INDUSTRIAL AIR

HIGHER PERFORMANCE FOR PURE AIR.

Efficient and reliable filtration solutions for air filtration.
Filtration Group provides an extensive product range. Our assortment of products and services ranges from components such as filter elements, pocket and cartridge filters to filter housings and modules to complete filtration systems. Just tell us what your challenges are and we’ll provide you with the optimal filtration product for your specific application.

Filtration Group, a subsidiary of Madison Industries, develops innovative applications that delivers an excellent customer value to make the world safer, healthier and more productive.

Our history

The most comprehensive and advanced solutions in the industry

We know that the most modern solutions do not remain cutting edge for long. And that’s why our engineers and innovation teams always focus on what’s ahead. We strive to offer our customers the best solutions in the areas of Life Sciences, Process Technologies, Fluid and Environmental Air.

From filtration through to material sciences and medical applications, we are the only company in a position to provide comprehensive solutions and incomparable products and services for a broad range of industries. From our industry-leading solutions to our entire filtration spectrum, you can always rely on us for extensive expertise, regardless of your current or future needs.

MORE ENVIRONMENTAL PROTECTION AND SAFETY THROUGH EFFICIENT AIR FILTRATION SOLUTIONS

For over 50 years, Filtration Group has been providing high-performance systems for filtering even the finest air particles and is now one of the world’s leading manufacturers of dedusting technology and intake-air filtration. Our filter media, filter components and filtration equipment for purifying air and gases boost your productivity and facility safety and also contribute to product recovery, improved environmental protection and greater workplace safety.

Filtration Group GmbH
(Formerly MAHLE Industrial Filtration GmbH)

The solutions offered by Filtration Group GmbH (formerly MAHLE Industrial Filtration GmbH) stand for high-performance, long-lasting and efficient modules and components in the area of air purification. These well established, reliable filtration solutions ensure uninterrupted and efficient operations of your equipment and facilities for more than 50 years now.

Clear Edge Filtration GmbH

For over 25 years, Clear Edge Filtration has been manufacturing flat, pleated filter cartridges, called compact filter elements (CFE™), as well as ceramic filter elements (Cerafil™). With its head office in Salzgitter, Germany, Clear Edge Filtration has provided products and services to a wide range of customers in the areas of mining, tunnel construction, laser cutting and liquid painting as well as application areas for dedusting.

Filtrair B.V.

For over 50 years, Filtrair has been a leading manufacturer of synthetic filter media and rigid pocket filters. The filter media for intake air provides ultimate protection against the intrusion of harmful, natural or organic dusts and pollutants for indoor areas as well as for commercial and industrial processes.
FG air filtration solutions are an indispensable base for ensuring uninterrupted operations and efficient production processes.

**Filtration systems for metal processing**

Processing gray cast iron, machining steel and brass produces short chips and significant amounts of fine dust particles. FG dedusting units effectively separate coarse chips at the inlets and reduce dust pollution affecting machines and the environment – providing a maximal degree of service life for the filter elements through optimized flow control.

**Components for flawless surfaces**

Our filtration components have proven themselves effective in the areas of surface technology, powder-coating equipment and blasting machines across the world. They make quick work of any type of dust pollution: from flame spraying, sanding and polishing to extracting large paints lines in cases of wet lacquer overspray.

**Clean air through oil mist separators**

For ensuring an efficient separation of cooling lubricant emulsions and air-borne oils, our innovative oil mist separators (LSA / ASL) provide the perfect solution. Based on coalescer or mechanical principle, even the smallest oil droplets are separated and returned to the cooling lubricant cycle of the tooling machines.

**Applications**

- Welding, weld fume extraction
- Overspray / wet paint extraction in large paint lines
- Powder-coating facilities, blasting technology
- Dry processing, flame spraying, sanding, etc.
- Extraction for laser cutting machines
- Oil mist separation (oil in the air)

**Your advantages**

- Polyester and cellulose-based filter media with PTFE membranes, nano or meltblown fibers
- Maximal filtration area in the narrowest of through-pleat-lock technology
- Cleaning system (RLD) for optimal cleaning results even at high differential pressure
- Coalescer principle for aerosol separation

**Air filtration for mobile equipment**

Construction equipment, such as rock drilling or tunnel boring machines, are also required to operate in environments with high dust loads. This dust-laden air is continuously purified using our cleanable filter elements. We offer specialized filter cartridges and filter cells that save space through their compact design for use in mobile work machines. These high-performing filtration elements and their corresponding cleaning units ensure a high degree of workplace safety, such as in the areas of facade cleaning, railway track cleaning and in suction dredgers.

**Applications**

- Tunnel construction (cement dust suction)
- Overground / underground / mines
- Suction dredgers
- Building renovations
- Tool suction (slit milling machines, drills, etc.)
- Rock drilling machines/Rock crushers
- Dust types, e.g.: cement dust, rock flour, plaster, etc.

**Your advantages**

- Robust, differential pressure-resistant elements
- Optimal filtration performance, even in high-dust environments
- High degree of efficiency & excellent cleanability
- Specialized filter media with PTFE membranes
- Conical filter elements for enhanced performance
- Corrosion-resistant filter elements
Efficient product recovery of valuable powders
During the production of sugar and sweeteners, cacao, chocolate, thickening agents, dairy products and aromas, FG air filtration elements enable product recovery of even the finest particles along with the separation of impurities in the air. They minimize dust loads and ensure that the prerequisites for hygienic, high-quality and clean economic processes are in place. These highly efficient filtration systems, cleaning units, filter controllers and dedusting devices with FDA and EU 10/2011 food product approval are optimally tuned for the specific dust loads found in these processes. They ensure a high level of separation efficiency, economic product recovery and the satisfaction of all safety and environmental requirements. Our products are extremely long-lasting, require minimal maintenance and prove themselves to be both economically and ecologically attractive.

Applications
- Pneumatic conveying systems
- Driers / Mixers
- Powder handling
- Silo vent filters, bunker filters
- From integrable mini dedusters to large-scale centralized suction systems
- Filters for the explosive areas

Your advantages
- Specially developed FDA filter media
- Food-safe form sealing systems
- Customized designs
- Filtration elements free of dead space
- Washable filters
- Bottom-open pleats

We offer a wide range of solutions for safe dedusting and clean process performance, from washable filtration elements to compact, robust and easily integrable mini dedusters, such as mixer top filters and product separators, to large-scale centralized suction systems and filters for explosive areas and for hot gas filtration.

Filter elements free of dead spaces
Conical filter element with wire mesh reinforcement
Filtration elements with white, electrically conductive membrane media
Multi-jet nozzles (MJD)

INCREASED SAFETY AND EFFICIENT PRODUCT RECOVERY
FG filter elements and cleaning units with FDA and EU 10/2011 approval are ideally suited for any type of process.

FILTRATION TECHNOLOGY - OPTIMIZED FOR THE CHEMICAL AND PHARMA

FINEST FILTRATION GUARANTEES A MAXIMUM DEGREE OF HYGIENE
The chemical and pharmaceutical industries have extremely high purity requirements - which makes our products feel right at home.

We offer ecologically and economically attractive solutions for the chemical and pharmaceutical industries that are sustainable and stay up to date with the demands for process quality, purity, safety and environmental protection. Whether for the production of chemical products, colors, lacquers and plant protection products or in filling and packaging machines, for transport processes or drying processes in fluidized bed or stra y driers – our high-quality filtration elements with FDA and EU 10/2011 approval achieve high levels of filtration performance and economic service lives on account of their effective cleaning systems paired with the PTFE membrane media to ensure uninterrupted operations.

Your advantages
- High levels of filter area loads & separation efficiency
- Good cleanability (multi-jet nozzles & rotating wings)
- Thermal and chemical durability
- Excellent hydrolysis resistance
- Optimized filter media, such as polyphenylene sulhide with PTFE membrane or fiberglass fleece
- Wire mesh reinforcement for greater pleat stability

Applications
- Pill manufacturing / Pelletizing
- Mixing, drying, conveying of sensitive powders
- Hot gas filtration up to 900 °C
- Dust types such as talcum, titanium dioxide, plastic powder, etc.

CLEAN PROCESS PERFORMANCE FOR THE FOOD INDUSTRY

INCREASED SAFETY AND EFFICIENT PRODUCT RECOVERY
FG filter elements and cleaning units with FDA and EU 10/2011 approval are ideally suited for any type of process.
Effective energy production requires clear air.

Energy technologies such as gas and wind turbines rely on uninterrupted performance. In order to ensure optimal operations, intake air must continually be purified and filtered. Here, our filtration systems and elements specially developed for air intake filtration make full use of their advantages. They filter with high performance density, minimize wear on turbine blades and electronic components inside of wind power plants, and contribute to ensuring continuously efficient energy generation.

Air intake filters for gas turbines

Our cleanable and static FG filtration elements are compact, robust systems with low levels of differential pressures, long service lives and excellent separation performance. Our product portfolio ranges from filter fleece to compact and pocket filters to star-pleated round cartridges.

Climate control in wind turbines

The two-staged FG Tower Conditioning Unit ensures that aggressive, saline air particles are reliably filtered out prior to entering the turbine. This effectively prevents the build-up of corrosion and promotes sustainable turbine operations.

Applications

- Air intake filtration in gas turbines
- Power plant facilities and wind turbines
- Production processes, e.g. the manufacture of silicon crystals for solar cells
- All dust from the ambient air, desert sands, industrial dust, dust from production processes
- Silo vent filtration

Tower Conditioning Unit (TCU) for wind turbines

DropSafe™ Pocket filter for air intake filtration

Cleanable filtration elements for gas turbines

Filter wraps for pre-filtration

Your advantages

- Comprehensive system solutions through development partnerships
- Enhanced filtration performance
- Flexibility in execution
- In-house sample / prototype construction
- Universal applications
- Broad range of technological and application expertise
- Designed and tested in accordance with DIN and ISO standards with the corresponding industry approvals

Applications

- Filtration solutions for industrial vacuum cleaners / household devices, e.g. pleated round filters or pleated flat-fold filters
- Filtration solutions for power tools and for the cooling / climate control of trains and specialized vehicles
- Toner filters
- Filtration solutions for cabin air
- Filtration solutions for specialized requirements, e.g. fiberglass dust, sticky dust, paper fibers, silicon dust, etc.
- Wire mesh filtration elements for dedusting filtration in conveyor equipment for silo vehicles
- Pleated filtration elements with specialized filter media and customized mounting systems for various applications, such as pneumatic conveyors and drying applications
- Adhesives with improved chemical resistance and for higher temperatures
- Individualized labeling and packaging
- Customer protection possible

“Short distances, flexibility and quick response - that’s what Filtration Group is all about. Using their filtration expertise, they are able to satisfy our strict quality requirements, especially in relation to dust categories and specific filtration media.”

Carsten Gresser
Head of Quality Control, Electrostar GmbH

STEADY FILTRATION WITH CUSTOMIZED SOLUTIONS

SOLUITIONS TAILORED PRECISELY TO YOUR DEMAND

Special dust problems require specialized solutions. In cooperation with our partners, we develop optimized solutions tailored to you.

Your advantages

- Individualized connection possibilities
- End caps made of special steels or plastics
- Sealing systems free of dead spaces

Applications

- Adaptable pleat depths and element dimensions
- Pleat back support with stainless steel wire mesh
- Conductive filter media with PTFE membranes and FDA & EU 10/2011 approval
- Adhesives with improved chemical resistance and for higher temperatures
- Individualized labeling and packaging
- Customer protection possible

“Short distances, flexibility and quick response - that’s what Filtration Group is all about. Using their filtration expertise, they are able to satisfy our strict quality requirements, especially in relation to dust categories and specific filtration media.”

Carsten Gresser
Head of Quality Control, Electrostar GmbH
From filter media to dedusting modules:
Solution provider for perfect filtration performance

We have always been far ahead of the rest in terms of development, striving to always set new standards for our customers. Today, our innovative filtration solutions continue to play a decisive role for ensuring uninterrupted operations and efficient production processes.

With our comprehensive technical application expertise, we optimize the entire system - from filter media to filter elements and from specially developed cleaning units to differential pressure controlled filter controllers. Achieving the perfect combination of factors guarantees reliable, high-performing filtration devices with long service lives.

Your advantages
- High degree of separation performance
- Minimal pressure losses
- Good cleaning characteristics
- High durability
- Long filtration service life
- Perfect pleat spacing

The scope of solutions we offer ranges from filter media, compact and pocket filters, washable filtration elements and filter cells to compact, robust and easily integrable mini dedusters to large-scale system solutions and filters for hot gas filtration or filtration in explosive areas - in accordance with the latest ATEX guidelines.

Filtration solutions from Filtration Group are constantly setting new standards in terms of performance, service life and efficiency. This has led us to develop the higher performing and service-life optimized conical filter element and to patent the highly efficient multi-jet nozzle.

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FILTER MEDIA
Filter media for pre- and primary filtration in climate control and ventilation facilities along with media for moisture and paint separation.

HVAC FILTER
Pocket filters, filter cells and compact filters for climate control and ventilation systems along with air intake filtration for gas turbines, wind turbines and offshore installations.

FILTERS FOR HOT GAS FILTRATION
Ceramic filtration elements with a high degree of chemical resistance and for temperatures of up to 900 °C.

PLEATED FILTRATION ELEMENTS
A broad selection of high-quality, pleated filtration elements with conical or cylindrical designs or as compact flat filter element (CFE™).

CLEANING UNITS
Energy-efficient, space-saving cleaning units for extended service lives and optimized operations for your dedusting systems.

CONTROLLERS, VALVES, PRESSURE TANKS
More efficient facility operations with minimal compressed air consumption through optimally adapted control systems and components.

OIL-MIST SEPARATORS (LGA / ASL SERIES)
Efficient oil aerosol separation for tooling machines utilizing the coalescer or mechanical principle, requiring minimum maintenance.

FILTER MODULES
Compact filter modules for the separation of industrial dust and for intake air filtration in wind turbines.
CLEAR EDGE FILTRATION

For over 25 years, Clear Edge Filtration has been the leading manufacturer of affordable and efficient filtration solutions for critical dedusting processes. Our products have been providing the highest level of performance in diverse application areas for years. Our product portfolio comprises of compact filtration elements (CFEs) and filter hoses, along with ceramic filter elements for hot gas filtration.

COMPACT FILTER ELEMENTS (CFE™)

Applications
- Welding- and laser cutting fume extraction
- Automotive industry and liquid paint separation
- Mining and tunnel construction
- Powder handling, weighing, conveyance and mixing

Your advantages
- Up to three times more filtration area compared to conventional filter pockets
- Self-supporting construction - no supporting body
- High degree of dedusting performance - low emissions
- Extended service life (through rigid element construction)
- Simple, quick and clean assembly
- Installation possible in existing facilities

Special product characteristics
1. Extremely stable element head
2. Venturi-shaped construction for optimal airflows
3. High degree of form stability based on continuously connected pleat ends
4. Edge protection for increased stability
5. Special filter media for diverse applications

CERAMIC FILTER (CERAFIL™)

Applications
- Waste incineration
- Gasification and pyrolysis
- Metal melting
- Mineral processing
- Glass-melting furnaces
- Cement and lime
- Fluidized beds
- Product recovery

Your advantages
- Dedusting, desulfurization and denothing with one single filter element
- Large temperature ranges, compatible with the given process requirements
- No falling below the acid dew point caused by temperature fluctuations
- Heat can be reserved for subsequent processes or heat recovery
- Inert oxide receptor for excellent corrosion resistance
- Ideally suited for cleaning acidic gases through dry absorption
- Large range of available sizes

Avoid possible media burning and the blockage of the textile filter media caused by penetrating particles - use our Cerafil™ elements.

FILTRAIR

Filtrair is a global manufacturer of synthetic filter media and stable pocket filters. We are the leading producer of highly-effective intake air materials that protect living spaces as well as commercial and industrial processes from harmful substances. Filtrair is well known as a specialist for vehicle and spray painting among all automotive manufacturers across Europe, the US and Asia.

YOUR AIR QUALITY IS OUR HIGHEST PRIORITY

OEM automotive production
- Premium diffusion media
- High-temperature filter for drying furnaces
- Global sales and distribution

Energy generation
- Advanced intake air filtration for gas turbines
- Pocket and compact filters for intake air filtration in offshore structures and wind power plants
- Prefilter media round filter cartridges
- Hydrophobic filter media and pocket filters for moisture separation

Automotive Aftermarket
- Numerous and diverse diffusion media
- Complete filtration and media program
- International sales network

Heating, ventilation, air conditioning (HVAC)
- Patented and innovative filtration technology
- Complete assortment of filter media, pocket filters, filter cells and compact filters
- Gas phase filters
- Extended sales network

Avoid possible media burning and the blockage of the textile filter media caused by penetrating particles - use our Cerafil™ elements.
Filtration elements with a conical design

Filtration elements with a conical design offer clear advantages over cylindrical elements. With minimum effort, conical FG filtration elements can significantly increase the performance of your facilities. Through greatly reduced up-flow velocities and improved cleaning behavior, these elements can withstand up to 30% higher loads and achieve markedly improved operation hours.

Filtration elements with open pleats

We have developed filtration cartridges free of dead space with various dimensions specially for our customers in the food and pharmaceutical industries. The combination of perfectly manufactured pleat stars, with bottom-opening pleating, and specially developed form sealing systems ensure that no product build-up occurs. The removable seals are washable and exchangeable and also allow a horizontal installation of the filter elements. These specialized filtration elements with their dead-space-free design are becoming more and more in demand in the market.

Maximum performance in every single pore

We have mastered the development of innovative filter media down to the most minute detail and we create media, also those with nanocoating. By taking advantage of our core competence, we offer our customers a wide range of high-quality filter materials made of polyester or cellulose for the most demand application areas - which we can adapt to nearly any application through our various refining methods.

Multi-jet nozzle: Cleaning unit with pressure impulse

Our optimized multi-jet nozzle (MJD) is the most affordable and effective jet pulse cleaning system for star-pleated band-rolled filtration elements (conical or cylindrical). By way of a targeted airflow (short pressure impulses against the flow direction), uniform cleaning is achieved throughout the entire length of the filtration element.
OPTIMAL FUNCTIONALITY - PURELY A MATTER OF DESIGN

Dust is not just dust. Every type of process is connected to a certain sort of dust exposure. Selecting a filter design that is technically and economically optimized is a complex task due to the diversity of information, data, facts and system parameters that must be considered - one that requires experienced specialists. Based on decades of experience and as innovative development partner, reliable supplier and leading manufacturer, we provide you with the decisive competence in terms of designing, selecting and integrating the perfect filtration system for air purification, offering greater performance for your filtration process. Through our committed engineering experts, comprehensive application experience and modern tools, we ensure a technically and economically optimized design for your filtration technology.

SOLUTION EXPERTISE FOR EVERY TYPE OF DUST EXPOSURE

We have mastered the design and integration of components for dedusting facilities within complex factory systems.

Our consulting and engineering services
- Analyses of specific needs, establishment of design parameters (application, operational temperatures, installation site, air volume, volume flow, gas composition / water content, dust type / dust quantity / particle size / bulk density, minimum operation hours, residual dust content, ATEX zone)
- Recommendations for filtration tasks: filter medium, element type, cleaning system
- Design and configuration of the filtration facility: size, form and output
- Project management
- Engineering draft and testing
- Electrical installation plan and control systems
- 2D drawings and complete 3D modeling
- Calculation of operating costs and economic viability

ONLY THE BEST OF EVERYTHING: COMPLETE FILTRATION MODULES

FG oil mist separators - LGA and ASL series

Our oil aerosol separator units efficiently protect workers, operating equipment and production facilities from cooling aerosol lubricants while boosting productivity. Based on the highly efficient coalescer principle, they achieve separation rates for non-water miscible cooling lubricants and cooling lubricant emulsions that are far below the legally stipulated thresholds for air purity. Even in the case of very high raw gas loads, your equipment will continue to operate reliably, with efficient service intervals and service lives of up to 2 years.

Dedusting units

We bring together all of our expertise within our dedusting devices. Our dedusting units are created based on an interplay of various FG filter elements, specially developed cleaning units and optimally designed housing. Our standard assortment ranges from the small top filters for 30 m³/h all the way to the large-scale centralized suction system of up to 32,400 m³/h. Also available with an ATEX certification. Tell us what your requirements are - we have the right solution just for you.

Tower Conditioning Unit for wind turbines

Maintenance and repairs are increasingly becoming an important cost item for wind power plants. Providing climate control for wind turbines contributes to minimizing outage times. Wind turbine towers house all of the plants control units and electrical systems, and high temperatures are generated during operation. This requires the towers to be airconditioned. If ambient air is used for cooling, it must first be dehumidified and, in the case of offshore turbines, also desalinated to prevent corrosion. Filtration Group offers a specially developed system for efficiently climate controlling wind turbines (both on and off-shore).

Dust collector SFR-08

Tower Conditioning Unit (TCU)

Oil aerosol separator device LGA 601
FILTRATION TECHNOLOGY, THAT WORKS - WE TESTED IT

Research plant and laboratory – services for you
To analyze possible applications and to verify filtration efficiency, we are able to carry out diverse investigations for you at our research plant and at our laboratory. These include:
- Determining separation performance on our retention test bench
- Determining the service life of filter media in accordance with VDI guideline 3920
- Validation and documentation
- Microscopic analyses and investigations of filter media and dust under a raster electron microscope, combined with a microprobe
- Spectral analyses of the composition of sediment samples
- Determining purity classifications with automatic particle counters
- Particle distribution analyses of dry and wet samples
- Simulation of IFA retention tests

In house test benches for fast results
With our retention test bench in accordance with VDI / DIN guideline 3920, filter parameters can be determined, especially for the cleaning behavior. If necessary, an individual test and certification for every filter element in H14 quality can be carried out on our own HEPA test bench according to DIN EN 60335-2-69-AA. Filter tests according to EN779:2012 / ISO 16890 / Ashrae 52.2 can also be carried out in our own laboratory.

Reliable spare parts provision around the world
Our effective spare parts service contains a broad range of replacement filter elements that are available worldwide. The filter elements used as replacement parts are subject to the same strict manufacturing criteria as all other FG filtration elements – also available as customized special versions, upon request. Our partners around the world ensure that you are supplied with original filter elements, wherever they are needed. We also provide replacement filter elements for the elements of other manufacturers – which of course correspond to Filtration Group quality.

For greater functionality, security, reliability and efficiency, our service team goes the extra mile:
- Technical consultation: Filtration Group offers you direct access to a team of filtration experts with specialized expertise in air purification
- Installation and commissioning of facilities: On-site completion of turnkey facilities and on-site staff training courses
- Maintenance of FG filtration facilities and third-party manufacturers
- Repair for all FG filtration systems, components and those from third-party manufacturers
- Diagnoses and analyses on site
- Comprehensive analyses, expertise, conditioning and monitoring - also through cooperation with leading institutes
- Facility optimization: Improvement of filtration performance, minimization of outage times, maximization of production interruptions
- Preventative maintenance concept, modernizing existing filtration facilities
- Analysis and optimization of your processes and filtration tasks
- Identifying filterability on site
- Numerous alternatives to our competitors’ products

For the elements of other manufacturers – which of course correspond to Filtration Group quality.
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