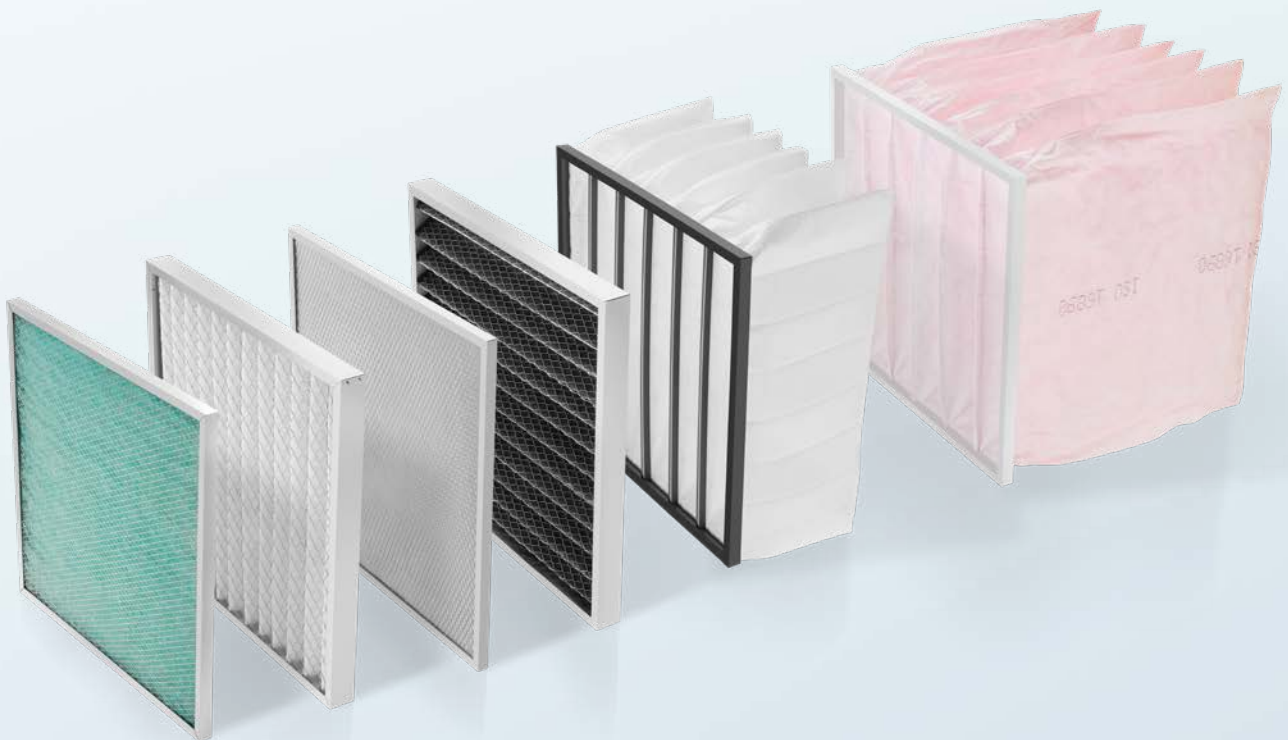


Air conditioning filters

Filter solutions for general and
custom ventilation



The history of the company

From the establishment of the company until today

BWF Envirotec is the world's leading supplier of complete industrial flue gas filtration solutions. BWF Envirotec's growing international presence is based on 16 production and distribution locations as well as a worldwide partner network. The headquarters of BWF Envirotec is located in Offingen, Bavaria.

BWF ENVIROTEC, POLAND



1995	The company started its activity as F.O.S. Filtrertechnik Polska Sp. z o. o.
1999	Setting up the trade office in Warendorf, Germany
2005	F.O.S. Filtrertechnik Polska Sp. z o. o. changes its name into ORWAT Filtrertechnik Sp. z o. o.
2009	Construction of a new production hall for the Filtration Department and Warehouse
2017	ORWAT Filtrertechnik Sp. z o. o. becomes a part of BWF Offermann, Waldenfels & Co. KG
2019	Renaming the company as BWF ORWAT POLAND Sp. z o. o.

OUR OFFER INCLUDES:

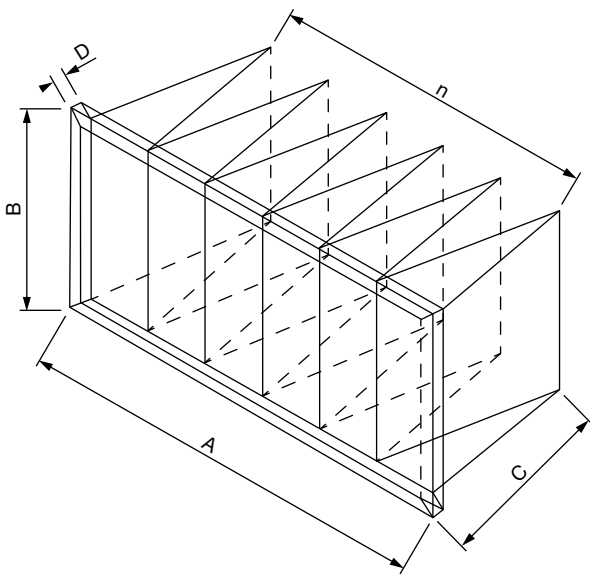
- Pocket filters
- Cassette filters
- Compact filters
- Filter mats
- Filters for painting walls
- Absolute filters
- Glass pocket filters
- Filtering foam
- Hauben pocket filters
- Activated carbon filters
- Metal grease filters
- Filters with carbon mat
- High temperature filters HT
- Activated carbon
- Compact carbon filters
- Mounting frames
- Fine filters
- Wedge filters
- Columbus filters
- Sludge bags
- Roller filters
- Multi pockets



Pocket filters

The most frequently used filtering element in ventilation systems

Filter pockets are produced in a metal or synthetic frame. The number of pockets depends on the technical aspects of ventilation systems. The raw materials used in the production process, filter medium and production technology guarantee proper filtration properties and feature a long service life (as desired by customers).



POCKET FILTERS AxBxC, n

Dimensions:

A [mm] - length

B [mm] - width

C [mm] - pocket length with frame

D [mm] - frame thickness

n [pcs] - quantity of pockets

STANDARDS

Pocket filters are manufactured to standards:

- ISO 16890
- PN EN 779:2012

Fire rating:

- F1 wg DIN 53438

MATERIALS

The arrangement of polyester or polypropylene fibres with a progressive structure guarantees a minimum ratio between filter efficiency and resistance.

CONSTRUCTION

Pocket filters in metal frames

A filter frame made of galvanised sheet steel guarantees long-term corrosion resistance. Filtering pockets stitched with industrial sewing machines ensure a long-term bond. Mounted in the frame on steel wires glued to the frame with temperature-resistant adhesive. Depending on the dimensions, the in-curved edge of the wire ensures proper adherence to the frame and prevents it from slipping off and coming unglued. The sides of pocket packages are stuck to the frame and sealed with technical foam which guarantees a proper sealing.

Pocket filters in plastic frames

The filter frame is made from black plastic. Pockets are joined together with a specially designed profile made from plastic using a pneumatic machine or sewing machines. Both of them provide suitable adhesion and fitting in the filter frame. The sides of pocket packages are stuck to the frame and sealed with technical foam, which guarantees proper sealing.

STANDARD DIMENSIONS

Frame sizes in pocket filters are fully standardized.
The most popular are:

- 592 x 592 mm
- 490 x 592 mm
- 287 x 592 mm
- 287 x 287 mm

Frame thickness:

- 20 mm, 25 mm

Pocket length:

- 200 mm, 300 mm, 360 mm, 500 mm, 600 mm

BWF Envirotec produces non-standard dimensions upon request or according to a sent format.

APPLICATION

- **G2, G3, G4** – in ventilation and air-conditioning installations of rooms with average air purity requirements, e.g. hotels, office buildings, shopping centres, etc.
- **M5, M6, F7, F8, F9** – in ventilation and air-conditioning installations of rooms with high air purity requirements, e.g. hospitals, food and electronics industries, etc.



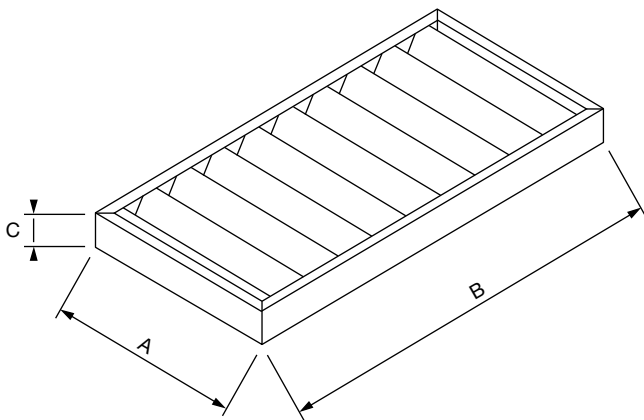
TECHNICAL DATA POCKET FILTERS

CLASSIFICATION ACCORDING TO THE STANDARDS OF PN – EN 779:2012		G3	G4	M5	M6	F7	F8	F9
FILTRATION EFFECTIVENESS ACCORDING TO ISO 16890	%	COARSE	COARSE	ePM10 35-70	ePM10 60-80	ePM1 40-65	ePM1 65-90	ePM1 80-90
		final results are given in the offer or when ordering						
Frame dimension	mm	592 x 592						
Airflow	m ³ /h	3400	3400	3400	3400	3400	3400	3400
Initial pressure drop	Pa	18 - 55	22 - 65	45 - 65	55 - 95	90 - 140	95 - 175	110 - 195
Recommended final pressure drop	Pa	250	250	450	450	450	450	450
Max. permissible operating temperature	°C	plastic frame 80, metal frame 100						
Pocket length	mm	200, 300, 360, 500, 600						
Number of pockets	pcs	6 or 8						

Cassette filters

Commonly used filters for pre-treatment

Cassette filters are most frequently used as the first filtration level in air conditioning and ventilation units. Our technical potential enables us to produce filters using a minipleat filter medium (to increase filter surface) or lying flat. Depending on the dimensions of the filter, additional bars are installed. The unit is branded with a dimension label to help to identify the product properly.



CASSETTE FILTER

A [mm] - width

B [mm] - length

C [mm] - frame thickness

STANDARDS

Cassette filters are manufactured to standards:

- ISO 16890
- PN EN 779:2012

Fire rating:

- F1 wg DIN 53438

MATERIALS

Arrangement of polyester or polypropylene fibres with a progressive structure guarantees a minimum ratio between filter efficiency and resistance.

CONSTRUCTION

Cassette filters – media lying flat

A filter frame made of galvanised sheet steel guarantees long-term corrosion resistance. A filter medium is positioned between two meshes made from galvanized sheet steel. Meshes enable stabilization and proper functioning of the filter medium. The frame is closed with a blind rivet.

Cassette filters – pleated material (z-line)

A filter frame made of galvanised sheet steel guarantees long-term corrosion resistance. The filter medium is pleated by machine on galvanised sheet steel mesh. The mesh enables stabilization and proper functioning of the filter medium. The frame is closed with a blind rivet and inductively welded.

STANDARD DIMENSIONS

Frame made from galvanized sheet metal, plastic or cardboard:

- 592 x 592 mm
- 287 x 592 mm
- 625 x 500 mm

Frame thickness:

- 20 mm, 25 mm,
- 50 mm, 96 mm, 100 mm

APPLICATIONS

- **G2, G3, G4, M5** – used in air-conditioning and ventilation units in rooms with average requirements of air purity e.g.: hotels, office buildings, shopping centres etc.

BWF Envirotec manufactures non-standard dimensions upon request or according to drawings and specifications of our customers



TECHNICAL DATA CASSETTE FILTERS

CLASSIFICATION ACCORDING TO THE STANDARDS OF PN – EN 779:2012		G3	G4	M5
FILTRATION EFFECTIVENESS ACCORDING TO ISO 16890	%	COARSE	COARSE	ePM10 35-70
Frame dimension	mm	592 x 592		
Construction		flat or pleated, depending on the thickness		
Airflow	m ³ /h	2500	2500	2500
Initial pressure drop	Pa	20 - 45	30 - 55	50 - 75
Recommended final pressure drop	Pa	250	250	450
Max. permissible operating temperature	°C	plastic frame 80, metal frame 100		
Frame thickness	mm	6 - 100		

Compact filters

Used as fine filters or absolute filters depending on filter classification

FILTRATION CLASS

M6, F7, F8, F9 acc. standards:

- ISO 16890
- PN EN 779:2012

H10, H11, H12, H13 acc. standards:

- EN 1822:2009

MATERIALS

The filter medium is made from fibreglass, waterproof paper characterised by high efficiency, formed of micro-fibreglass warp and a mixture of synthetic fibres. Filters available in our offer fall within classes M6 – H13, therefore they can be used in clean rooms in which air purity requirements are high. Filters are available in versions to operate in high temperatures (HT) or carbon fibre.

CONSTRUCTION

Frame is injection moulded, made from polystyrene.

FRAME DIMENSIONS AND TYPE

Plastic frame

- 592 x 287 x 287 mm
- 592 x 592 x 287 mm
- 592 x 490 x 287 mm

Standard 4V – 4 humps

Optional 3V – 3 humps or 2V – 2 humps

APPLICATION

Used as final stage filters in air-conditioning and ventilation systems or as pre-filters before absolute filters to extend filter life. Filters are good for many sectors such as: medicine, chemical industry, pharmacological industry and many others.



TECHNICAL DATA COMPACT FILTERS

FILTRATION CLASS	dimensions [mm]		M6	F7	F8	F9	H10	H11	H12
FILTRATION EFFECTIVENESS ACCORDING TO ISO 16890		%	ePM1070	ePM150	ePM170	ePM185	x	x	x
Type	592 x 592 x 287		3400	3400	3400	3400	4000	3000	3000
	592 x 490 x 287	m ³ /h	2700	2700	2700	2700	3200	2400	2400
	592 x 287 x 287		1700	1700	1700	1700	2000	1500	1500
Initial pressure drop		Pa	60	70	80	105	180	230	230
Recommended final pressure drop		Pa	250	250	250	250	300	450	450
Max. permissible operating temperature		°C				70			
Number of humps		pcs				4			

Filter mat

Perfect for many industrial branches

STANDARDS

Filter classification:

- ISO 16890
- PN EN 779:2012

Fire rating:

- F1 wg DIN 53438

MATERIALS

Arrangement of polyester or polypropylene fibres with a progressive structure, thermally or mechanically hardened, or by binding measures.



APPLICATION

Used in air-conditioning and ventilation units in rooms with average requirements for air purity e.g.: hotels, office buildings, shopping centres etc.

DIMENSIONS

Available in rolls or to exact specifications.

TECHNICAL DATA FILTER MAT

FILTRATION CLASS		G2	G3	G3	G4	G4	G4	M5	M5	M5	Carbon mat
Type		6305	6333	92130	93180	93181	94270	95592	95591	95590	5165
Grammage/Weight	g/m ²	100	130	130	220	220	380	320	500	600	260
Material		100 % PET									Activated carbon-coated polyester
Roll dimensions	m	2 x 100	2 x 80	2 x 60	2 x 20	2 x 20	2 x 20	2 x 20	2 x 20	2 x 20	2 x 125
Thickness	mm	4 - 6	8	10 - 14	19 - 21	16 - 19	22 - 24	18 - 20	16 - 19	20 - 24	6
Max. permissible operating temperature	°C	100									150
Colour		White	White	White-blue	White-blue	White	White	White	White with mesh	White with mesh	Black

Paint-Stop mat and filter paper

Basic elements for spray booths

The most frequently used filter mats used in spray booths are: ceiling mat M5, filter mat Paint-Stop and filter paper type labyrinth.

MATERIAL: PAINT-STOP MAT

100 % glass fibre with a progressive structure with laminated discharge side. The material is silicone free and acetone resistant. A green colour is on the air outlet side.

Available dimensions

Thickness: 1", 2", 3" or 4". Mat is available in rolls, the most popular widths are: 0.75 m; 1 m; 1.25 m; 1.5 m; 2 m. It is possible to cut it to any size.

TECHNICAL DATA PAINT-STOP MAT

FILTRATION CLASS		G2	G2/3	G2/3
Type		96950	96950	96950
Grammage/Weight	g/m ²	210	240	350
Material		Paint-Stop		
Roll dimensions	m	j/w		
Thickness	inch	2"	3"	4"
Max. permissible operating temperature	°C	100		
Colour		White-green		



MATERIAL: LABYRINTH TYPE FILTER PAPER

Two layers of pleated, perforated cardboard glued together. Two versions are available: brown or a white-brown colour.

Available dimensions

- Available widths: 0.75 m; 0.90 m and 1.00 m.
- Each pack includes 10 m.
- Can be cut to desired dimensions.

Application

Used in spray booths and painting walls to collect paint particles and remove them from the air precisely.

TECHNICAL DATA FILTER PAPER

KIND	ANDREAE STARTER	ANDREAE ORIGINAL
Type	Without stops	With stops
Material	Cardboard	
Roll dimensions	m	j/w
Max. permissible operating temperature	°C	100
Colour	White/bronze	

** For more information visit our website



Absolute filters

Elements of the final filtration stage in ventilation systems

FILTRATION CLASS

H10, H11, H12, H13, H14, U15 acc. standards

- EN 1822:2009

MATERIAL

Waterproof paper is made from high efficiency fibreglass, formed of micro-fibreglass warp and a mixture of synthetic fibres.



CONSTRUCTION

Filter made from pleated materials is called minipleat. Depending on the type, it can be separated by an aluminium foil separator or cotton threads separator, or glue. Filter medium is placed in an MDF frame (wooden board), made from aluminium or galvanised sheet. Normally, from the front of the frame an elastic polyurethane seal is placed.

STANDARD DIMENSIONS

Frame dimensions (width x height):

- 305 x 305 mm
- 305 x 610 mm
- 457 x 457 mm
- 610 x 610 mm

Frame thickness:

- 68, 78, 150, 292 mm

APPLICATION

Used as final stage filters in air-conditioning and ventilation systems. Used in many sectors such as: medicine, chemical industry, pharmacological industry and many others where high air quality is required.

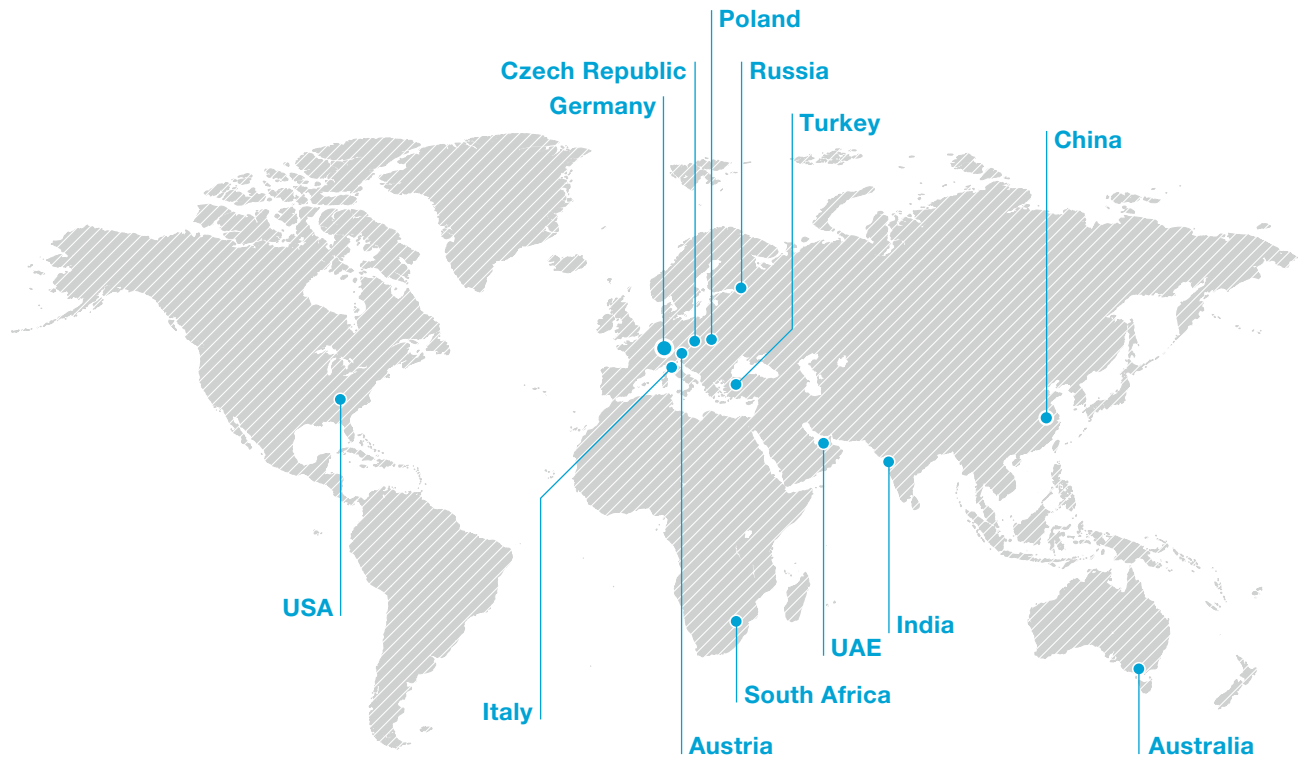
TECHNICAL DATA

FILTER CLASS	Frame size [mm]		H13	H13	H13
Frame thickness		mm	78	150	292
Minipleat thickness		mm	58	120	120
	610 x 610		670	1920	1920
Type	305 x 610	m ³ /h	335	950	950
	305 x 305		155	440	440
Initial pressure drop		Pa	150	250	250
Recommended final pressure drop		Pa	450	550	550
Max. permissible operating temperature		°C		80	

Our sites

Working for you around the globe

BWF Envirotec is represented by a growing international presence with 16 production and distribution sites, and a worldwide partner network.



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