

Manufacturing Forward



## AIR FILTRATION SOLUTIONS FOR ATEX APPLICATIONS

[www.mikropor.com](http://www.mikropor.com)

  
mikropor



Manufacturing Forward







Mikropor began its journey in 1987 with a passion to create “Tomorrow’s Technology” and has become one of the leading manufacturers of atmospheric air filtration solutions and compressed air treatment systems for a variety of industries.

By closely following the latest developments in technology, Mikropor’s “Best in Class” products and solutions are appreciated by customers in more than 140 countries.

The company’s sustainable growth has been provided by its passion for innovation and commitment to quality, as well as its dedication to technology. Mikropor is an environmentally conscious company that values people, while developing products that extend the needs and expectations of customers.

With this mission, Mikropor continues to become one of the most recognized brands in the world by expanding its global penetration in the field of technological filtration and contributes to a healthier planet.

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# WHY ATEX FILTERS?

In various ventilation applications in the industry, recycled process air can contain particles generated from the production which can contain electrostatic charges. When filters catch these particles during the circulation, they also absorb the electrostatic charge in the filter media and frame.

In addition, if there is a source for explosive gases or aerosols in the atmosphere, with the help of the sparks created by the filter due to electrostatic discharge, there might be serious risks of fires or even explosions. Therefore, filters used in these kinds of environments have to be Ex-Proof.

In order to avoid explosion risks, the European Commission declared ATEX Equipment Directive 2014/34/EU. Mikropor filters are manufactured according to 2014/34/EU and additional supporting directives issued by the EU.





# Filters which will be used in explosive atmospheres have to be classified according to the zone classification and explosion group charts:

SUBSTANCE	PERIOD OF PRESENCE OF THE COMBUSTIBLE SUBSTANCES	ZONE	MINIMUM REQUIREMENTS FOR EQUIPMENT				PROTECTION LEVEL
			Directive 2014/34/EU		Standard IEC/EN/CSA 60079-D		
			Equipment Group	Equipment Category	Group	Equipment Protection Level EPL	
Gas, Mist, Vapour	Continuously for long periods or frequently	Zone 0	II	1 G	II	Ga	very high
	Occasional occurrence	Zone 1	II	2 G	II	Gb	high
	Not likely, but if it occurs only rarely and for a short period	Zone 2	II	3 G	II	Gc	enhanced
Dust	Continuously for long periods or frequently	Zone 20	II	1 D	III	Da	very high
	Occasional occurrence	Zone 21	II	2 D	III	Db	high
	Not likely, but if it occurs only rarely and for a short period	Zone 22	II	3 D	III	Dc	enhanced

EXPLOSIVE ATMOSPHERE		TYPICAL COMBUSTIBLE MATERIAL	GROUP
Gas, Vapour or Mist		Acetylene	IIC
		Hydrogen	IIC / IIB + H2
		Ethylene / Formaldehyde	IIB
		Methane / Octane	IIA
Dust	Conductive	Metal Dust	IIIC
		Coal Dust	
	Non-conductive	Grain Dust	IIIB
	Fibres & Flyings	Wood, Paper or Cotton Processing	IIIA



**II 2 G Ex h IIC Gb**

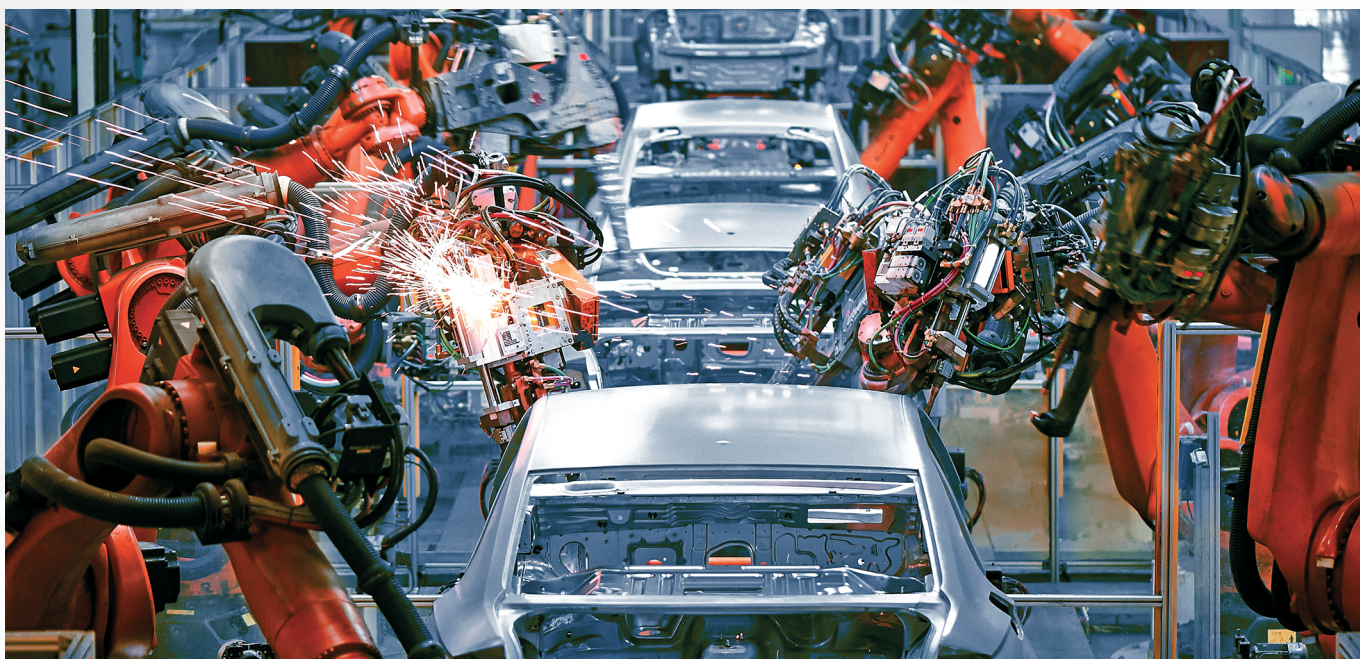
Mikropor, as a leading manufacturer of Air Filters, serves the widest range of ATEX Certified Ex-Proof Filters for each stage of filtration to a variety of industries.





## APPLICATIONS

- Pharmaceutical
- Petrochemical
- Food & Beverage
- Automotive
- Defense





## WHY SAFETY IS IMPORTANT?

The main purpose of the filters is to absorb the particles in the air flow. While ensuring the filtration, ambient conditions must be safe. However, in some cases, filters operate in extreme conditions like explosive atmospheres. In these situations, the mission of the filters is not only to achieve filtration but also to eliminate the explosion risks. If these kind of risks are not eliminated, explosions may occur in the processes and these explosions can lead to production stoppages, damage to the equipment, or even critical injury to workers.





# MIKROPOR SOLUTIONS

With more than 20 years of global filtration experience as a World Class Manufacturer utilizing state of the art technologies and equipment, Mikropor understands its customers' demands and thus is the preferred partner for ATEX applications worldwide.

## MSKP-ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

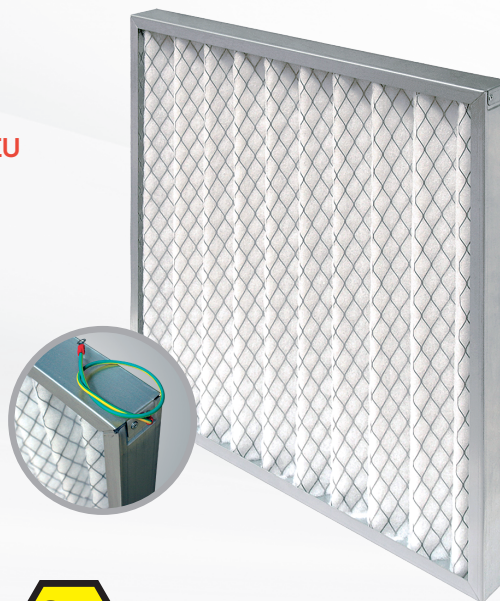
Media	Synthetic
Frame	Galvanized Steel, Stainless Steel, Aluminium
Final Pressure Drop	250 Pa
Operating Temperature	80°C
Filter Efficiency*	G4
Filter Class**	ISO Coarse
Gasket	Optional

### Applications

- Pre-filter for HVAC

### Advantages

- Light and rigid filter
- Low initial pressure drop



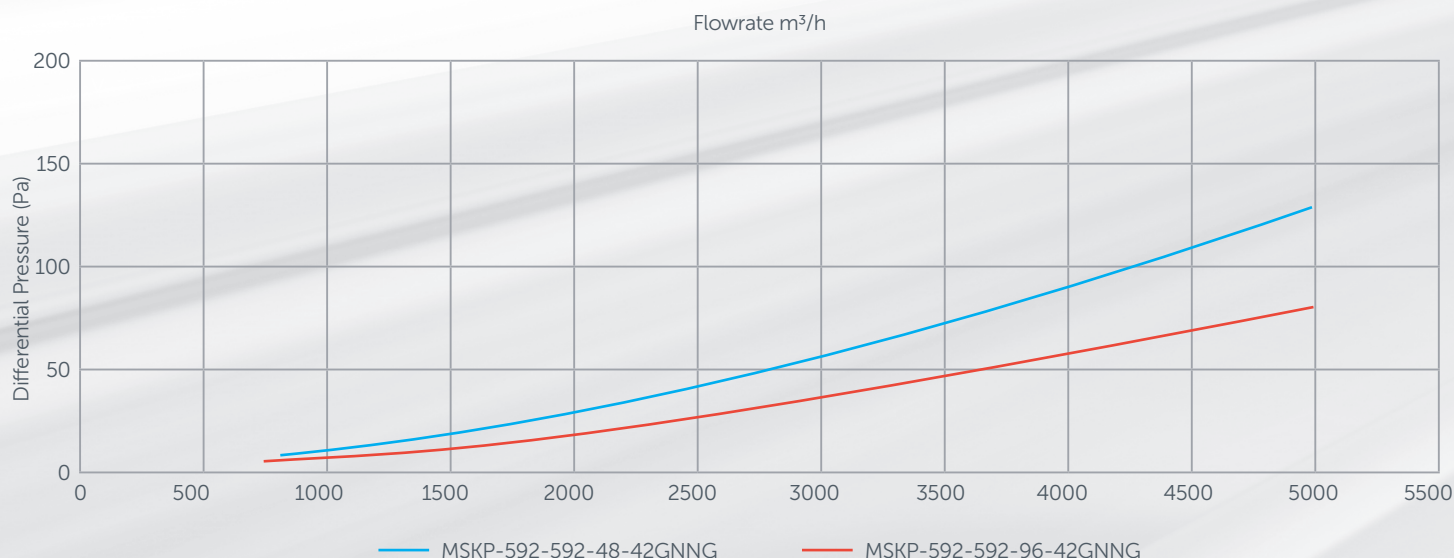
**II 2 G Ex h IIC Gb**



**II 2 G Ex h IIIB Db**

The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.

 ATEX filters are supplied with integrated earthing cable lugs.



\* According to EN 779:2012 \*\* According to ISO 16890

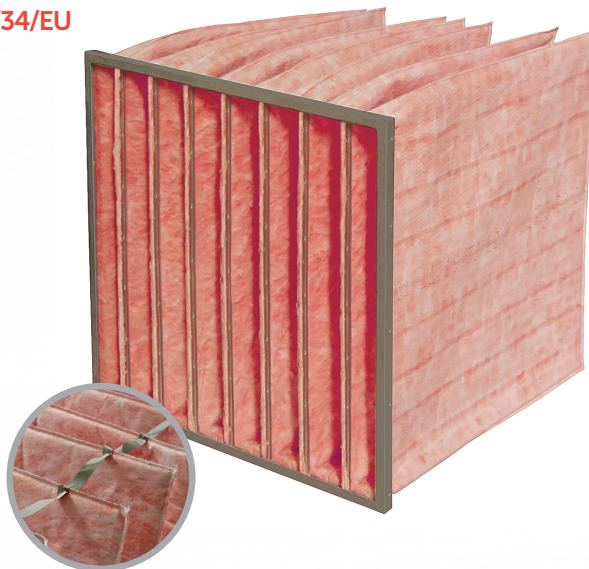


# MIKROPOR SOLUTIONS

## MPG-ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

Media	Glassfiber
Frame	Galvanized Steel
Final Pressure Drop	450 Pa
Operating Temperature	80°C
Filter Efficiency*	M5-M6-F7-F8
Filter Class**	ISO ePM10 / ISO ePM2.5 ISO eMP1
Media Color	M5: White / M6: Green F7: Pink / F8: Yellow
Gasket	Half Round Endless Polyurethane or Neoprene
Fiber Assembly Type	Sewn
Header Thickness	22 mm



### Applications

- HVAC
- Pre-filter of absolute filters

### Advantages

- Low initial pressure drop
- Low energy use



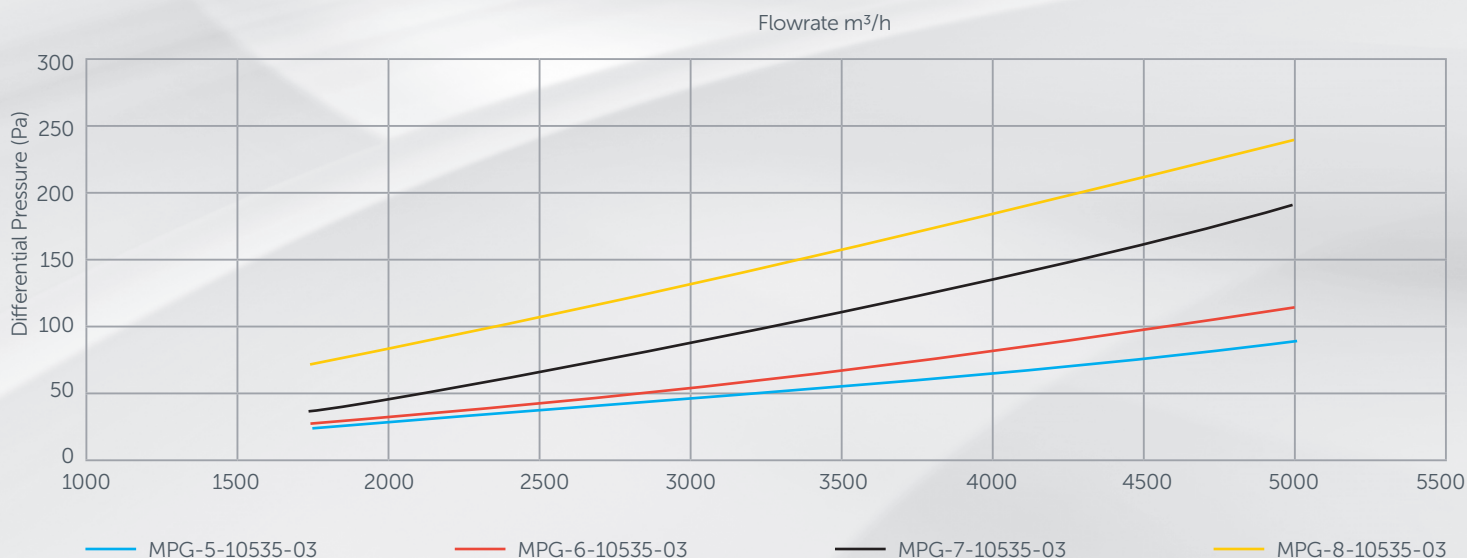
II 2 G Ex h IIC Gb



II 2 G Ex h IIIB Db

The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.

 ATEX filters are supplied with integrated earthing cable lugs.



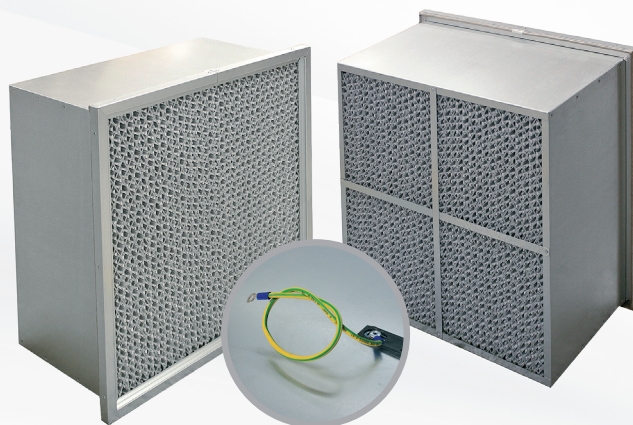
\* According to EN 779:2012    \*\* According to ISO 16890    \*\*\* According to Eurovent 4/21-2014

# MIKROPOR SOLUTIONS

## MAS - ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

Media	Microglass Fiber
Frame	Galvanized Steel, Aluminium, Stainless Steel
Final Pressure Drop	450 Pa
Operating Temperature	80°C
Filter Efficiency*	M6-F9
Filter Class**	ISO ePM10 / ISO ePM1
Sealant	Polyurethane
Separators	Aluminium
Gasket	Half Round Endless Polyurethane or Neoprene
Protection Grids	Both Side
Header Thickness	20 mm or 25 mm



### Applications

- Automotive industry

### Advantages

- High efficiency
- High surface area



II 2 G Ex h IIC Gb

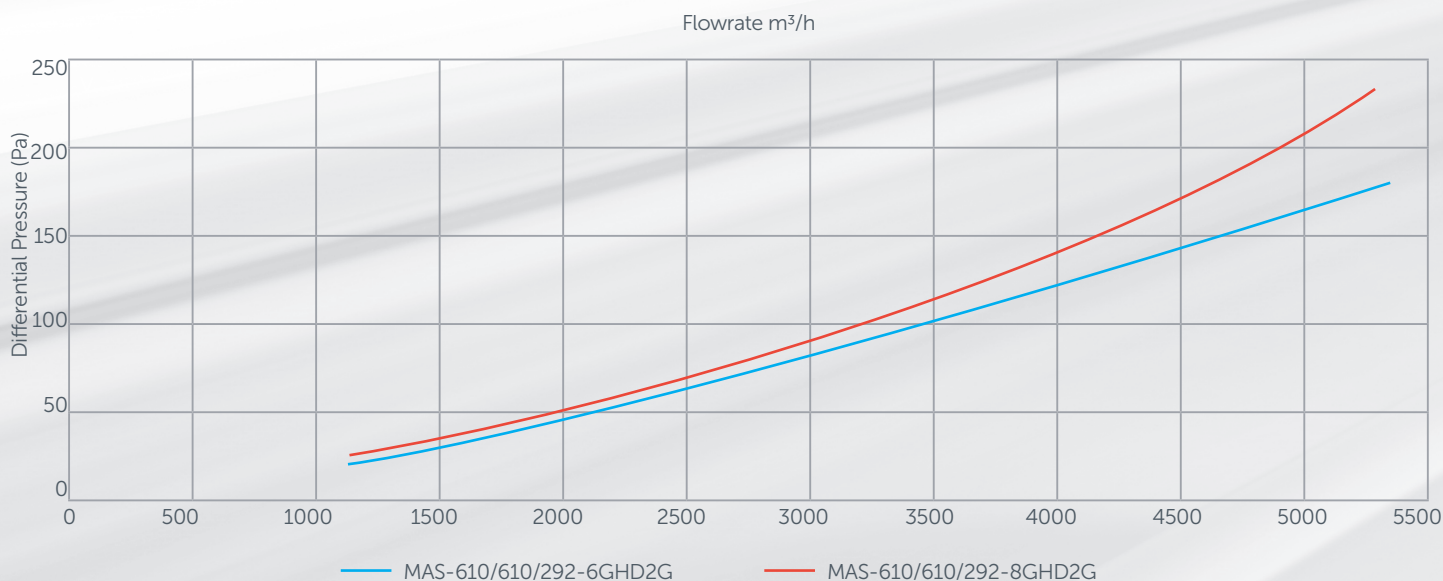


II 2 G Ex h IIIB Db

The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.



ATEX filters are supplied with integrated earthing cable lugs.



\* According to EN 779:2012 \*\* According to ISO 16890





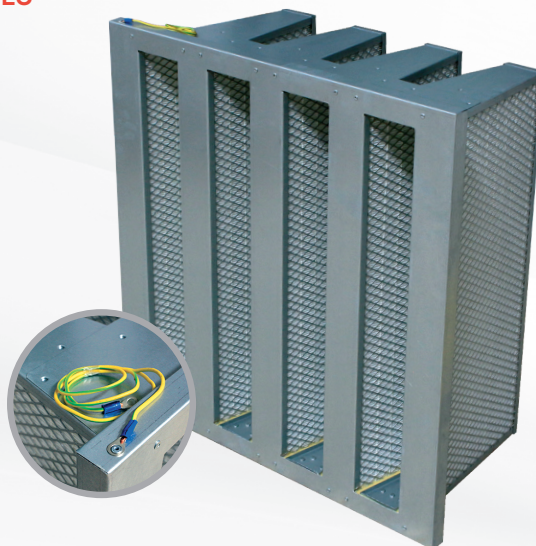


# MIKROPOR SOLUTIONS

## MV - ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

Media	Microglass Fiber
Frame	Galvanized Steel
Final Pressure Drop	450 Pa
Operating Temperature	80°C
Filter Efficiency*	M6-F7-F8-F9
Filter Class**	ISO ePM10 / ISO ePM2.5 ISO eMP1
Gasket	Optional
Sealant	Polyurethane
Separators	Hot Melt
Header Thickness	20 mm, 25 mm



### Applications

- HVAC
- Cleanroom applications
- Air purification of smokes, pollens

### Advantages

- Compact design
- High surface area
- High efficiency
- Energy saver
- MV product line fully meets the requirements for VDI 6022



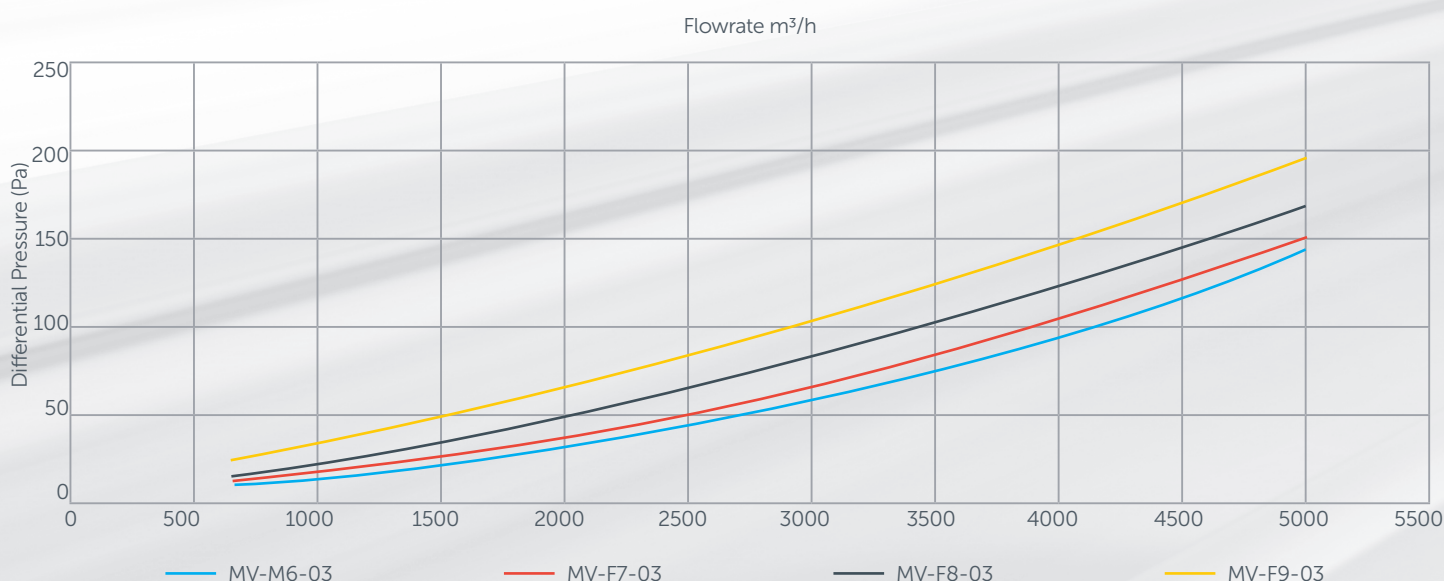
II 2 G Ex h IIC Gb



II 2 G Ex h IIIB Db

The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.

 ATEX filters are supplied with integrated earthing cable lugs.



\*\*\*\* According to EN 1822



# MIKROPOR SOLUTIONS

## HFN - ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

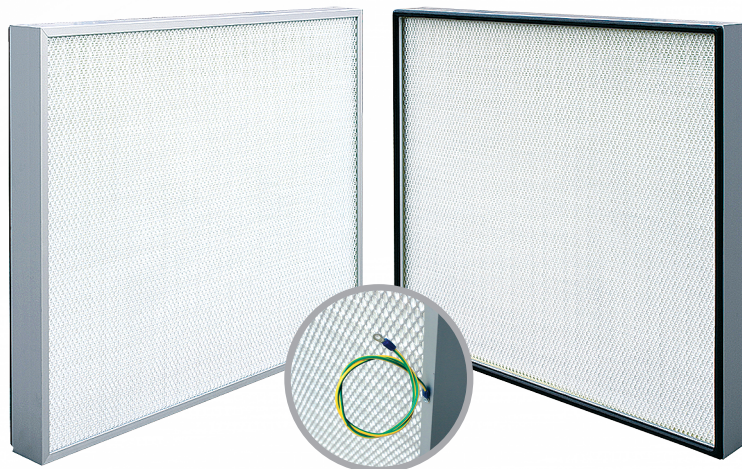
Media	Microglass Fiber
Frame	Extruded Anodized Aluminium
Final Pressure Drop	600 Pa
Operating Temperature	80°C
Filter Efficiency****	E10-U15
Sealant	Polyurethane
Gasket	Half Round Endless Polyurethane
Protection Grids	Painted Aluminium on Both Sides
Separators	Hotmelt

### Applications

- Air conditioning systems (Hospitals, Laboratories, Museums)
- Industrial processes (Pharmaceutical, Food, Microelectronics)

### Advantages

- HFN product line fully meets the requirements for VDI 6022



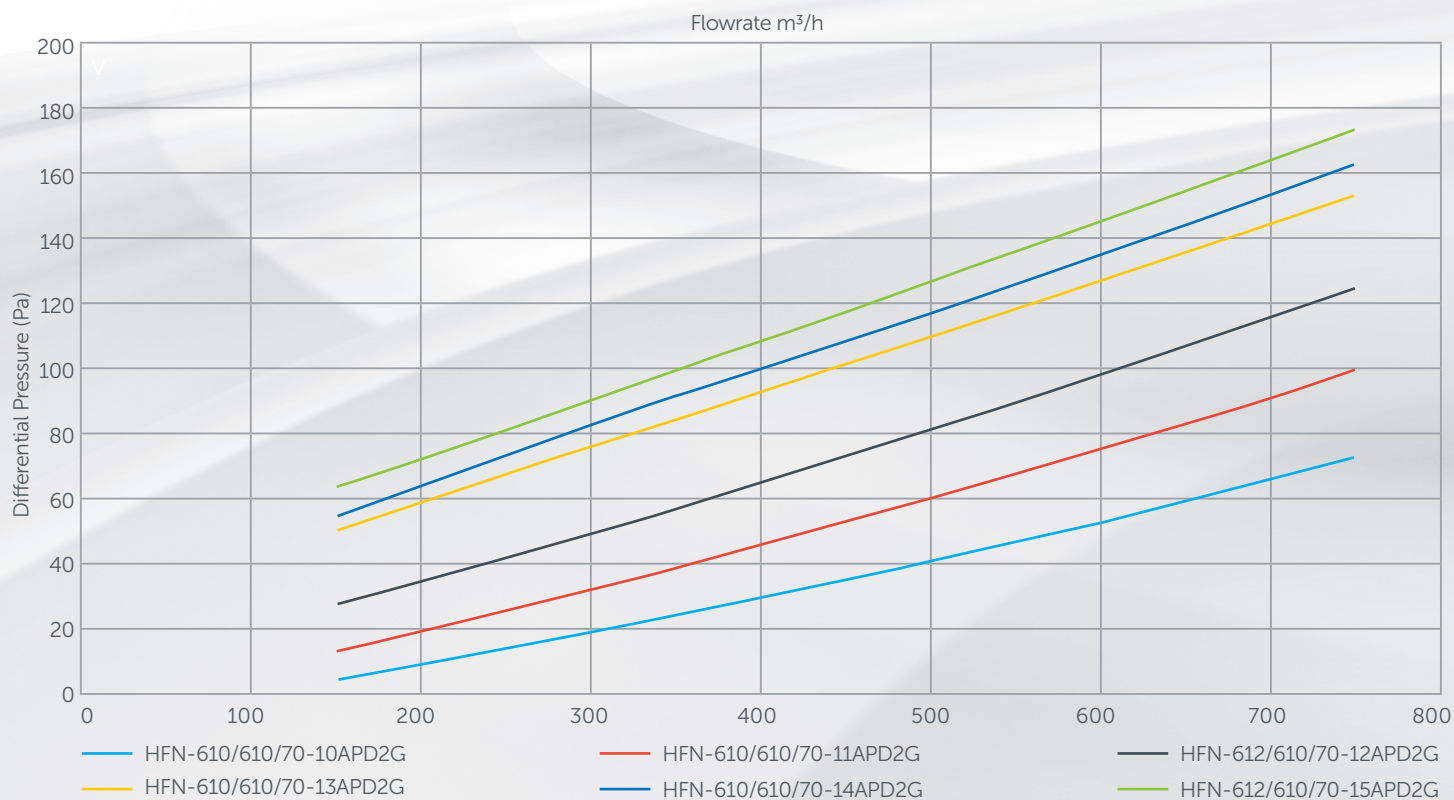
**II 2 G Ex h IIC Gb**



**II 2 G Ex h IIIB Db**

The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.

 ATEX filters are supplied with integrated earthing cable lugs.



\*\*\*\* According to EN 1822



# MIKROPOR SOLUTIONS

## MVH - ATEX SERIES

Filter series compliant with the ATEX Equipment Directive 2014/34/EU

Media	Microglass Fiber
Frame	Galvanized Steel, Aluminium, Stainless Steel
Final Pressure Drop	600 Pa
Operating Temperature	80°C
Filter Efficiency****	E10-U15
Sealant	Polyurethane
Gasket	Flat Neoprene or Half Round Endless Polyurethane
Protection Grids	Optional
Separators	Hotmelt



### Applications

- Air conditioning systems (Hospitals, Laboratories, Museums)
- Industrial processes (Pharmaceutical, Food, Microelectronics)

### Advantages

- Strong frame
- MVH product line fully meets the requirements for VDI 6022
- High flow applications



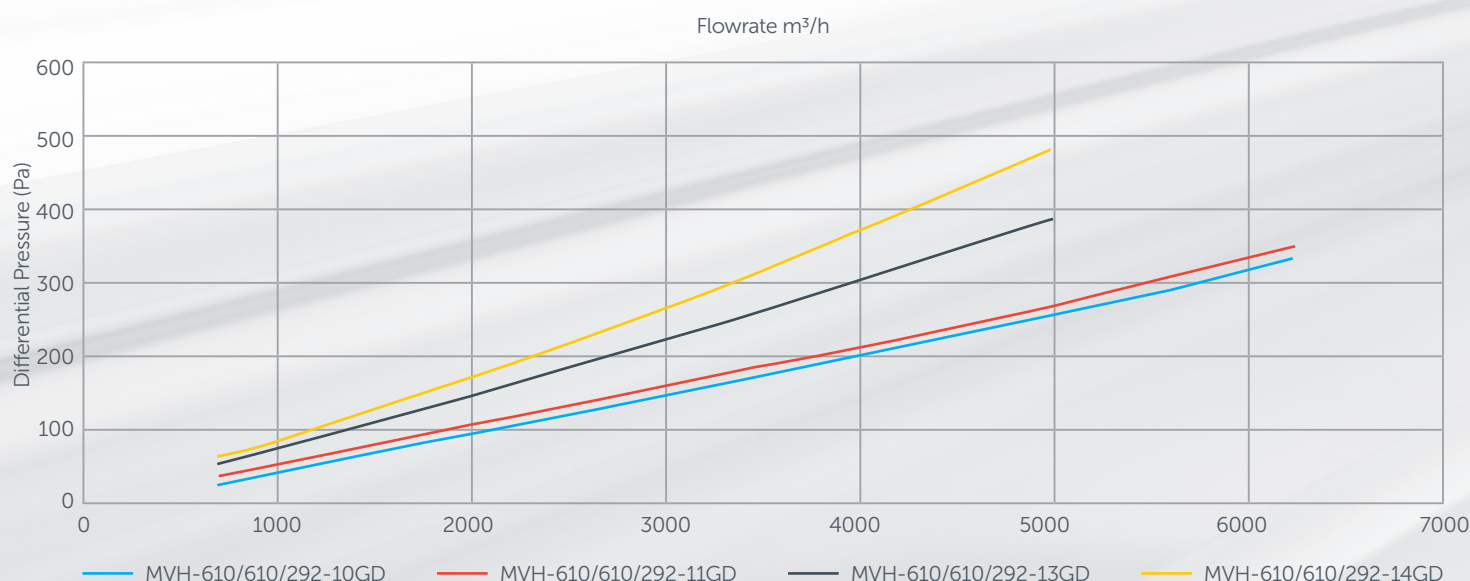
**II 2 G Ex h IIC Gb**



**II 2 G Ex h IIIB Db**

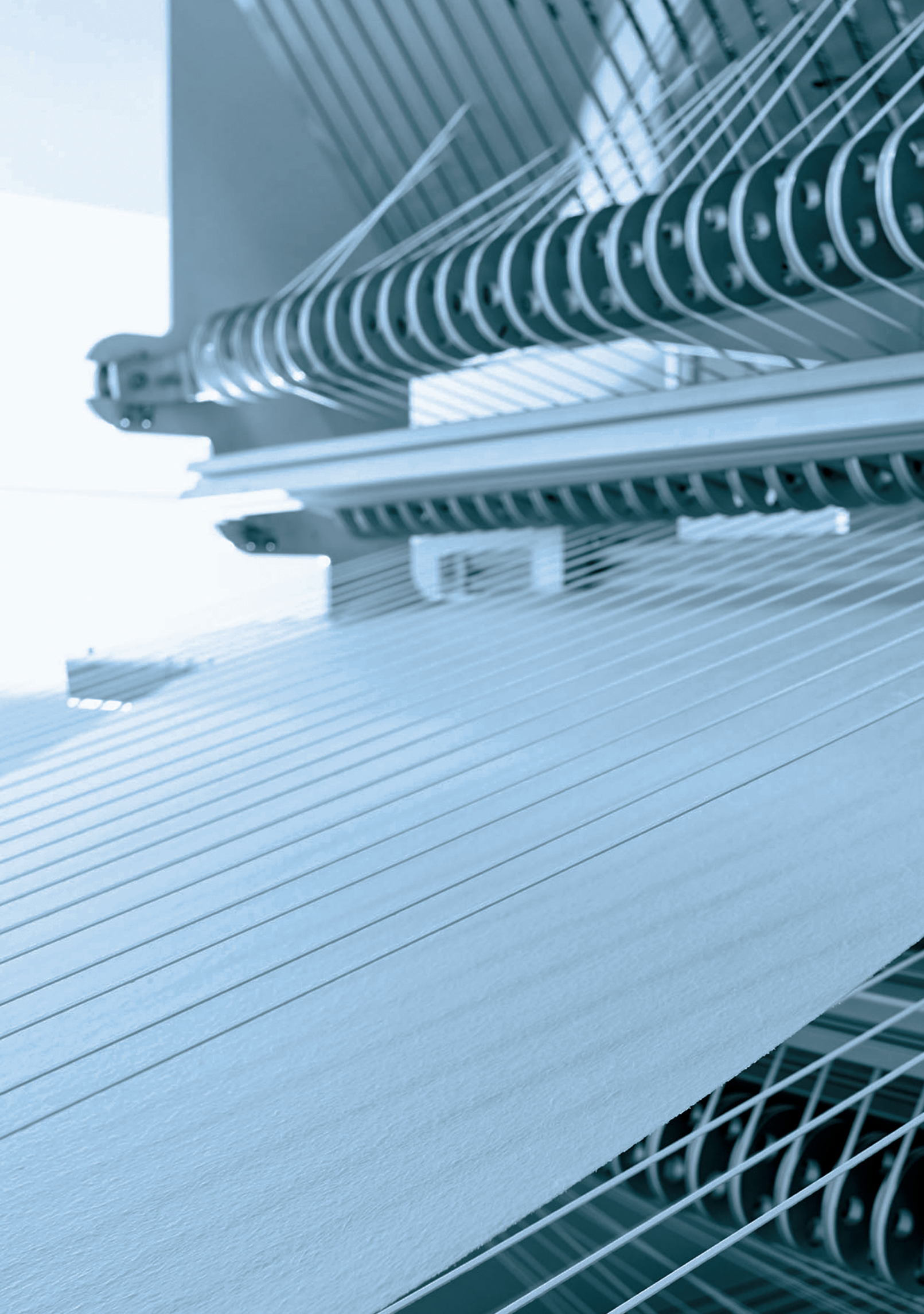
The filter is used as a high-impact particle filter. It is suitable for the explosive hazardous areas of zone 1, 2, 21 and 22.

 ATEX filters are supplied with integrated earthing cable lugs.



\*\*\*\* According to EN 1822







# AIR FILTRATION SOLUTIONS FOR ATEX APPLICATIONS



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