INNOVATION IN DUST FILTRATION TECHNOLOGY

FOR A DUST-FREE FUTURE

WAMGROUP®

WAM® AIR

50 years of expertise with more than **half a million** Dust Collectors installed worldwide

INDUSTRIAL QUALITY

Quality to us means more than the products we manufacture. From the continuous improvement of manufacturing processes to ensuring that every filter that goes to our clients works at peak performance.

LOCAL AFTER-SALES SERVICE PROVIDED BY WAM® SUBSIDIARIES

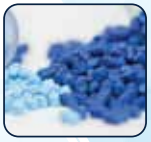
We fully support our customers by providing on-the-spot technical support service. Our worldwide subsidiary network helps in troubleshooting and recommends solutions when problems arise.

STATE-OF-THE-ART DUST FILTRATION TECHNOLOGY

We emphasize advanced technology and product development to offer our customers the best possible solutions for any application.

INDUSTRIES

As the world's leading manufacturer of Silo Venting Filters, WAMGROUP® also boasts vast know-how and expertise in Dust Collectors specifically tailored for various applications and industries.

	BUILDING & CONSTRUCTION	FEED & FOOD	PLASTICS & CHEMICALS	HEAVY INDUSTRIES	RENEWABLE ENERGY	PLANTS & MACHINERY	ENVIRONMENTAL
							
STANDARD DUST COLLECTORS • WAMFLO® • WAMAIR®	✓	✓	✓	✓	✓	✓	✓
FOOD-GRADE DUST COLLECTORS • WAMFLO® Food • WAMAIR® Vacuum		✓	✓			✓	
SILO VENTING FILTERS • SILOTOP® zero • DUSTSHAKE™ • WAMFLO® Vibrated	✓			✓			✓
HOPPER VENTING FILTERS • HOPPERTOP™ • HOPPERJET™	✓	✓	✓		✓		✓
CONCRETE TRUCK MIXER DEDUSTING • DRYBATCH™	✓						

IN-HOUSE TECHNOLOGY-DRIVEN MANUFACTURING

Since 1991, we have been producing in-house engineering polymer components for dust filtration technology.

- Transformation of thermoplastic materials by injection moulding;
- Casting of multi-component polyurethane systems;
- Assembly of metal and plastic components for dust filter elements;
- Implementation of filter media with nano-fibre.

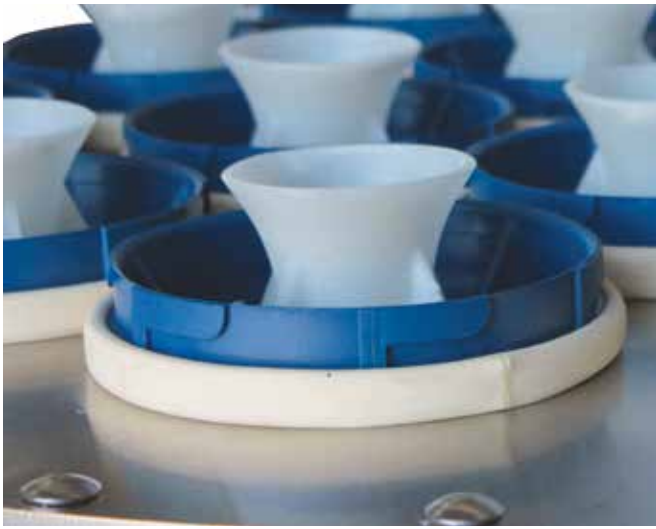
State-of-the-Art Labs for Advanced Filtration Research and Performance Enhancement

- Nano-fibre electrospinning line in cleanroom;
- Special filter characterisation device;
- Chemical and technological laboratory;
- Filter performance testing in in-house laboratories.

Machine tools are the backbone of modern manufacturing. To meet the requirements of the Smart Factory, WAM® relies on state-of-the-art internal metalworking solutions. With automated processes and cutting-edge technology, we have succeeded in optimising our quality management, paying particular attention to detail and finishing to make the difference.

INNOVATION is in our DNA, PERFORMANCE is our Passion

WAM® AIR designs, tests and manufactures specialised FILTER ELEMENTS for dust collectors with filter media manufactured from 100% polyester that provide high thermal, mechanical and chemical resistance.
Across industrial applications – feed & food, plastics & chemicals, building & construction – our filters excel in performance.



"Easy-Fit-System" filter elements with bayonet lock providing easy access to clean and dirty side for maintenance

FLAT filter elements

BAG and POCKET
These filter elements are manufactured with NEEDLE-FELT media made from 100% PET flakes processed with special needles (no knitting or weaving), followed by calendering and laminating to obtain the desired thickness.

WAM® AIR

PLEATED filter elements

CARTRIDGE and POLYPLEAT™
These filter elements are manufactured with SPUN-BONDED media made from 100% PET granules that are extruded through special dies to form continuous filaments with a defined texture. Through a calendering process the final product is obtained.
The special shape and geometry of the filter element enables space optimisation without affecting its cleaning efficiency.
Our wide-pleat design eliminates permanent deposits of dust and simplifies cleaning.

UNDERSTANDING Your Needs

The correct choice of Dust Collector determines whether the plant in which it is installed complies with air emission regulations. It must be ensured that the dust-laden air flows through the filter medium while dust is retained on its surface.
This process should last as long as possible.
The key aspects for proper functioning of dust filters are:

Filter element

The shape and geometry of the filter element should optimise space requirements without compromising cleaning efficiency.

Filter medium

The filter medium should provide high filtration efficiency corresponding to the dust to be retained, as well as the correct durability in relation to the installed cleaning system.

Filtration velocity or "air-to-cloth ratio"

To avoid high pressure drops, and/or clogging, the velocity of the air stream through the filter elements must be compatible with the air permeability of the filter medium.

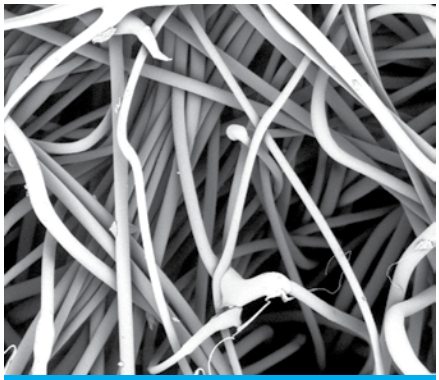
The combination of the above parameters, together with the operational performance, determines the required filtration surface area (normally expressed in m^2).

CHOOSING the Right Solution

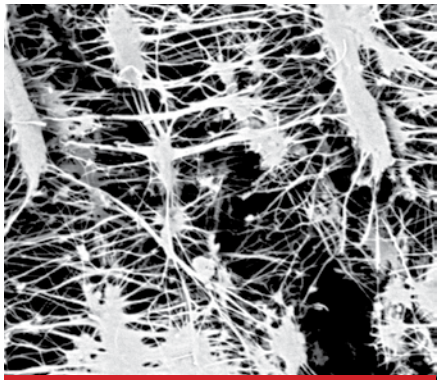
WAM® AIR offers each type of filtering element in a wide range of sizes and media configurations that match different applications and dust types for each and every industry.
Our filter media are classified on the basis of the following characteristics:

Permeability **Weight** **Filtration efficiency** **Surface treatments**

SPUN-BONDED



NEEDLE FELT



MEMBRANE

- **Permeability** is a measure of the flow rate passing through the unit area of the medium at a fixed ΔP.
- The **weight** or grammage defines the amount of material per unit area of the medium.
- **Filtration efficiency** indicates the ability of the medium to retain dust of a given particle size; it is generally inversely proportional to the permeability.
- **Surface treatments** are carried out by means of production processes which impart special properties to specific media.

SPECIAL Treatments

FLAT elements
with needle-felt media

Pocket

Bag

ANTISTATIC

OIL-REPELLENT

MICROPOROUS ePTFE MEMBRANE

NANO-FIBRE

PLEATED elements
with spun-bonded media

Cartridge

POLYPLEAT™

Stainless-steel or carbon-steel fibres are worked into the fabric during a lamination process for felt and by electro-spraying for pleated media.

The filter medium is given a water- and oil-repellent treatment by the addition of fluorinated polymers.

A thin layer of ePTFE (expanded polytetrafluoroethylene) film is bonded to the surface of a filter medium. ePTFE provides excellent dust cake release, longer bag life, and increased filtration efficiency.

The nano-fibre layer is generated by a process called electrospinning, which gives the filter media high filtration efficiency while maintaining high permeability.

WAM® AIR also offers filter media suitable for use in the food industry, with full production traceability and compliance with the following standards:
EC 1935/2004 (food contact materials);
EU 10/2011 (plastic food contact materials);
EC 2023/2006 (GMP standards).

FILTER MEDIA SELECTION GUIDE

FELT media available for FLAT filter elements

WAM® Code	FP	FA	FV	FB	FU	MT	FZ	FF	FG
Surface Treatment	Standard	Antistatic	Oil- and water-repellent	Oil- and water-repellent	Micro-fibre	Membrane PTFE	Membrane PTFE, Antistatic	Flour Milling Plant	Flour Milling Plant, Antistatic
Filtration Efficiency	Moderate	Moderate	Good	Good	Excellent	Excellent	Excellent	Limited	Limited
Air Flow	Good	Good	Good	Good	Moderate	Limited	Limited	Excellent	Excellent
Air Permeability (l/m² sec) @ 200 PA	333	250	217	217	117	40	40	583	667
Weight (g/m²)	500	550	550	550	600	550	550	350	350

Application according to dust properties

Particle Size	Moderate	Moderate	Fine	Fine	Very Fine	Very Fine	Very Fine	Coarse	Coarse
Oil or Moisture Content	NO	NO	YES	YES	NO	YES moderate	YES moderate	YES moderate	YES moderate
Static Electricity	NO	YES	NO	YES	NO	NO	YES	NO	YES

SPUN-BONDED media available for PLEATED filter elements

WAM® Code	PH	PX	PA	PV	PB	PT	PZ
Surface Treatment	Nano-fibre	Nano-fibre, Antistatic	Antistatic	Oil and water-repellent	Oil and water-repellent	Membrane PTFE	Membrane PTFE, Antistatic
Filtration Efficiency	Excellent	Excellent	Good	Good	Good	Excellent	Excellent
Air Flow	Excellent	Good	Good	Good	Good	Limited	Limited
Air Permeability (l/m² sec) @ 200 PA	200	180	180	180	180	25	25
Weight (g/m²)	170	170	235	235	235	260	260

Application according to dust properties

Particle Size	Very Fine	Very Fine	Fine	Fine	Fine	Very Fine	Very Fine
Oil or Moisture Content	NO	NO	NO	YES	YES	YES moderate	YES moderate
Static Electricity	NO	YES	YES	NO	YES	NO	YES

NANO-FIBRE

zero TECHNOLOGY BY WAM® AIR

Nano-fibre treatment is a web-like layer of fibres whose dimensions are smaller than 0.5 µm.
A thin layer of fibres is applied to the top of standard spun-bonded media to combine low emissions with high air flow rate.

Nano-fibre layer

- Higher Filtration Efficiency
- Easier Cleaning
- More Compact Dust Collectors
- Lower Energy Consumption
- Reduced Maintenance

WAM® AIR

Not “JUST AN EVOLUTION”

Lower pressure drops ensure permanently high performance for suction fans and pneumatic conveying with up to 20% shorter silo filling time than conventional filter media.
The smaller filter surface area allows for less frequent cleaning cycles, while the use of low-pressure compressed air enables an overall cost reduction of 50% compared to conventional filters.

HIGHER AIR FLOW

MORE THAN TWICE THAT OF A CONVENTIONAL FILTER ELEMENT

LOWER DUST EMISSIONS

LESS THAN 1mg/Nm³

LOWER AIR CONSUMPTION

UP TO -50% OPERATING COSTS COMPARED TO CONVENTIONAL FILTERS

LONGER SERVICE LIFE

UP TO 30% COST SAVINGS ON SPARE PARTS

PROVIDING CLEAN AIR SOLUTIONS

WAM® AIR is committed to providing clean air solutions that **protect people, improve plant performance** and help you **comply with regulations**. With decades of experience, we manufacture original equipment and aftermarket Dust Collectors to **meet the requirements of various industrial applications**.

Our expertise backed by tens of thousands of installations worldwide and our cutting-edge technology enable us to deliver **high-performance products** proven to deliver results.

The choice of the right dust collector must be made according to the following main factors:

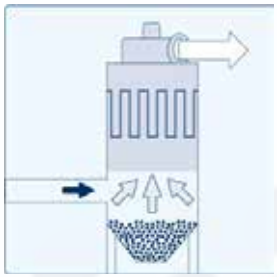
- **DUST, AIR/GAS** physical and chemical characteristics
- Type of **APPLICATION** (silo venting, dust collection, positive or negative pneumatic conveying)
- **WORKING** conditions (air flow needs, dust emission limits, operational duty, ...)
- **ELECTRICAL SUPPLY** available
- **CERTIFICATION** requirements

This is accompanied by the definition of the following key elements:

- **FILTER ELEMENTS**
- **FILTER MEDIA**
- **FILTERING VELOCITY (or AIR-TO-CLOTH RATIO)**
- **FILTER SURFACE AREA**
- **DUST COLLECTOR CONFIGURATION**

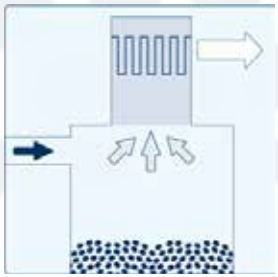
DUST FILTRATION TECHNOLOGY

Dust Collection



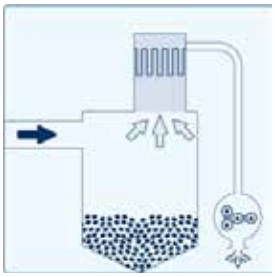
DUST COLLECTION SYSTEMS create a suction flow to dedust the air passing from a specific point or work area to the collector.
The integrated fan of the dust collector generates that slightly negative-pressure air flow needed to filter the dust before the clean air is released into the atmosphere.

Venting



Venting of bins, silos or hoppers that are filled by POSITIVE PNEUMATIC CONVEYING SYSTEMS normally **does not require a suction fan** as the air flow is generated by a compressor or blower.
The purpose of the filter is to allow the upward air flow to escape while capturing the dust particles preventing them from spreading into the atmosphere.

Vacuum Conveying Dedusting



In NEGATIVE PRESSURE PNEUMATIC CONVEYING SYSTEMS **air propulsion power is generated by a vacuum pump** to convey a powder or granular material inside a pipeline.
The dust collector must safeguard the vacuum pump while separating the dust particles from the air flow, thereby preventing them from spreading into the atmosphere.

BENEFITS

High Filtration Efficiency

Easy Maintenance

Compact & Easy-Fitting Design

Low Emissions

Versatile

www.wamgroup.com

WAMFLO®

Round Dust Collectors

Cartridge or Bag-type

WAM AIR

ATEX versions available

FEATURES

- Air **VOLUME** up to 6,000 Nm^3/h
- Filter **SURFACE AREA** up to 21m^2 (bags) or 48m^2 (cartridges)
- **VENTING**, **DUST COLLECTION** or **VACUUM Pneumatic Conveying** configuration
- **4 STAINLESS-STEEL** casing sizes (from Ø 400 to Ø 1,000 mm)
- Multi-voltage **ELECTRONIC CONTROL PANEL** (interconnectivity available)
- **ATEX-versions** (P_{RED} = 1 barg)

Learn more about this product

BENEFITS

High Filtration Efficiency

Easy Maintenance

Compact & Easy-Fitting Design

Low Emissions

Versatile

www.wamgroup.com

WAMAIR®

Polygonal Dust Collectors

POLYPLEAT™ or Pocket-type

ATEX versions available

FEATURES

- Air **VOLUME** up to 9,000 Nm^3/h
- Filter **SURFACE AREA** up to $54m^2$ (pockets) and $70m^2$ (POLYPLEAT™)
- Horizontally or vertically mounted **FILTER ELEMENTS**
- **VENTING** or **DUST COLLECTION** configuration
- **6 STAINLESS-STEEL** casing sizes (from 570 x 570 to 1,065 x 1,815 mm)
- Multi-voltage **ELECTRONIC CONTROL PANEL** (interconnectivity available)
- **ATEX-versions** available (P_{RED} = 0.25 barg)

Learn more about this product

BENEFITS

EC 1935/2004
Food Certification

Sturdy Design

User and Maintenance-friendly Design

Low Emissions

Smooth Contact Surfaces for Easy Cleaning

www.wamgroup.com

WAMFLO® Food

Round Food-Grade Dust Collectors

Bag-type

ATEX versions available

FEATURES

- Air **VOLUME** up to 2,700 Nm^3/h
- Filter **SURFACE AREA** up to 21 m^2
- **4 STAINLESS-STEEL** round body sizes
- **HYGIENIC DESIGN** (zero dust residue and smooth surface)
- **CAPTIVE LOCKING** system
- **ATEX-versions** (P_{RED} = 1.0 barg)

WAMAIR® Vacuum

Insertable Polygonal Dust Collectors for Negative Pressure Applications

Pocket-type

ATEX versions available

FEATURES

- Air **VOLUME** up to 4,000 Nm^3/h
- Filter **SURFACE** up to 36 m^2
- **4 STURDY** sizes manufactured from **Stainless Steel** or **Mild Steel**
- Several **POCKET LENGTHS** available
- **ATEX-versions** (P_{RED} = 1.0 barg)
- **FOOD-GRADE versions** (EC 1935/2004 and FDA-compliant)

BENEFITS

Low Air Consumption

Rugged Construction

Compact & Easy-Fitting Design

Easy Maintenance

Eco-friendly zero Media Filter

www.wamgroup.com

SILO VENTING FILTERS

WAM AIR

Cartridge, POLYPLEAT™ or Bag-type

SILOTOP® zero

WAMFLO® Vibrated zero

DUSTSHAKE™

BENEFITS

High Filtration Efficiency

Low Emissions

Small Footprint

Corrosion-free Design

www.wamgroup.com

HOPPER VENTING FILTERS

Cartridge, POLYPLEAT™ or Pocket-type

HOPPERJET™ zero

FEATURES

- Air **VOLUME** up to 200 Nm^3/h
- **FILTERING SURFACE AREA** 0.5m^2 (pocket) and 2m^2 (POLYPLEAT™)
- **ATEX versions** available

HOPPERTOP™ zero

FEATURES

- Air **VOLUME** up to 140 Nm^3/h
- **FILTERING SURFACE AREA** 1.4 m^2 (cartridge)

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