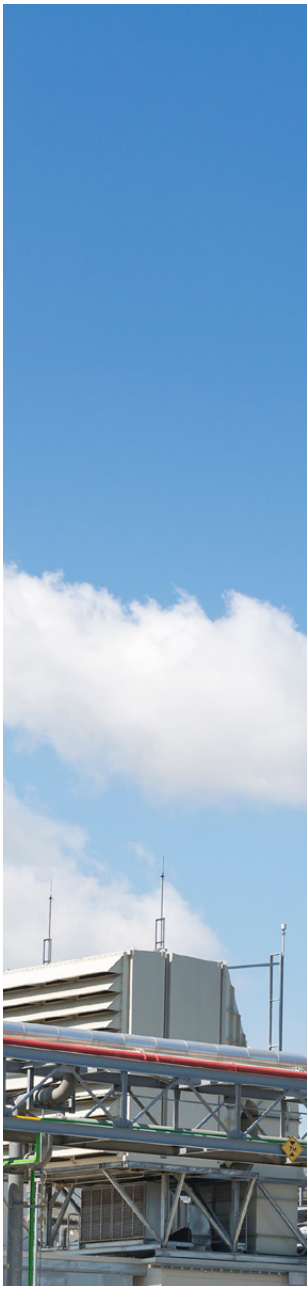
Power Generation Air Filtration Solutions

Leadership in Filtration

MANN+HUMMEL

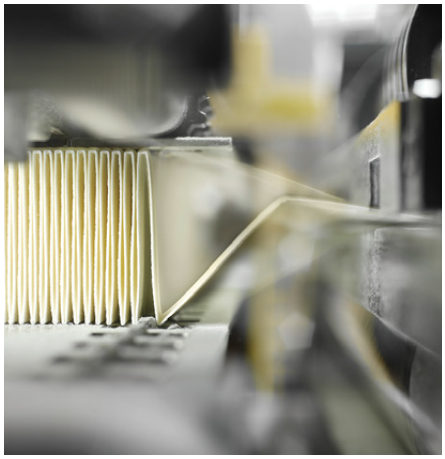
Clean air: Fueling power efficiency



FILTRATION – A KEY FACTOR IN DETERMINING TURBINE PERFORMANCE AND LIFE

Clean air is vital for any power generation gas turbine. But it's the filtration system that determines the quality of that air and the ease with which the turbine can draw it in. If the filtration system does not clean the air to a sufficient standard, downstream components – including the turbine – are at risk of damage and fouling. If differential pressure is too high, the intake filters will choke the air flow and compromise performance.

At MANN+HUMMEL, we recognize that small improvements in the intake can make big differences to the engine. That's why we invest a significant proportion of our 1,000-strong R&D team into developing new solutions that improve the performance and safety of your turbine. So whether you operate on the edge of the Arctic, the middle of the Sahara, or anywhere in between, our filters can help maximize the life and output of your gas turbine.



MANN+HUMMEL has been a filtration specialist for more than 80 years. Leadership in Filtration is what drives us.

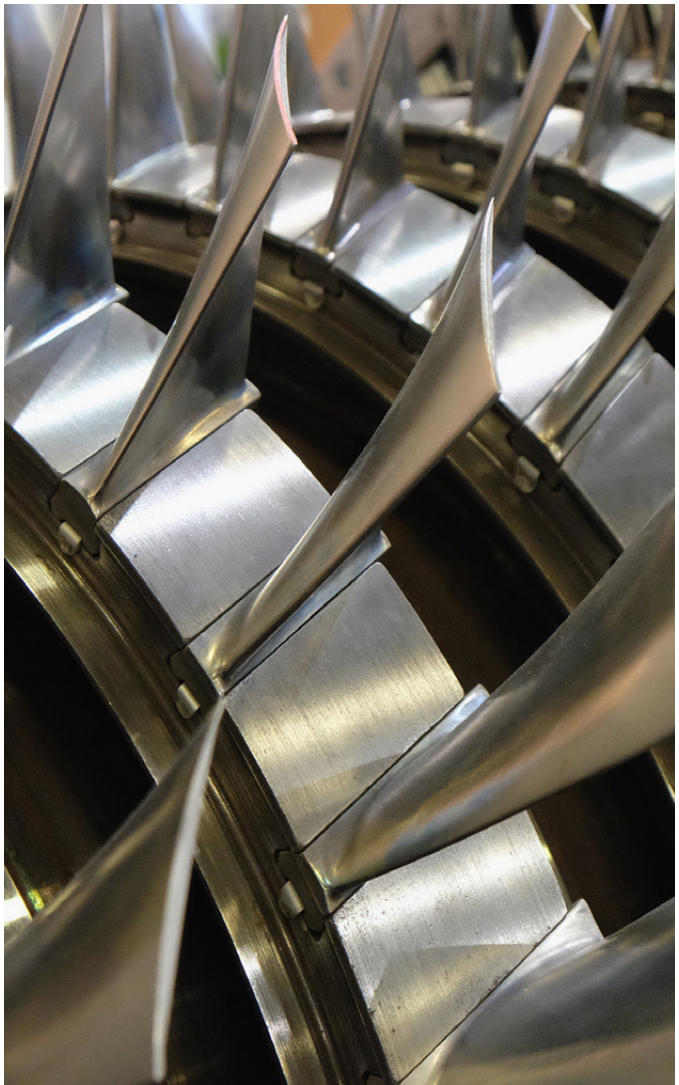
A FILTRATION CHAMPION

We're not just a global player. We serve on advisory boards in a number of industries, providing our expertise in the development of new standards. And having won numerous supplier of the year awards from some of the world's most respected companies, we take our role as partners seriously. We are champions for all matters concerning filtration.

A product range designed for GT

A PRODUCT RANGE THAT MAKES SENSE

Each of our product families is separated into three levels—Select, Eco and Pro—that follow a good, better, best format. So, if you're looking to minimize your initial expenditure choose a *Select* filter. If you need a product with a low pressure drop, choose *Eco*. And if you want a product that combines high standards of air quality with low pressure differential, you should go *Pro*.



Product families

Select

Entry-level product, with a focus on price/performance.

Eco

Mid-range product that provides improved life cycle costs.

Pro

Flagship product or filter for a special application.

Product selector

	Page	ISO Coarse	ISO ePM10	ISO ePM2.5	ISO ePM1	EPA	HEPA	ATEX-rated	Burst resistant	Gas adsorption	High efficiency	High temp.	No glass fiber	Pulse function	Water removal	XL capacity
Airmat Eco H2O Power	6	•													•	
Airmat Pro H2O Power	8	•													•	
Airpad Eco Glass H2O Power	10	•													•	
Airpad Pro H2O Power	12	•													•	
Aircurve Eco PPI10 Power	14	•											•		•	
Airsquare Select Power	16	•														
Airpanel Select Power	18	•											•			
Airpanel Pro H2O Duo	20	•													•	
Airpocket Eco Power	22	•	•		•								•			
Aircube Select Power	24				•				•							
Aircube Eco Power	26				•				•							
Aircube Pro Power	28				•				•							
Aircube Pro Power S / S XL	30				•				•							•
Nanoclass Cube Eco Power	32					•			•		•					
Nanoclass Cube Pro Power	34					•			•		•					•
Nanoclass Cube Pro Power S / S XL	36					•			•		•					•
Airtube/Aircone Pulse Power Select	38				•									•		
Airtube/Aircone Pulse Power N	40				•									•		
Airtube/Aircone Pulse Power Pro	42				•	•					•			•		
Demiguard Pro	44						•			•	•					

Airmat

Eco

Mid-range product

Water removal

Coarse

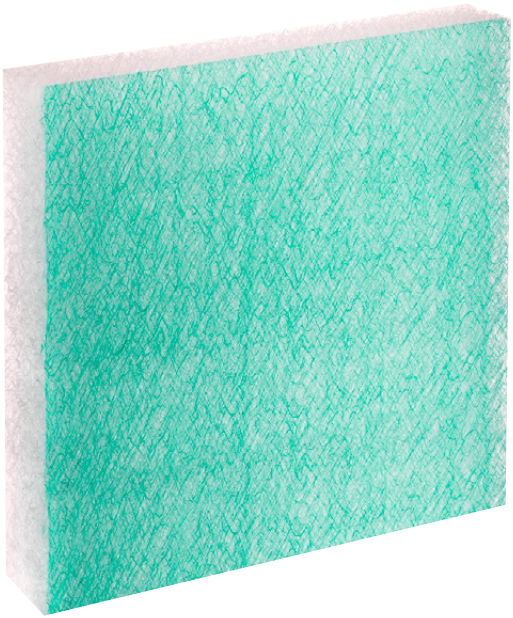
Filter class to ISO 16890

G

Filter class to EN 779

Airmat Eco H2O Power

Combined air filter and water coalescer with a high dust holding capacity of 3000 g/m² (SAE). Ideal for coastal applications.



KEY FACTS

- Combined air filter and water coalescer
- Ideally suited to coastal applications
- High dust holding capacity of 3000 g/m² (SAE)

DESIGN

Disposable media of continuous glass fibers with progressive density coated with adhesive. The down-stream side of the media is colored green to ensure correct installation.

APPLICATIONS

For use in industrial applications with rotating machinery like engines, gas turbines and smooth-flow compressors. Suitable for both land-based and offshore applications.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 40%	**G3**	610 x 610 x 100	3400	40
Coarse 40%	**G3**	305 x 610 x 100	1700	40
Coarse 40%	**G3**	305 x 305 x 100	850	40

Specification

Recommended air velocity	2.5 m/s	**Rec. final pressure drop**	250 Pa
Heat resistance	80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airmat

Pro

Flagship product

Water removal

Coarse

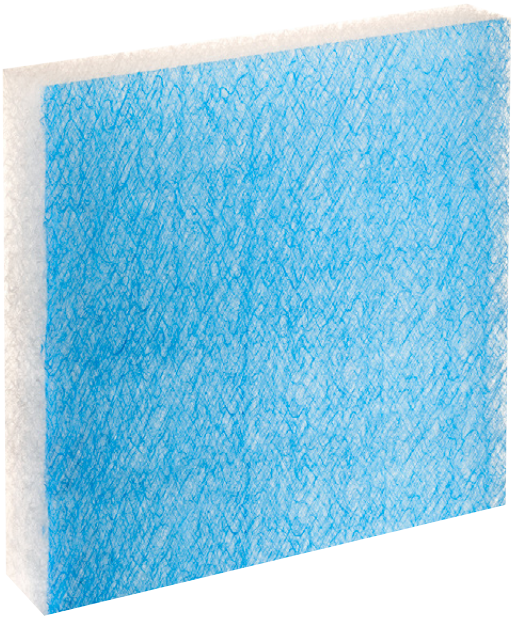
Filter class to ISO 16890

G

Filter class to EN 779

Airmat Pro H2O Power

Combined air filter and water coalescer with an extra high dust holding capacity of 5340 g/m² (SAE) and a filtration efficiency of ISO Coarse 60%.



KEY FACTS

- Combined air filter and water coalescer
- Ideally suited to coastal applications
- High dust holding capacity of 5340 g/m² (SAE)

DESIGN

Disposable media of continuous glass fibers with progressive density coated with adhesive. The down-stream side of the media is colored blue to ensure correct installation.

APPLICATIONS

For use in industrial applications with rotating machinery like engines, gas turbines and smooth-flow compressors. Suitable for both land-based and offshore applications.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 60%	**G4**	610 x 610 x 125	3400	105

Specification

Recommended air velocity	2.5 m/s	**Rec. final pressure drop**	250 Pa
Heat resistance	80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airpad

Mid-range product

Particle filtration

Water removal

Coarse

Filter class to ISO 16890

G

Filter class to EN 779

Airpad Eco Glass H2O Power

Combined air filter and water coalescer with an ISO Coarse 70% particle filtration efficiency. A strong, lightweight construction simplifies handling and installation.

KEY FACTS

- Combined air filter and water droplet coalescer
- Lightweight
- High efficiency
- Easy installation and handling

DESIGN

Media constructed of continuous glass fibers with progressive density fitted into a lightweight polypropylene frame. The expanded hole pattern at the base of the filter allows efficient drainage during use.

APPLICATIONS

Droplet separation and prefiltration for industrial applications with rotating machinery like engines, gas turbines and smooth-flow compressors. Suitable for both land-based and offshore applications.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 70%	**G4**	592 x 592 x 75	3400	96

Specification

Recommended air velocity	Flow rate ± 25 %	**Rec. final pressure drop**	250 Pa
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airpad

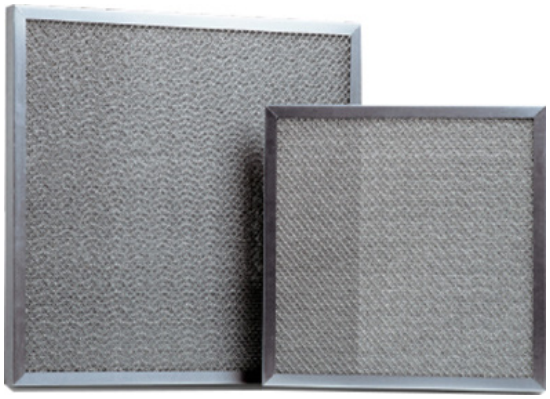
Pro

Flagship product

Water removal

Airpad Pro H2O Power

Specialist water coalescer that provides effective moisture separation from a robust, rust-free design.



KEY FACTS

- Provides effective moisture separation
- Robust design
- Rust-free

DESIGN

A woven metal mat interspersed with layers of expanded metal mesh in an aluminum (AlMg3) steel frame. Protection grids hold the mat in place and water drainage holes in the frame allow the separated moisture to flow away from the downstream application.

APPLICATIONS

For use in industrial applications for rotating machinery like engines, gas turbines and smooth-flow compressors. Suitable for land-based and offshore applications.

Technical Data

Dimension mm	**Average Arrestance** % of water droplets	**Flow Rate** m³/h	**Pressure Drop** Pa
595 x 595 x 45	> 90 % @ 5 µm	3400	75

Specification

Recommended air velocity	2.5 m/s	**Rec. final pressure drop**	250 Pa
Heat resistance	80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airsquare

Select

Entry-level product

No glass fiber

Coarse

Filter class to ISO 16890

G

Filter class to EN 779

Airsquare Select Power

A space saving but stable design packs in a large filter area thanks to the mini-pleated media. The shallow depth and low weight simplify handling and installation.

KEY FACTS

- Large filter area with space-saving, shallow depth
- Stable compact design
- Low weight
- High efficiency
- Easy assembly and handling

DESIGN

Mini-pleated synthetic media with a robust plastic frame.

APPLICATIONS

Prefiltration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 70%	**G4**	592 x 592 x 48	3400	90
Coarse 70%	**G4**	592 x 592 x 96	3400	50

Specification

Recommended air velocity	Flow rate ± 25 %	**Rec. final pressure drop**	250 Pa (max. 450 Pa)
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Frame	Plastic, galvanized steel or stainless steel
Gasket	Foamed polyurethane continuous gasket, 1 or 2 sides

Aircurve

Eco

Mid-range product

Particle filtration

Water removal

Coarse

Filter class to ISO 16890

G

Filter class to EN 779

Aircurve Eco PPI10 Power

Combined air filter and water coalescer with a robust, maintenance-friendly construction. A clever, wave-shaped foam media delivers an extra-long service life.

KEY FACTS

- Combined air filter and water droplet coalescer
- Robust design
- Easy installation and handling
- Maintenance friendly
- Long service life

DESIGN

Media made from porous, poly-ether-based PPI10 foam, which is especially designed to reduce pore clogging. This PPI10 foam is formed into a wave shape for increased filter area and sealed into a robust plastic frame with an extra strength polyure-thane-based adhesive.

APPLICATIONS

Droplet separation and prefiltration for industrial applications with rotating machinery like engines, gas turbines and smooth-flow compressors. Suitable for both land-based and offshore applications.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 50%	**G3**	592 x 592 x 48	3400	35
Coarse 50%	**G3**	592 x 592 x 96	3400	35

Specification

Recommended air velocity	2.5 m/s	**Rec. final pressure drop**	250 Pa (max. 450 Pa)
Heat resistance	80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airpanel

Select

Entry-level product

No fiber glass

Coarse

Filter class to ISO 16890

G

Filter class to EN 779

Airpanel Select Power

Cardboard-case panel filter that offers great value without skimping on materials. The synthetic/cotton blended media delivers ISO Coarse 75% without the risk of fiber shedding.

KEY FACTS

- Synthetic/cotton filter media
- No fiber shedding
- Stable design
- High dust holding capacity
- Top cost-benefit ratio
- Lightweight

DESIGN

Open-pleated synthetic/cotton filter media, bonded securely into a rigid, water-resistant cardboard case. The pleats are supported by a galvanized steel mesh to provided added pleat stability during operation.

APPLICATIONS

Prefiltration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 75%	**G4**	596 x 596 x 98	3400	62
			4250	90
Coarse 75%	**G4**	287 x 596 x 98	1700	62
			2125	90

Specification

Recommended air velocity	< 4250 m³/h	**Rec. final pressure drop**	Initial pressure x 2 (max. 450 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Airpanel

Pro

Flagship product

Particle filtration

Water removal

Coarse

Filter class to ISO 16890

G M

Filter class to EN 779

Airpanel Pro H2O Duo

Our flagship combined air filter and water coalescer that offers particle filtration and moisture removal in one – removing the need for a dedicated coalescer stage.

KEY FACTS

- Combined prefilter with high efficiency coalescer in one stage
- Patented, highly efficient water drainage system
- High burst resistance up to 2000 Pa

DESIGN

Made from a durable plastic frame and a pleated pack of hydrophobic, progressively structured media. The pleats are stabilized with hotmelt support beads and plastic combs, and fixed into the frame using polyurethane.

APPLICATIONS

Particularly suited for use with rotating equipment located near to the sea, or where fog or rain is a regular part of the weather pattern.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Coarse 75%	**G4**	592 x 592 x 96	3400	70
			4250	95
Coarse 90%	**M5**	592 x 592 x 150	3400	60
			4250	85
Coarse 90%	**M5**	592 x 592 x 150	3400	75
		(22 mm header)	4250	110
Coarse 90%	**M5**	592 x 592 x 150	3400	75
		(22 mm header)	4250	110

Specification

Recommended air velocity	2.5 m/s ± 20 %	**Rec. final pressure drop**	450 Pa
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Gasket	EPDM Flat gasket, 1 or 2 sides
Depth	Also available as 100 mm with 25 mm header

Airpocket Eco Power

Airpocket

Eco

Mid-range product

No glass fiber

Coarse | ePM10 | ePM1

Filter class to ISO 16890

G | M | F

Filter class to EN 779

Mid-range bag filter with excellent pressure drop performance. Available in a wide range of filter classes from Coarse 70% to ePM1 65% (ISO 16890).

KEY FACTS

- Synthetic filter media
- Long service life
- High dust holding capacity
- Low Pressure drop

DESIGN

Pocket filters with a metal or plastic frame. Single pockets made of a synthetic, wave-structured media are tailor sewn for an optimal V-shape.

APPLICATIONS

Prefiltration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Pockets** Qty	**Flow Rate** m³/h	**Pressure Drop** Pa	**Energy Consumption** kWh/year	**Energy Rating** Eurovent
Coarse 70%	**G4**	592 x 592 x 300	6	3400	45	–	–
Coarse 70%	**G4**	592 x 592 x 360	6	3400	45	–	–
Coarse 70%	**G4**	592 x 592 x 500	6	3400	40	–	–
Coarse 70%	**G4**	592 x 592 x 635	6	3400	35	–	–
ePM10 50%	**M5**	592 x 592 x 360	6	3400	45	584	B
ePM10 50%	**M5**	592 x 592 x 635	6	3400	35	466	A
ePM10 55%	**M5**	592 x 592 x 635	6	3400	39	504	A
ePM10 70%	**M6**	592 x 592 x 300	6	3400	115	2073	E
ePM10 70%	**M6**	592 x 592 x 500	6	3400	52	695	A
ePM10 70%	**M6**	592 x 592 x 635	6	3400	55	600	A+
ePM1 65%	**F7**	592 x 592 x 300	10	3400	165	> 2500	E
ePM1 65%	**F7**	592 x 592 x 500	10	3400	75	1013	B
ePM1 65%	**F7**	592 x 592 x 635	10	3400	65	830	A+

Specification

Recommended air velocity	Flow rate ± 10 %	**Rec. final pressure drop**	450 Pa (Coarse version 250 Pa)
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Gasket	EPDM flat gasket, 1 or 2 sides
Header depth	25 mm or 20 mm
Frame	Plastic or metal

Aircube

Select

Entry-level product

ePM1

Filter class to ISO 16890

F

Filter class to EN 779

Aircube Select Power

4V compact filter that offers durability and performance in a lightweight, budget-friendly package.

KEY FACTS

- Fully incinerable
- Long service life
- Stable construction with a low weight
- Filter series tested according to EN 13501-1:2010 as E d0

DESIGN

Compact filter with a 4V design made of plastic for a lightweight, stable construction. Microglass pleat packs are supported and protected from damage by one of two options: either two grids on the outer most vulnerable surfaces, or with full support and protection on all eight media surfaces. Specially-designed header provides a strong gasket adhesion.

APPLICATIONS

Primary filtration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**No. of Grids**	**Flow Rate** m³/h	**Pressure Drop** Pa	**Energy Consumption** kWh/year	**Energy Rating** Eurovent
ePM1 80%	**F9**	592 x 592 x 300	2	3400	100	1337	B
				4250	140	–	–
ePM1 80%	**F9**	592 x 592 x 300	8	3400	100	1337	B
				4250	140	–	–

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Header depth	25 mm

Aircube

Eco

Mid-range product

High burst resistance

ePM1

Filter class to ISO 16890

F

Filter class to EN 779

Aircube Eco Power

Compact filter combining high dust holding capacity with an industry-leading burst resistance – for the highest levels of safety for your turbine.

KEY FACTS

- Industry-leading burst resistance
- Fits all commonly used filter frames
- Fully incinerable
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile plastic frame, made from recyclable materials.

APPLICATIONS

Primary filtration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa	**Energy Consumption** kWh/year	**Energy Rating** Eurovent
ePM1 50%	**F7**	592 x 592 x 300	3400	75	1008	B
			4250	105	-	-
ePM1 65%	**F8**	592 x 592 x 300	3400	90	1144	C
			4250	125	-	-
ePM1 80%	**F9**	592 x 592 x 300	3400	95	1348	B
			4250	130	-	-

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Header depth	25 mm

Aircube

Pro

Flagship product

High burst resistance

ePM1

Filter class to ISO 16890

F

Filter class to EN 779

Aircube Pro Power

High filtration efficiencies, industry-leading burst resistance and extra low pressure drop performance combine for the ultimate protection for your turbine.

KEY FACTS

- Extended surface area for higher levels of atmospheric particulate
- Industry-leading burst resistance
- Fits all commonly used filter frames
- Fully incinerable
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile plastic frame, made from recyclable materials.

APPLICATIONS

Primary filtration for gas turbine air intakes.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa	**Energy Consumption** kWh/year	**Energy Rating** Eurovent
ePM1 55%	**F7**	592 x 592 x 300	3400	80	1076	C
			4250	115	–	–
ePM1 70%	**F8**	592 x 592 x 300	3400	95	1133	B
			4250	140		
ePM1 80%	**F9**	592 x 592 x 300	3400	105	1348	B
			4250	150	–	–

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Header depth	25 mm
Gasket	Continuous polyurethane foam, 1 or 2 sides

Aircube

Pro

Flagship product

High burst resistance

XL

Extra long service life

ePM1

Filter class to ISO 16890

Aircube Pro Power S & S XL

Top-of-the-range compact filter with a synthetic media for added strength. Available in two types, the XL version offers an even longer service life.

KEY FACTS

- Synthetic-based filter media provides the highest mechanical strength
- Available in two lengths (300/420 mm)
- Large surface area captures higher levels of atmospheric particulate for a longer lifetime
- Extended length version delivers even longer operation periods
- Industry-leading burst resistance
- Fits all commonly used filter frames
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile, plastic frame, made from recyclable materials.

APPLICATIONS

Primary filtration for gas turbine air intakes.

Technical Data

Product Version	**Filter Class** ISO 16890	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Aircube Pro Power S	ePM1 80%	592 x 592 x 300	3400	135
			4250	180
Aircube Pro Power S XL	ePM1 80%	592 x 592 x 420	3400	105
			4250	140

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Header depth	25 mm
Gasket	Continuous polyurethane foam, 1 or 2 sides (S version). Flat gasket 1 or 2 sides (S XL version)

Nanoclass Cube

Eco

Mid-range product

High burst resistance

High filtration efficiency

E

Filter class to EN 1822

Nanoclass Cube Eco Power

EPA filter combining an industry-leading burst resistance with impressive all-round performance.

KEY FACTS

- Industry-leading burst resistance
- Fits all commonly used filter frames
- Fully incinerable
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile plastic frame, made from recyclable materials.

APPLICATIONS

Final filtration for gas turbine air intakes.

Technical Data

Filter Class EN 1822	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
E10	592 x 592 x 300	3000	120
		3400	140
E11	592 x 592 x 300	3000	135
		3400	160
E12	592 x 592 x 300	3000	215
		3400	245

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	No

Options

Header depth	25 mm
Gasket	Continuous polyurethane foam, 1 or 2 sides

Nanoclass Cube

Pro

Flagship product

High burst resistance

High filtration efficiency

E

Filter class to EN 1822

Nanoclass Cube Pro Power

EPA filter offering high levels of filtration efficiency with unbeatable burst resistance, a large filter surface area and low pressure differentials.

KEY FACTS

- Large surface area of 30m²
- Extremely low pressure drop
- Industry-leading burst resistance
- Fits all commonly used filter frames
- Fully incinerable
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile plastic frame, made from recyclable materials.

APPLICATIONS

Final filtration for gas turbine air intakes.

Technical Data

Filter Class EN 1822	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
E10	592 x 592 x 300	3000	110
		3400	125
E11	592 x 592 x 300	3000	140
		3400	160
E12	592 x 592 x 300	3000	180
		3400	205

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	600 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	No

Options

Header depth	25 mm
Gasket	Continuous polyurethane foam, 1 or 2 sides

Nanoclass Cube

Pro

Flagship product

High burst resistance

High filtration efficiency

XL

Extra long service life

E

Filter class to EN 1822

Nanoclass Cube Pro Power S / S XL

Compact EPA filter with a synthetic media for additional mechanical strength. Available in two types, the XL version boasts a 420 mm depth and extra-long life.

KEY FACTS

- Synthetic-based filter media provides the highest mechanical strength
- Available in two lengths (300/420 mm)
- Large surface area captures higher levels of atmospheric particulate for a longer lifetime
- Extended length version delivers even longer operation periods
- Industry-leading burst resistance
- Fits all commonly used filter frames
- Recyclable materials for simple, environmentally-friendly disposal
- High efficiencies at low pressure drops

DESIGN

Pleated cells with special thread separators to ensure the even spacing of the pleats. Robust, fully incinerable, hollow-profile, plastic frame, made from recyclable materials.

APPLICATIONS

Primary filtration for gas turbine air intakes.

Technical Data

Product Version	**Filter Class** ISO 16890	**Dimension** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
Nanoclass Cube Pro Power S	E10	592 x 592 x 300	3400	180
			4250	235
Nanoclass Cube Pro Power S XL	E10	592 x 592 x 420	3400	130
			4250	170

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa (max. 800 Pa)
Heat resistance	Max. 70 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	Yes

Options

Header depth	25 mm
Gasket	Continuous polyurethane foam, 1 or 2 sides (S version). Flat gasket 1 or 2 sides (S XL version)

Airtube

Select

Entry-level product

Pulse jet

ePM1

Filter class to ISO 16890

F

Filter class to EN 779

Airtube/Aircone Pulse Power Select

Pulse cleaning cartridges built to excel in dry and dusty areas. Available in cylindrical or conical formats, or both for really challenging environments.

KEY FACTS

- 80/20 cellulose and synthetic blend media
- Suitable for dry, dusty environments
- Built to withstand high levels of dust loading
- Cone and smaller cylinder can be joined together for extremely high dust concentrations and air flows
- Uniform pleat spacing for maximum life
- Corrosion-resistant end caps

DESIGN

Pleated media formed into conical or cylindrical packs, supported by inner and outer expanded-steel sleeves. Epoxy-coated upper flanges and bottom end caps protect against corrosion. Liners are seamed to eliminate the risk of oxidation associated with welding dots.

APPLICATIONS

For gas turbine intake filtration in areas with high levels of ambient dust.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Format**	**Usage**	**Height** mm	**Outside Diameter** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
ePM1 70%	**F8**	Cone Cylinder	As a pair or on their own	660 660	445* / 324 324	2500	150
ePM1 70%	**F8**	Cylinder	As a single cartridge	905	352	1728	187

*Measurement refers to the widest part of the cone section

Specification			
Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	No

Airtube

N

Entry-level product

Pulse jet

ePM1

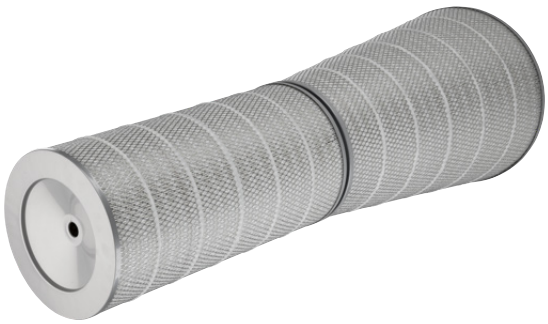
Filter class to ISO 16890

F

Filter class to EN 779

Airtube/Aircone Pulse Power N

Pulse jet cartridges suitable for use in humid environments thanks to a nanofiber coating. Deliver ePM1 80% filtration efficiency according to ISO 16890.



KEY FACTS

- 80/20 cellulose and synthetic blend media with a surface coating of nanofibers
- Suitable for humid environments
- Built to withstand high levels of dust loading
- Available in cylindrical or conical formats
- Cone and cylinder can be joined together for extremely high dust concentrations and air flows
- Uniform pleat spacing for maximum life
- Corrosion-resistant end caps

DESIGN

Pleated media formed into conical or cylindrical packs, supported by inner and outer expanded-steel sleeves. Epoxy-coated upper flanges and bottom end caps protect against corrosion. Liners are seamed to eliminate the risk of oxidation associated with welding dots.

APPLICATIONS

For gas turbine intake filtration in areas with high levels of ambient dust.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779	**Format**	**Usage**	**Height** mm	**Outside Diameter** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
ePM1 80%	**F9**	Cone Cylinder	As a pair or on their own	660 660	445* / 324 324	2750	194

*Measurement refers to the widest part of the cone section

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	No

Airtube/Aircone Pulse Power Pro

Airtube

Pro

Entry-level product

Pulse jet

High filtration efficiency

ePM1

Filter class to ISO 16890

F

Filter class to EN 779

E

Filter class to EN 1822

Pulse cleaning cartridges with a special surface coating for humid and dusty areas. High filtration efficiencies remove up to 99.5% of 0.3 µm particulate.

KEY FACTS

- 100% synthetic media with a special surface coating
- Suitable for humid, dusty environments
- Built to withstand high levels of dust loading
- Available in cylindrical or conical formats
- Cone and smaller cylinder can be joined together for extremely high dust concentrations and air flows
- Uniform pleat spacing for maximum life
- Corrosion-resistant end caps

DESIGN

Pleated media formed into conical or cylindrical packs, supported by inner and outer expanded-steel sleeves. Epoxy-coated upper flanges and bottom end caps protect against corrosion. Liners are seamed to eliminate the risk of oxidation associated with welding dots.

APPLICATIONS

For gas turbine intake filtration in areas with high levels of ambient dust.

Technical Data

Filter Class ISO 16890	**Filter Class** EN 779 / EN 1822	**Format**	**Usage**	**Height** mm	**Outside Diameter** mm	**Flow Rate** m³/h	**Pressure Drop** Pa
ePM1 80%	**F9**	Cone Cylinder	As a pair or on their own	660 660	445* / 324 324	2500	136
ePM1 80%	**F9**	Cylinder	As a single cartridge	905	352	1728	182
–	**E12**	Cone Cylinder	As a pair or on their own	660 660	445* / 324 324	2750	240

*Measurement refers to the widest part of the cone section

Specification

Recommended air velocity	Flow rate ± 20 %	**Rec. final pressure drop**	450 Pa
Heat resistance	Max. 80 °C	**Moisture resistance**	100 % rel. humidity
Regenerable	No	**Incinerable**	No

Demiguard Pro

Nanoclass

Pro

Flagship product

Molecular filtration

High filtration efficiency

H

Filter class to EN 1822

HEPA filter, CO_2 adsorption and housing in one compact, robust package. Integrated inlet and outlet connections, and a filter change indicator make installation and maintenance a breeze.

KEY FACTS

- Particle filtration and CO_2 absorption in one unit
- Large filter surface for a long service life
- Compact and robust construction
- Simple to service and maintain
- Integrated HEPA filter provides high levels of air cleanliness

DESIGN

Robust, stainless steel casing with lead seal to prevent unauthorized opening. First stage consisting of a floating HEPA filter with a glass fiber media, which is tested to EN 1822 and guaranteed leak free. This protects the second stage CO_2 filter, which features a high-grade absorbent material. An integral filter change indicator simplifies maintenance and shows filter condition.

APPLICATIONS

Ideal for use wherever CO_2 must be removed from the air. This may be in industrial installations (e.g. water treatment) or in closed environments where a certain CO_2 concentration may not be exceeded.

Design

Demiguard Pro consists of two stages: a floating particle filter section and a CO_2 absorbing section. First, the air flows through the floating particle filter section, which incorporates a HEPA filter (H13 to EN 1822) to remove up to 99.95% of particles of 0.3 µm. After this stage, all the substances which could potentially damage the absorbent material have been filtered out, and the air passes through the absorbent to remove the CO_2.

1 FLOATING PARTICLE FILTER

Due to the pleat formation of the glass fibre paper media, the floating particle filter features an exceptionally large filter surface; providing a high dust holding capacity and a long service life. The retention efficiency for floating particles amounts to more than 99.95 % according to EN 1822. Each element is verified to be leak-free prior to shipment, in addition to being tested according to EN 1822. By simply removing the casing cover, the floating particle filter elements can be extracted, and for even easier replacement, they are fixed by a combination of seal, locking sleeve and wedge.

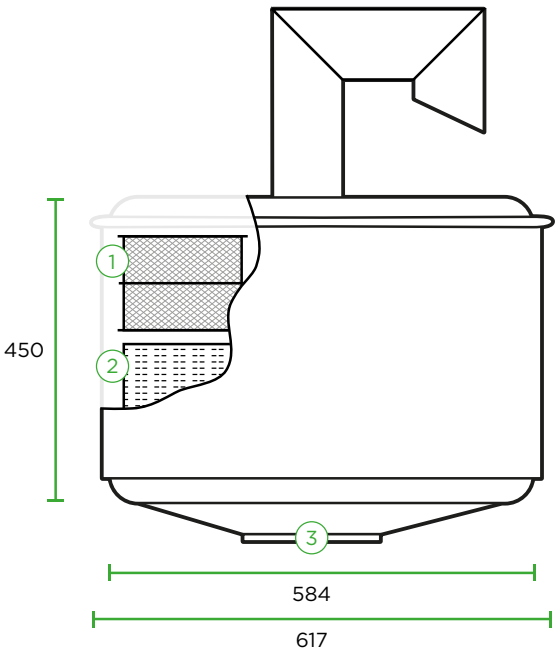
2 CO_2 FILTER

The CO_2 filter section consists of a high-grade absorbent material specifically selected for it's performance, which provides high efficiency and a long working life. With a built-in indicator, it is easy to determine the degree of exhaustion of the filter: the colour of the filter changes from it's original grey to a blue violet.

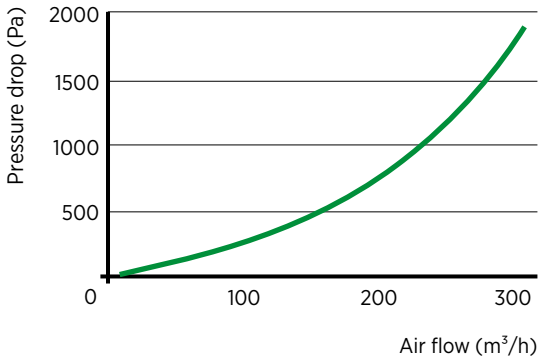
3 FILTER CONNECTION

An air inlet connection is provided on top of the casing cover with an air outlet connection located at the bottom. To ensure secure connection of the pipes, optional connecting pieces can be supplied.

DIMENSIONS (MM)



PRESSURE DROP



Specification

Housing material	1.4301 / AISI 304	**Weight (complete unit)**	75 kg
Pressure drop	350 Pa @ 120 m³/h	**Weight (sorbent material)**	45 kg

Notes

MANN+HUMMEL

airfiltration.mann-hummel.com