** According to the EN 13053 standard, the final pressure drop is determined. ISO ePM<sub>1</sub>, ISO ePM<sub>2,5</sub>, and ISO ePM<sub>10</sub> classes is calculated by either adding 100 Pascal (Pa) to the initial pressure drop of clean filters or by calculating a value up to three times smaller than the initial pressure drop of clean filters.

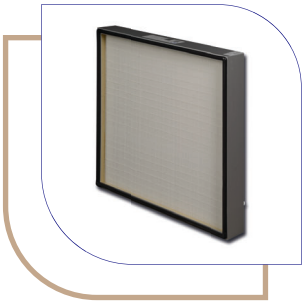
This method is used to determine a recommended final pressure drop value at the end of the filter's service life.

**Correct Installation:** Ensure the filter is correctly installed, following the manufacturer's directions. An improperly installed filter can compromise its effectiveness. The filter pleats or pockets must be mounted vertically on the ground.

**Maintain a Stock:** These filters are recommended to be kept in stock as they hold the most particles and require the highest replacement frequency compared to other stage filters. Always keep a replacement on hand to ensure minimal downtime during replacements.

**Washing or Cleaning:** Most of the coarse filters are designed for single use, some of the types might be washable or cleanable. It's essential to refer to the manufacturer's guidelines. However, repeated cleaning can reduce the filter's efficiency, so always ensure it's still performing as needed.

## HEPA, ULPA, EPA CEILING FILTER (ALUMINIUM FRAME)



### Applications:

Final filter for cleanrooms and LF Units  
Life science  
Healthcare  
Microelectronics  
Food & Beverages

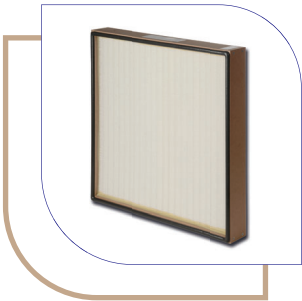
### Highlights:

- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution
- Less energy consumption
- Suitable for HEPA Boxes and Cabinets

### SPECIFICATION

Filter Class (EN 1822)	E10, E11, E12, H13, H14, U15
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H, 55U
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	EPDM flat, EPDM flat continuous and PU foam

## HEPA, EPA CEILING FILTER (MDF FRAME)



### Applications:

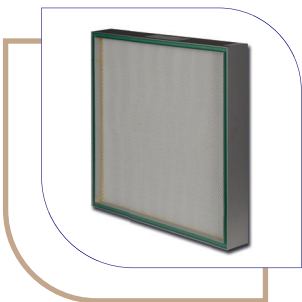
Final filter for cleanrooms  
Healthcare  
Pre-filter for HEPA filters

### Highlights:

- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Disposable
- Optimized velocity distribution
- Suitable for HEPA Boxes and Cabinets

Filter Class (EN 1822)	E10, E11, E12, H13, H14
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	High quality glass fiber
Frame	MDF
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	EPDM flat, EPDM flat continuous and PU foam

## GEL TYPE HEPA, ULPA CEILING FILTER



### Applications:

Final filter for cleanrooms and LF Units  
Life science  
Healthcare  
Microelectronics  
Food & Beverages

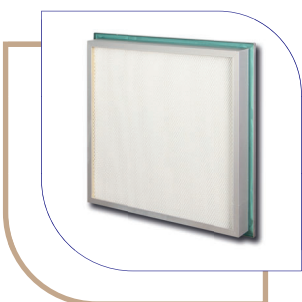
### Highlights:

- High quality fluid gel gasket (self healing)
- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution

Filter Class (EN 1822)	H13, H14, U15, U16, U17
Filter Class (ISO 29463)	ISO 35H, 45H, 55U, 65U, 75U
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	Gel

## GEL TYPE HEPA CEILING FILTER WITH FLANGE

(RSR : ROOM SIDE REPLACEMENT)



### Applications:

Final filter for cleanrooms and LF units  
Life science  
Healthcare  
Microelectronics  
Food & Beverages

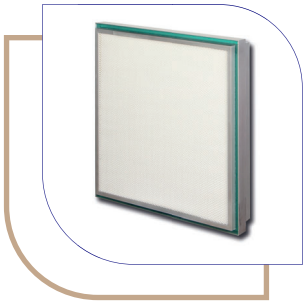
### Highlights:

- Additional stainless steel L profile on flange
- High quality fluid gel gasket (self healing)
- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution

Filter Class (EN 1822)	H13, H14,
Filter Class (ISO 29463)	ISO 35H, 45H
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	Gel

## REVERSE GEL TYPE HEPA CEILING FILTER

(RSR : ROOM SIDE REPLACEMENT)



### Applications:

Final filter for cleanrooms and LF units  
Life science  
Healthcare  
Microelectronics  
Food & Beverages

### Highlights:

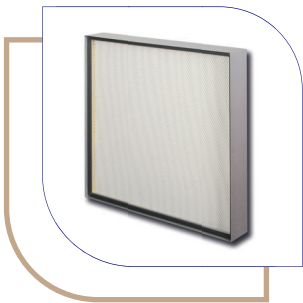
- Reverse L-type side gel gasket on the middle of frame
- High quality fluid gel gasket (self healing)
- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution

### SPECIFICATION

Filter Class (EN 1822)	E10, E11, E12, H13, H14,
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	Gel

## HEPA, ULPA CEILING FILTER

(KNIFE EDGE PROFILE)



### Applications:

Final filter for cleanrooms and LF Units  
Suitable for Fan Filter Units  
Life science  
Healthcare  
Microelectronics  
Food & Beverages

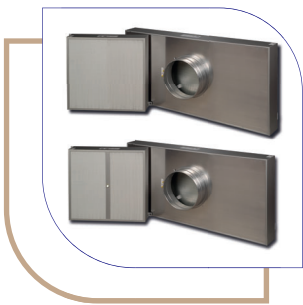
### Highlights:

- High quality glass fiber media
- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution

Filter Class (EN 1822)	H13, H14, U15, U16, U17
Filter Class (ISO 29463)	ISO 35H, 45H, 55U, 65U, 75U
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)
Gasket	PU Foam

## TERMINAL HEPA FILTER

(WITHOUT-WITH DIVIDER)



### Applications:

Final filter for cleanrooms  
Life science  
Microelectronics  
Food & Beverages

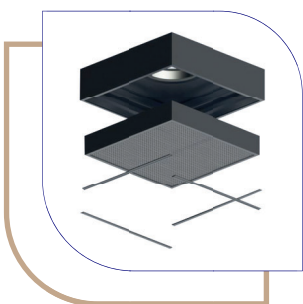
### Highlights:

- Self-contained air inlet, no additional housing required
- ΔPa and %100 DOP nozzles exist (accessible from technical side)
- Guaranteed leak free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Optimized velocity distribution

Filter Class (EN 1822)	H13, H14, U15, U16, U17
Filter Class (ISO 29463)	ISO 35H, 45H, 55U, 65U, 75U
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)

## TERMINAL HOOD WITH CHANGEABLE HEPA FILTER

(RSR : ROOM SIDE REPLACEMENT)



### Applications:

Final filter for cleanrooms  
Life science  
Microelectronics

### Highlights:

- Self-contained air inlet
- Self-boxed, need for narrower space
- ΔPa and %100 DOP nozzles exist (accessible from technical side)
- Guaranteed leak-free
- Individual test certificate (acc. to EN 1822 - ISO 29463)
- Filter change from the room side

Filter Class (EN 1822)	H13, H14, U15
Filter Class (ISO 29463)	ISO 35H, 45H, 55U
Media	High quality glass fiber
Frame	Anodized extruded aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	Aluminium sheet (powder coated)

## HIGH CAPACITY HEPA FILTER WITH SINGLE PLEAT (METAL-MDF FRAME)



### Applications:

Final filter for hygienic type AHU's  
Life science  
Healthcare  
Operating theatre LF units  
Food & Beverages

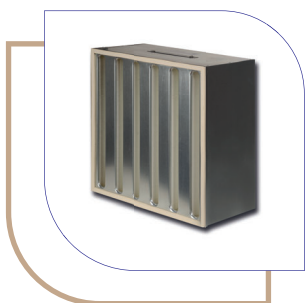
### Highlights:

- For high airflow rates (2000-3000 m<sup>3</sup>/h) for 610x610x292 mm
- High quality glass fiber media
- Guaranteed leak free
- Tested and certified acc to EN 1822 - ISO 29463 for H13 - H14
- Optimized velocity distribution

### SPECIFICATION

Filter Class (EN 1822)	H13, H14
Filter Class (ISO 29463)	ISO 35H, 45H
Media	High quality glass fiber
Frame	Galvanized, Alu. and Stainless Steel, MDF
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard	One side standard
Gasket	EPDM, EPDM Flat continuous and PU Foam

## HIGH CAPACITY HEPA FILTER WITH V MODULE DESIGN (METAL FRAME)



### Applications:

Final filter for hygienic type AHU's  
Life science  
Healthcare  
Food & Beverages  
Operating theatre LF units

### Highlights:

- For high airflow rates (3000-4000 m<sup>3</sup>/h)
- High quality glass fiber media
- Guaranteed leak free
- Tested and certified acc to EN 1822 - ISO 29463

Filter Class (EN 1822)	H13, H14
Filter Class (ISO 29463)	ISO 35H, 45H
Media	High quality glass fiber
Frame	Galvanized, Stainless Steel Aluminium
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80° - 120°C
Gasket	EPDM, EPDM Flat continuous and PU Foam
Design	U-Module

## HIGH CAPACITY HEPA FILTER WITH V MODULE DESIGN (PLASTIC FRAME)



### Applications:

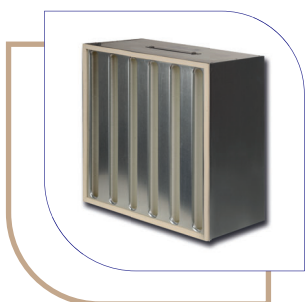
Final filter for hygienic type AHU's  
Life science  
Healthcare  
Food & Beverages

### Highlights:

- For high airflow rates (3000-4000 m<sup>3</sup>/h)
- High quality glass fiber media
- Guaranteed leak free
- Tested and certified acc to EN 1822 - ISO 29463 for H13 - H14
- Light weight

Filter Class (EN 1822)	H13, H14
Filter Class (ISO 29463)	ISO 35H, 45H
Media	High quality glass fiber
Frame	Polystyrene (PS)
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Gasket	EPDM, EPDM Flat continuous and PU Foam
Design	V-Module

## HIGH CAPACITY NUCLEAR FILTER WITH V MODULE DESIGN



### Applications:

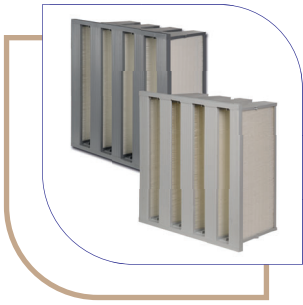
Shelter ventilation

### Highlights:

- For high airflow rates (3400 m<sup>3</sup>/h)
- High quality glass fiber media
- Robust Construction
- Guaranteed leak free
- Tested and certified acc to EN 1822 - ISO 29463 for H13
- Operating temperature up to 120°C

Filter Class (EN 1822)	H13
Filter Class (ISO 29463)	ISO 35H
Media	High quality glass fiber
Frame	Galvanized, Stainless Steel
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	120°C
Gasket	Silicon
Design	V-Module

## EFFICIENT V-COMPACT FILTER (METAL-PLASTIC FRAME)



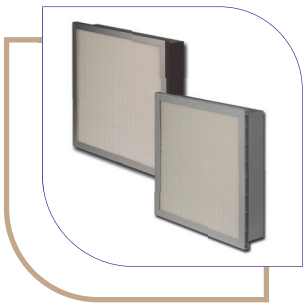
**Applications:**  
Final filter for HVAC or cleanrooms  
Gas turbines air intake system

- Highlights:**
- Tested and certified acc to EN 1822 - ISO 29463 for H13 - H14
  - Large filtration area
  - Simple and light weight
  - Low initial pressure drop

### SPECIFICATION

Filter Class (EN 1822)	E10, E11, E12, H13, H14,
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	Glass fiber
Frame	Polystyrene (PS), Galvanized, Stainless Steel
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Faceguard / Gasket	Available on request

## EFFICIENT RIGID FILTER (ALUMINIUM-PLASTIC FRAME)

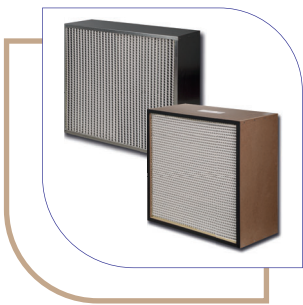


**Applications:**  
Final filter for HVAC or cleanrooms

- Highlights:**
- Tested and certified acc to EN 1822 - ISO 29463 for H13 - H14
  - Large filtration area
  - Simple and light weight
  - Low initial pressure drop

Filter Class (EN 1822)	E10, E11, E12, H13, H14
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	Glass fiber
Frame	Anodized extruded aluminium, Polystyrene (PS)
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Depth	100 and 130 mm
Faceguard / Gasket	Available on request

## HEPA FILTER WITH ALUMINIUM SEPERATOR (METAL-MDF FRAME)

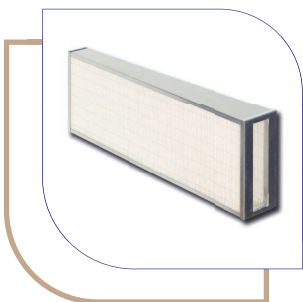


**Applications:**  
Final filter for hygienic AHU's under high temperature conditions

- Highlights:**
- Temperature resistant up to 120°C, 260°C
  - Static electricity grounding cable available on request
  - Tested and certified acc to EN 1822 - ISO 29463 for H13 - H14
  - Corrugated aluminium separator
  - Guaranteed leak-free

Filter Class (EN 1822)	E10, E11, E12, H13, H14
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	High quality glass fiber
Frame	Galvanized Steel, Stainless Steel, MDF
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C, up to 120°C, 260°C
Flange	Without, single, double
Gasket	Silicon, EPDM and PU Foam
Seperator	Hotmelt

## EFFICIENT DUCT TYPE FILTER



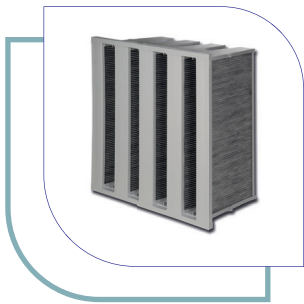
**Applications:**  
Final filter for HVAC or cleanrooms  
Suitable for duct applications

- Highlights:**
- V-shaped design
  - Individual test certificate (acc. to EN 1822 - ISO 29463)
  - Simple and light weight

Filter Class (EN 1822)	E10, E11, E12, H13, H14
Filter Class (ISO 29463)	ISO 15E, 25E, 35H, 45H
Media	High quality glass fiber
Frame	Aluminium, Galvanized & Stainless Steel
Rec. Final Pressure Drop	Initial pressure drop x2, (max. 600 Pa)
Max. Operating Temp.	80°C
Model	V (Vertical), H (Horizontal)



## ACTIVATED CARBON V-COMPACT FILTER



### Applications:

Gas-phase filtration  
Offices  
Hospitals  
Airports

### Highlights:

- Remove volatile organic compounds (VOC's)
- Odors
- Compact design
- Simple installation and handling

### SPECIFICATION

Filter Class	Active Carbon
Media	AC between sythetic layer
Frame	Polystyrene (PS)
Max. Operating Temp.	50°C
Type	High efficiency, activated carbon
Media Weight	400gsm
Facequard / Gasket	Available on request

## ACTIVATED CARBON CARTRIDGE TYPE FILTER



### Applications:

Smell and corrosion control in industrial and commercial applications  
Kitchen ventilation  
Wide range of molecular contamination issues

### Highlights:

- High efficiency in gas filtration
- Pellet (granulated) activated carbon
- Easy assembly to mounting frame
- Robust and air tight
- Filled with a wide variety of activated carbon medias including impregnated medias on vibration table

Filter Type	Cartridge Filter
Media	Activated Carbon Impregnated Medias
Frame	Galvanized and painting steel
Max. Operating Temp.	50°C
Gasket	EPDM (for each cartridge)
Outer Diameter	145 mm
Recommended relative humidity	< 50% RH

## ACTIVATED CARBON SINGLE CARTRIDGE



### Applications:

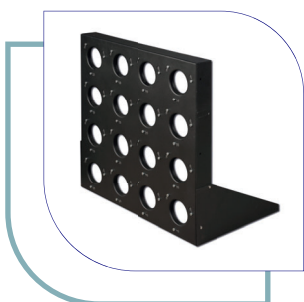
Smell and corrosion control in industrial and commercial applications  
Kitchen ventilation  
Wide range of molecular contamination issues

### Highlights:

- High efficiency in gas filtration
- Pellet (granulated) activated carbon
- Robust and air tight
- Filled with a wide variety of activated carbon medias including impregnated medias on vibration table

Media	Activated Carbon Impregnated Medias
Frame	Galvanized and painting steel
Max. Operating Temp.	50°C
Gasket	Standard for cartridge
Outer Diameter	145 mm
Recommended relative humidity	< 50% RH

## ACTIVATED CARBON CARTRIDGE FRAME



### Applications:

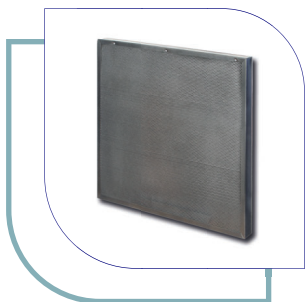
Activated carbon cartridge filters

### Highlights:

- Galvanized
- Powder Coated
- Equipped with a special compression-rench for easy assembly

Frame	Galvanized, powder coated
Number of cartridge	4 - 8 - 12 -16
Outer Diameter	145 mm
Dimensions	305 x 305 mm 305 x 610 mm 508 x 610 mm 610 x 610 mm

## ACTIVATED CARBON (PELLET) PANEL FILTER



### Applications:

Smell and corrosion control in industrial and commercial applications  
Wide range of molecular contamination issues

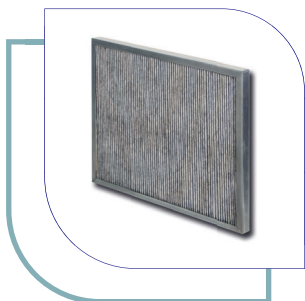
### Highlights:

- High efficiency in gas filtration
- Pellet (granulated) activated carbon
- Easy assembly to mounting frame
- Robust and air tight
- Filled with a wide variety of activated carbon medias including impregnated medias

### SPECIFICATION

Filter Class	Activated Carbon
Media	Pellet type carbon
Frame	Galvanized
Max. Operating Temp.	50°C
Gasket	Without, EPDM
Recommended relative humidity	< 50% RH

## ACTIVATED CARBON PANEL FILTER



### Applications:

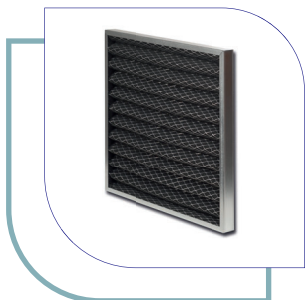
Gas-phase filtration  
Offices  
Hospitals  
Airports

### Highlights:

- Remove volatile organic compounds (VOC's)
- Odors
- Compact design
- Simple installation and handling

Filter Class	Activated Carbon
Media	AC between sythetic layer
Frame	Galvanized
Max. Operating Temp.	50°C
Relative Humidity	50%
Type	High efficiency, activated carbon
Media Weight	400gsm
Gasket	Without, EPDM

## ACTIVATED CARBON ZIG-ZAG FILTER



### Applications:

Pre-filter for HVAC  
Offices  
Hospitals  
Airports

### Highlights:

- Synthetic fiber impregnated with carbon
- Easy assembly
- Odors

Media	Synthetic fiber impregnated with carbon
Frame	Galvanized Steel
Max. Operating Temp.	50°C
Standard depth	48 - 96 mm

## HEPA FILTER BOX

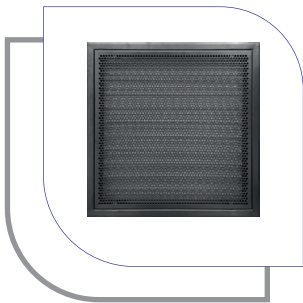


**Applications:**  
Microelectronics  
Laboratories  
Life science  
Healthcare  
Food and Beverage Industry

### Highlights:

- Test ports for pressure drop and aerosol sampling
- Available air flow adjustment damper fitted to the spigot (on request)
- Available in various construction and dimensions
- Simplified maintenance and disinfection
- Powder coated or stainless steel material
- Central, corner, side fixing for diffuser
- Duct connection type: Top, Side, Z (Lower ceiling heights)
- Equipped with seal test groove acc.to DIN 1946-4 (Optional)

## RETURN AIR GRILLE

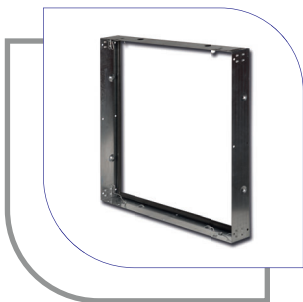


**Applications:**  
Life science  
Cleanroom

### Highlights:

- Grill surface suitable for easy cleaning
- Compliant with cleanroom requirement
- Design possible with two stage filtration or HEPA filter
- Easy installation

## FILTER FRAME HOLDING



**Applications:**  
Installation frames for Pre  
filters in AHU's or ventilation  
systems

### Highlights:

- Capable of working with diverse selection of air filters
- Compact design with stability
- Safe-holding with clips
- Robust construction
- Easy filter replacement

## HEPA FILTER FRAME HOLDING

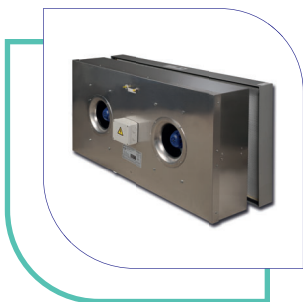


**Applications:**  
Installation frames for HEPA  
filters in AHU's or ventilation  
systems

### Highlights:

- Sealing guaranteed, high tightness
- Powder coated or stainless steel material
- Compact design with stability
- Robust construction
- Equipped with seal test groove acc.to DIN 1946-4 (Optional)

## FAN FILTER UNIT (FFU)



### Applications:

Microelectronics  
Laboratories  
Life science  
Healthcare  
Food and Beverage Industry

### Highlights:

- Easy installation into cleanroom grids
- Guaranteed leak-free
- Self-contained ceiling fan filter unit
- Low operating cost, low wattage
- AC or EC fans
- Silent operation (<65 dBA)
- Uniform air velocity
- Replacement HEPA filter from room side or ceiling side
- Test aerosol inlet nozzle (DOP/EMERY test)
- Adjustable airflow with variable speed controller on request
- Differential pressure gauge available on request

## LAMINAR FLOW with FAN FILTER UNIT (FFU LF)



### Applications:

Cleanroom  
Laboratories  
Life science  
Microelectronics  
Food and Beverage Industry

### Highlights:

- Test aerosol inlet nozzle (DOP/EMERY test)
- Replacement HEPA filter from room side or ceiling side
- Perforated stainless steel diffuser ensures uniform air distribution
- Modular design with Compact, Separated and Gel type FFUs
- Silent operation (<65 dBA)
- Body structure fully made in stainless steel AISI 304 or AISI 316
- Provide laminar air from the LF unit @ 0.45 m/s  $\pm$ 20%
- Ceiling suspended or free-standing with support legs
- Portable or ground mounted
- High technology EC fans
- Improved plenum design for better air flow distribution
- Available in various dimensions
- BMS, MODBUS Connection available

## CONTAINMENT BOOTH (DFB)



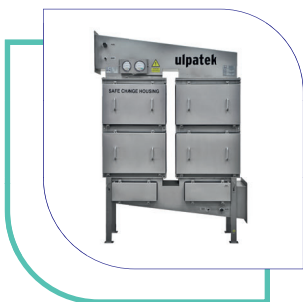
### Applications:

Cleanroom  
Life science  
Food and Beverage Industry  
Cosmetic  
Dispensing Booth  
Down Flow Booth  
Weighing and Sampling Booth

### Highlights:

- Class ISO 5 according to ISO EN 14644-1
- Laminar airflow velocity of 0.45 m/s  $\pm$ 20%
- Used for production, weighing, sampling and packaging
- Leakage test with test aerosol according to ISO 14644-3 for HEPA filters
- Optional cooling coil systems for temperature regulations
- In various dimensions and safe working zones
- Safe change filter configuration available

## SAFE CHANGE HOUSING - BIBO (USCH)



### Applications:

Life science  
Radioactive Laboratories  
Nuclear Medicine  
Nuclear Power Plants  
Biotechnical Facilities  
Animal Facilities  
Epidemic & Isolation Products

### Highlights:

- BSL3 & BSL4 type applications
- Versatile modular system
- Robust and strong construction
- Self-adjusting filter sealing mechanism
- Available powder coated or stainless steel
- Single or multiple filter stages
- Optional manual scanning system
- Table and accessories set for easy filter change



# ULPALAB

ULPATEK Filter Testing Laboratory



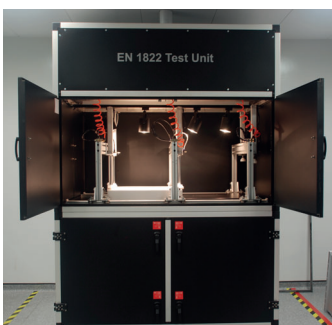
HEPA / ULPA Filter Test System - HF-SCAN 4002/2



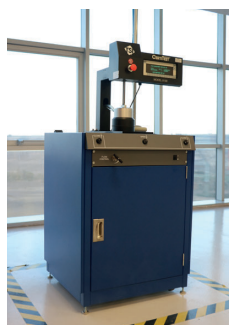
HEPA / ULPA Filter Test System - HF-SCAN 3004



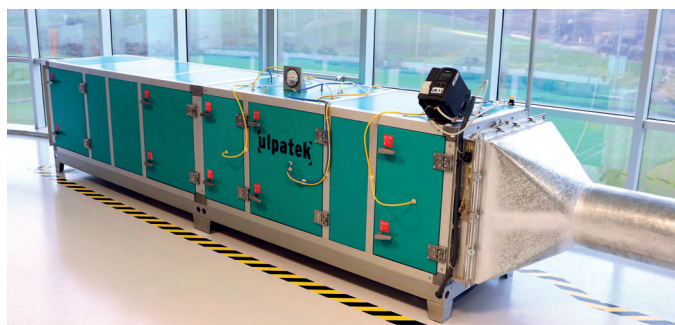
ISO 16890 Test System - FTS 3401



HEPA / ULPA Filter Test System  
HF-OIL MIST 1200



Filter Media Test System  
FMT 102



Performance Test System - PTS 5002



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*Advanced filtration for a better future!*



**AIR FILTER** TECHNOLOGY

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