
FILTECH
March 8 – 10, 2022
Cologne – Germany
The Filtration Event
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Delivers solutions for current and future challenges
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Innovations +++ Highlights +++ Trends


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The Filtration Event
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Platform for your success
Join the world's largest Filtration Event

Providing all industries with targeted filtration & separation solutions

The Filtration industry provides innovative solutions for current and future challenges. This dynamic industry is of further growing importance and turning into a key industry worldwide. At the **FILTECH 2022** Show the latest innovations will be on display and will provide visitors with an exclusive overview and insights on the state-of-the-art science and technologies.

Sophisticated and state of the art filtration and separation solutions play a key role in all industries to achieve cost-effective processing structures as well as reduced risks. FILTECH is a global solution provider for targeted filtration & separation tasks covering all industries.

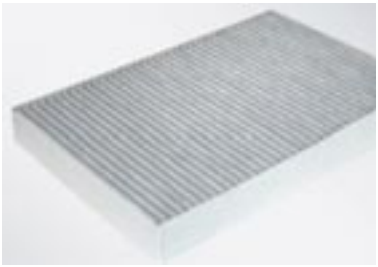
420+ companies will present their cutting-edge products and innovations for the chemical industry,food & beverage, life science, minerals processing, pulp & paper, waste management, water treatment, environmental engineering petrochemicals and many more.

The Conference programme features **220+ technical papers** and gives a representative cross-section of the different procedures and appliances of separation technology as well as across the industry about the applications, from the preparation of mineral raw materials, the chemistry, environmental technology and water purification down to the pharmacy and biotechnology. Most ongoing problems, which play an important role in the current situation are represented in the programme. Like the research and development of highly efficient respiratory masks and air cleaning solutions as decisive tools against viruses, or the cleaning of water polluted with micro pollutants, antibiotic-resistant bacteria/germs and micro plastics.

Mann+Hummel GmbH — Hall 8 C11

MANN+HUMMEL cabin air filters with nanofibers

The nanofiber filter media produced by MANN+HUMMEL consists of a carrier media and an extremely thin layer of ultra-fine polymer fibers. These ultrafine fibers and their large number ensure a higher separation efficiency of fine particles like PM2.5 and PM1, and also ultrafine particles, keeping at the same time a low air flow resistance.
A ePM1 classification of the nanofiber filter media was achieved according to ISO 16 890, which means that the filtration efficiency of PM1 particles can reach up to 95 %.
Compared with traditional electret filter media, the nanofiber media shows a much lower reduction of filtration efficiency after ageing. This means a stable long term efficiency over the whole filter life time.
Furthermore the nanofiber media is highly resistant against extreme environmental conditions, as humidity and temperature fluctuations.
This technology can be combined with any further media like particle filter media, filter media with activated carbon (for the adsorption of gases and odors) or/and bio functional layer (for the additional inactivation of microorganisms). This enables varieties of customized solutions to meet the requirements of vehicle manufacturers.



DRM, Dr. Müller AG — Hall 8 E19

DrM – The specialist for solid/liquid separation

The CONTIBAC® SU is the most sophisticated single-use cyclical cake filtration technology available worldwide. Operating in cycles allows for back flush capabilities and filter cloth regeneration, providing a unique way to evade cloth fouling. The filter bag and manifold can easily be assembled and dissembled with instructions given by the control panel. The cyclical nature of the CONTIBAC® SU allows the user to reap all the benefits of disposable technology while also prolonging the lifespan of one filter cloth.

The Key Benefits of CONTIBAC® SU include:

- Very high filtration rate (2-3x higher than depth filters)
- High filtrate quality (on par with depth filters)
- Increased yield in cell recovery and enzyme recovery operations
- Shorter reactor downtime due to reduced cleaning & validation requirements
- Pre-sterilised and validated filter enclosure available for Pharma and Biotech applications
- Reduced heel volume and compaction of solid waste thanks to external pressure in a double chambered pressure housing
- Fully enclosed containment made completely with plastics ensuring safe handling and disposal of hazardous components

Visit our booth at the event or contact us for optimised filtration and mixing solutions.

AHLSTROM – MUNKSJÖ — Hall 7 P2

FiltEV® - New filtration offering for electric vehicles

Ahlstrom-Munksjö, one of the global leaders in filter media manufacturing, has applied its deep knowledge of the automotive industry to develop a range of reliable filtration solutions for Battery and Fuel Cell Electric Vehicles by introducing Ahlstrom-Munksjö FiltEV®. This includes:

- a new generation of Cabin Air Filter Media delivering higher efficiency on fine particles (HEPA), microorganisms and harmful gases for a safer journey.
- a Premium range of Transmission Oil Media for suction and pressure filters delivering better protection of the powertrain and longer lifetime.
- a complete portfolio of Air & Liquid Filter Media for Thermal Management delivering reliability and extended performances to the cooling unit.
- a modular concept of Fuel Cell Air Intake Filter Media protecting the circuits and the catalyst against finest particles and critical molecules.

To complement the Filtration offering for Electric Vehicles, Ahlstrom-Munksjö has introduced Forticell®, a new product platform designed for energy storage applications. Covering a complete portfolio of fiber-based materials for the lead acid battery industry in addition to new solutions in development for Lithium Ion Batteries.

Palas GmbH — Hall 8 A11

Test of Respiratory Masks – Better than the Standard

The PMFT 1000 (M) filter test stand enables reliable control of masks and filter material. This allows you to effectively and reliably ensure the quality of your products.

Our test equipment tests better than required by the EN 149 and EN 13274-7 standards. The standards GB 2626, 42 CFR 84 as well as EN 143, ISO 16900-3 are also more than fulfilled: This is because the PMFT 1000 (M) not only tests overall efficiency and breathing resistance/pressure drop, but also fractional collection efficiency in the size range between 100 nm and 3 µm (PMFT 1000 M: 145 nm and 5 µm).
The PMFT 1000 (M) is so far the only protective mask test rig that can test respiratory filters according to the "Covid Certified Filter" (CCF) standard: The FFP2 seal guarantees special filter performance for FFP2 masks in the size of 150 nm - i.e. in the virus-relevant range.

Due to the best comparability of the measurement results, even to certified measuring points, the PMFT series has proven itself internationally.

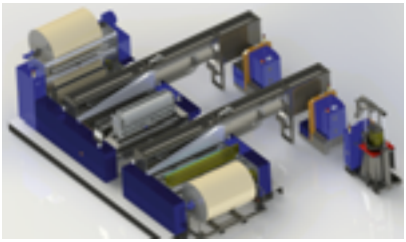
Apro Technologie GmbH — Hall 8 E26

Integrated coating line for dusty (carbon) to rolling (ion exchanger) substrates with many of new innovations and improvements

Design
Using integrative projection we have designed a very compact line compared to other machines available on the market. The line is designed for rooms with heights less than 3m and no hoist installation is required. The modular design allows for future modifications and upgrades without limitation.

Cleanliness
A clean coating process is obtained by integrating pre-dust removal of the granulate before entering the dosing unit, dust removal from the web surface after application and a fully controlled process of the air exhaust system.

Adhesive technology
Improved spray technology for reactive and also thermoplastic adhesives in conjunction with automated retractable applicators and optimised cleaning procedures reduce downtime and material consumption compared with current industry standards.



Flexibility
A new approach in material handling and dosing technology allows quick substrate changeover at any time. The setup- and down-time can be reduced considerably and small batches become profitable.

S.P.M. srl — Hall 8 A28

90XSB Side Banding machine for the production of panel filters

Continuous research allows the development of new technical solutions with the aim of making the lines of machines more and more performing and customized.
The 90XSB Side Banding machine, developed by S.P.M. for the production of panel filters, has evolved and allows the creation of a wider and wider range of filters, even up to 600mm in width,with various pleat pitch sizes, with the automated application of bands for the lateral closing of the filter, also with profiles of different shapes such as the “L” or “C” profile.

It also allows to stabilize the pleated media with the automatic application of lines of hot-melt glue or tapes glued on the crest of the fold.

JOWAT SE Hall 8 **C10**

Jowat Adhesives for Filter Manufacturing - Environment-Friendly - Sustainable - Safe

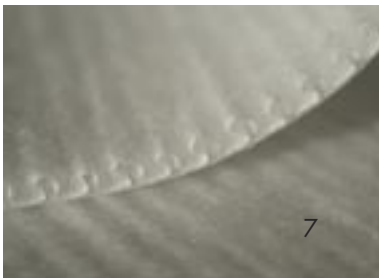
Jowatherm® GROW - Bio-Based and Clean
The Jowatherm® GROW series marks a milestone in the development of hot melt adhesives based on renewable raw materials. Adhesives from this product line are manufactured using raw materials which are sourced from different by-products of paper production and therefore do not compete with the food industry. The wood used for that purpose originates exclusively from sustainably managed forests.

Jowatherm-Reaktant® MR - Powerful and Hazard-Free
The new Jowatherm-Reaktant® MR 614.50 provides very good results with a low application amount in the lamination processes of activated carbon filters as well as multi-layer filter media. It can be processed at temperatures 40–50°C lower compared to the PUR hot melt adhesives currently on the market — this saves resources and facilitates an optimized application process.
Adhesives from the Jowatherm-Reaktant® MR product range (MR = monomer-reduced) have a free monomeric isocyanate content of less than 0.1%. In accordance with the current EU regulation, the adhesive is therefore not subject to hazard labeling requirements.

Hollingsworth & Vose GmbH Hall 7 **H2**

New NanoWave® XT Media: Highest filtration efficiency and unparalleled energy savings

NanoWave® XT is the new NanoWave® filter media series designed for use in various filter configurations for Heating, Ventilation and Air Conditioning (HVAC) systems in residential and commercial buildings as well as industrial applications.
Tests have shown that the new NanoWave® XT series outperforms all other filter media. It features the highest efficiency in protecting people and sensitive components against hazardous PM1 particles as well as double to triple higher dust-holding capacity compared to other premium filter media.
In addition, NanoWave® XT significantly reduces the energy consumption of a building. As much as 30% of energy consumption of an HVAC system happens due to the pressure drop in the air filters. NanoWave® XT media, having up to 40% lower pressure drop compared to other premium filtration materials, will significantly lower the energy consumption of the air filter and thus of the whole HVAC system. NanoWave® XT media can be easily and safely disposed of, without negatively impacting the environment or causing unnecessary disposal costs.
Due to its unparalleled performance, NanoWave® XT sets new standards in both filtration performance and energy efficiency.



Roth Composite Machinery GmbH — Hall 8 A21

Automated device for changing pleating knives

In the pleating machine industry ranges of pleat heights have been established in order to produce appropriate pleat heights from most varied materials. The two types of pleating knives being most frequently used are covering the ranges 5-50 mm and 10-100 mm.
Formerly machine operators had to remove protective guards and the bolts fixing the knives at the cross bars when having to change the range. Even for a machine width of up to 1000 mm it used to be quite difficult for one person to accomplish the change. For a working width of over 1000 mm it was mandatory to involve a second person. An additional potential problem was the challenge to assemble the knife perfectly parallel. Even experienced machine operators needed about 15 minutes to carry out the exchange.

Roth Composite Machinery has developed an automated device for changing the knives. The upper and lower cross bars are each equipped with two pleating knife ranges. The special drive technology of RCM machines makes it possible to swivel the knife crossbar by 180° and to change between the two pleat height ranges automatically. The whole procedure takes less than 30 seconds and can be performed during the production process (i. e. when having material in the machine) without any problems. As the knives do not have to be removed from the crossbars assembly faults will be prevented. Furthermore a referencing of the machine is not necessary.

vombaur GmbH & Co KG — Hall 8 F47

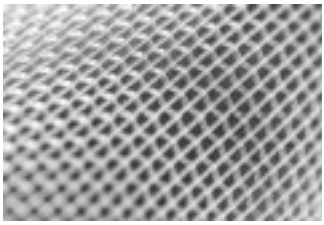
Your development partner for Filtration Textiles

Seamless Filter sleeves and narrow textiles for fabricating filter media: At vombaur, we develop and manufacture Filtration, Composite und Industrial Textiles – seamless and precisely tailored to your respective applications.

Uniform filtration properties: For filtering oil, water and all other liquids, our round woven tubulars offer numerous advantages over ready-made tubes: our seamless tubular woven fabrics have identical surface properties all around. Flow behaviour, resilience, shrinkage behaviour, material thickness – our filter textiles possess these central properties over the entire surface of the tubular.

Narrow textiles for assembling filter media: Reinforcing edges, covering seams, dissipating static charge, stabilising star filters … – our tapes and belts perform indispensable tasks in the assembly of filter textiles from woven, felt and non-woven fabrics.

High performance fibres: For our seamless filter, support and heat-shrink tubulars we use PES, PA, PP, PPS, PVDF, PTFE, PEEK, metallic, and further high performance fibres.



Core competencies:
- Seamless woven tubulars
- Maximum process safety
- Tailor-made
- Uniform filtration
- Precisely specified

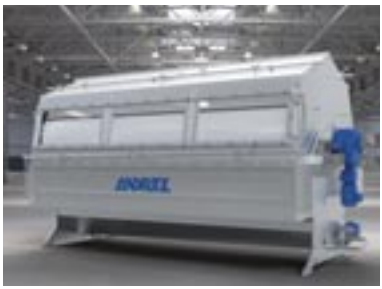
ANDRITZ SEPARATION GmbH — Hall 8 A36

ANDRITZ introduces Nutrion vacuum filter for maximum hygiene

International technology Group ANDRITZ has launched the Nutrion vacuum drum filter with a self-emptying filter trough, vapor-tight hood, and advanced control options, for a hygiene-optimized design that ensures high-quality end products for demanding sectors such as food and pharmaceuticals.

The Nutrion vacuum drum filter from ANDRITZ has multiple improved features to eliminate any risk of contamination, a prime consideration for separation equipment in the food or pharmaceutical industry. By optimizing every element in the Nutrion vacuum drum filter ANDRITZ has increased safety, hygiene and product quality, while ensuring greater availability and reducing manual interventions to an absolute minimum.

Metris addIQ control systems work in combination with these hardware improvements to optimize process operations and save money through production increases and better product quality. The Nutrion vacuum filter has optoelectronic sensors for measuring cake height as well as continuous trough level measurement. Production parameters are continuously monitored to facilitate the identification of improvement and savings opportunities as well as predicting any possible failures and so practically eliminating downtime.



Haver & Boecker OHG — Hall 8 C13

Effects of Design in Single and Multi-layered Woven Wire Mesh Combinations

Thinking things different and looking beyond standard lead to innovative design considerations in woven wire mesh combinations. In cooperation with the Institute of Mechanical Process Engineering in Stuttgart (IMVT) Haver & Boecker has investigated and evaluated different offline measurement techniques and particle systems and their influence on the result of the load-dependent fractional separation efficiency (FAG) and the dirt hold capacity when using woven wire mesh in solid-liquid separation. By means of a specifically selected gradient structure and layer orientation, the load-dependent fractional separation efficiency as well as the dirt holding capacity can be favorably influenced. This in turn has positive effects on the service life and efficiency of multi-layered metal wire mesh combinations in sintered and not sintered condition. Blocking tendency is significantly reduced. The throughput characteristics are optimized.
Benefits for use in filter components:

- Reduction of blocking tendency and pressure loss.
- Improved separation efficiency and dirt hold capacity.
- Optimized throughput characteristics.

helsatech - MANN+HUMMEL Molecular Filtration — Hall 8 C11

Solutions for effective formaldehyde removal from indoor air

The company helsatech GmbH is a specialist in designing and producing air filtration media based on activated carbon as well as other adsorbents. Our filtration media are multifunctional and reliably remove a wide variety of odors and pollutants from air: Particles, VOC´s, basic gases like ammonia or amines and acid gases like H_2S, $SO2_2$ and NO_2.

Formaldehyde is contained as binder or preserving agent in many plastics, paints, cloths, floorings and furniture made of flake boards. Since 2015, it is classified as category 1B which means it can cause cancer in the nasopharyngeal zone when inhaled.

Therefore, we developed filtration media based on impregnated activated carbons for the enhanced removal of formaldehyde from indoor and cabin air. Within this filtration process, the formaldehyde molecule is bonded irreversibly to the impregnation substance. We developed pleatable media as well as impregnated foams or non-wovens for V-cells or air purification devices. We also offer the impregnation on an activated carbon honeycomb, which results in a filter medium having high capacity and excellent breakthrough behavior combined with a very low pressure drop and thus a low noise level in air purification devices.

a2z Filtration Specialities Pvt Ltd. — Hall 8 A9

Built to purpose solution from a2z Filtration

At the Filtech 2022, A2Z will be showcasing the high speed A2Z Mini Pleat Line with foamed hotmelt system.
A2Z'S Intelligent Servo driven Blade Pleater along with the mini pleat production modules, allows the user to work with a variety of media including glass fiber as well as synthetic, with change overs for pleat depth/pleat pitch, and hot melt patterns on the fly. The operator can save and access upto 2,500 stored product variations, thus allowing multiple combinations/part numbers to be produced. The machine's unique flexible design helps filter manufacturers widen their product range and meet the market's ever changing needs.
The A2Z Mini Pleat production module can be added to any existing blade pleater to produce mini pleat packs with a wide array of media thus further reducing the filter manufacturer's capital expenditure and providing a very flexible production line. This also makes the equipment future-proof with the unique ability to mini pleat a very wide range of media.

We will show case the foamed hot melt system which has many advantages of lower cost of production, lighter weight and lower pressure drop with options such as Intermittent and spot beading. Also, the equipment is IoT- & Industry 4.O-compliant

Mann+Hummel GmbH Hall 8 **C11**

Wastewater treatment - solution to remove micro pollutants, antibiotic-resistant bacteria/genes and micro plastics

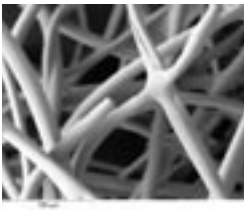
The need to reduce micro pollutants, antibiotic-resistant bacteria/gens and micro plastics significantly from treated wastewater led to a rising demand for additional filtration processes and triggered the development and application of membrane-based filtration processes which provide a physical barrier for harmful substances.
The BIO-CEL® Activated Carbon process, a combination of submerged ultrafiltration (UF) membranes, the dosage of Powdered Activated Carbon (PAC) and precipitants represents an innovative solution to protect the aquatic environment by further purifying treated wastewater.
As an additional treatment step, the process is located downstream the biological treatment in wastewater treatment plants. A simultaneous removal of following substances is achieved by implementing the BIO-CEL® Activated Carbon process:

- Micro pollutants (>80% for selected substances)
- Nutrients e.g. phosphorus (≤0,1 mg/l total phosphorus in effluent)
- Bacteria e.g. E. Coli and Coliform bacteria
- Antibiotic-resistant bacteria /genes
- Micro plastics

BinNova Microfiltration GmbH Hall 7 **R7**

BinNova Triple AIR®

BinNova Triple AIR® – a new polycationic microfiltration media from M6 to H13 for the permanent immobilisation of hazardous particles, allergens, bacteria or viruses.
With health issues caused by allergies increasing globally and pandemic scenarios like the Covid-19 outbreak in 2020 as well as the annual influenza season, new requirements have arisen for better indoor air quality and thus for improved HVAC air filtration.
Clean and healthy air is essential in sensitive public areas like hospitals, nursing homes and schools. Domestic appliances such as vaccum cleaners and air purifiers must function effectively and emit good air quality.
To meet these requirements BinNova Microfiltration developed a new generation of wetlaid filtration media with an innovative coating – BinNova Triple AIR®.
BinNova Triple AIR® with a permanent polymeric coating provides an extremely large polycationic surface and irreversible adsorption of negatively charged particles such as allergens, bacteria and viruses.



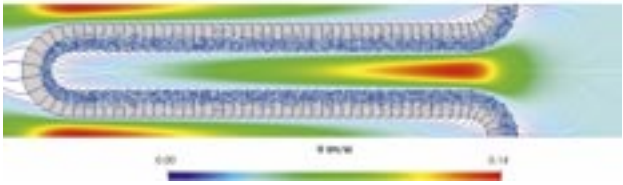
- This new approach provides added value
- Irreversible immobilisation of charged particles down to the molecular level
- Eliminates substances of concerns (silver, zinc, quarternary ammonium compounds)
- Increases safety during operation and maintenance
- Suitable for new applications to maintain a healthier and cleaner world

DHCAE Tools GmbH Hall 8 **C14**

Filtration modelling tools based on computational fluid dynamics (CFD)

CFD simulations provide a deeper understanding of the process and allow it to be optimised without the need to build a prototype first. However, the simulation of filtration applications requires special tools in the field of particle modelling, deposition and resistance build-up. DHCAE Tools has created a special tool for such filtration simulations with the capability to model a wide range of filtration processes such as surface and depth filtration on the device scale. This simulation tool has been considerably extended so that the specific requirements in the filtration process can be reproduced individually and precisely to the objective: A detailed modelling of penetration depths in a pleated filter is just as possible with the tool as a filter system with thousands of bag filters can be evaluated with regard to the uniformity of the filter loading.

We would be pleased to discuss your filtration application at our booth at Filtech and demonstrate the modelling options with our simulation tools.



Fraunhofer Institute for Ceramic Technologies and Systems IKTS Hall 7 **L2**

Ceramic hot gas filters for the recovery of reusable materials in industry and agriculture

Fraunhofer IKTS develops and improves materials and processes for hot gas filters and their applications, such as the dedusting of exhaust gases from the steel and lime industry. A further process development at IKTS focuses on the environmentally relevant topic of phosphorus recovery from the mono-combustion of sewage sludge:

By modifying the sewage sludge with special additives, the heavy metal load of the ash fractions-containing phosphate will be significantly reduced. The process is based on the targeted generation of volatile heavy metal compounds that pass into the gas phase at high temperatures and are separated from the combustion ash by hot gas filtration. The harsh conditions require the use of ceramic filters that are particularly resistant to high temperature as well as chemicals attacks. Realistic load situations can be simulated with special test benches in order to specifically improve the chemical and mechanical resistance as well as the filtration properties of the hot gas filters. In-situ modification makes it possible to reduce the specific energy consumption required for recovering valuable materials compared with processing the ash separately. By combining hot gas filtration with membrane-supported processes, it is also possible to extract CO_2 from hot and dust-enriched exhaust gases to meet the emission regulations.

BOKELA GmbH — Hall 8 B52

Continuous thickening, washing & clarification of challenging suspensions

Dynamic crossflow filtration with the BoCross Dynamic filter is a unique process for microfiltration and ultrafiltration of microfine to nanoscale suspensions. In many production processes fine and difficult to separate particles have to be filtered and demanding process results have to be achieved. Be it a high final concentration or high yield, the production of purest solids through intensive washing (diafiltration) or the generation of a pure, particle-free liquid - the dynamic cross-flow filtration with the BoCross filter technology from BOKELA enables new and future-oriented solutions for such tasks.

The dynamic shear gap principle ensures almost ideal physical conditions for the separation process. Under the influence of the shear forces, the concentrate still remains flowable even with high thickening. Therefore, highly viscous and highly concentrated suspensions can still be processed. Compared with conventional crossflow filtration, five to six times higher concentrations are achieved with the BoCross Dynamic filter. The BoCross Dynamic Filter proves its efficiency in the thickening, washing and clarification in different areas of applications for a wide variety of products e.g. white and color pigments, metal powders, APIs, cosmetic ingredients, fungicides and many more.

Mikropor — Hall 8 B13

Better Indoor Air Quality Decreases the Risk of Coronavirus

ASHRAE, mentioned that indoor air handling units must be restored with new filtration systems featuring maximum possible efficiency and portable air purifiers with HEPA efficiency should be used in indoor environments ("ASHRAE Position Document on Infectious Aerosols" published in April, 2020). Furthermore, REHVA (Federation of European Heating, Ventilation and Air Conditioning Associations) points out that AHU Filters must have maximum possible efficiency and should be replaced on a regular basis.
According to the EN1822 standard the minimum efficiency of HEPA filters are 99.95% for class H13 at the overall value of most penetrating particle size (MPPS).

Mikropor, has been offering solutions to the needs of several different industries and keeps on dominating the market with its innovative products including HEPA, ULPA and variety of other HVAC filters and also next generation Compressed Air Equipments. The brand new Mia Air (developed by Mikropor) has the priviledge to be the first ever air purifier to include H13 efficiency class Hepa Filter in Turkey.
Mikropor is delighted and proud to announce that Mia Air captures up to 99.99% of the smallest airborne particles even in this ongoing pandemic, supplies clean air to indoor spaces and offers healthy and peaceful living quarters to people.

EUROPLASMA N.V. Hall 8 B51

Nanofics K - A new nanocoating to boost performance of HEPA filters

Plasma is a unique technology to deposit ultra-thin coatings on all exposed surfaces of a material or product. It is increasingly used in manufacturing of filtration media and elements to achieve functionalities such as hydrophilic, hydrophobic or oleophobic. Improvements in process and machine design allow to deposit the coatings in a very cost effective way, with a process that is completely dry and clean. The technology is giving an increasing number of producers of technical nonwovens, membranes, mesh or nanofibers a clear competitive edge. One of the key areas of interest is the nanocoating of electrets used in HEPA filters.

A new generation of plasma nanocoatings (Nanofics K) specifically designed for electrets is launched at FILTECH 2022. Advances in process chemistry allow to deposit coatings which boost and maintain filter efficiency over time, while not affecting the pressure drop.

IREMA-FILTER GmbH Hall 7 L7

Latest synthetic innovations - High efficiency filter media with > 99,99 % particle separation!

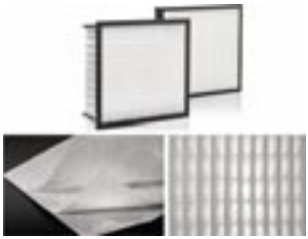
IREMA-Filter is one of the worldwide most innovative manufacturers of synthetic filter media based on a proprietary and unique machine technology. In the field of highly efficient filter materials, we have developed an unique material with particle separation of up to 99,99 %. The media can be used in many challenging applications, including medical and consumer electronics. We also supply the filtration industry with a wide range of other pleatable synthetic material.

Synthetic replacement for triboelectric filter materials!

Our most recent development is an electrostatic media with high efficiency and very low pressure drop. This hydrophobic material can be laminated to a support medium such as expanded mesh, for pleating and is ideal for low-energy applications.

New generation - BLU Hybrid filters!

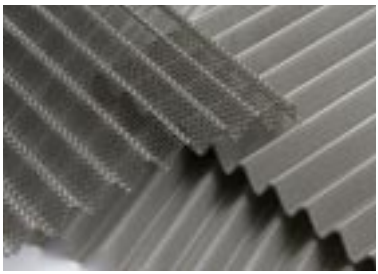
BLU Hybrid filters utilize our most recent 3-layer synthetic media design, which means each layer features its own characteristics. Based on the proprietary and patented pleating technology, the rigid pleat design results in a minimized airflow resistance. Due to the optimal filter media utilization and construction, they do not clog during lifetime.



Dorstener Drahtwerke GmbH Hall 8 **E54**

Metal Filtration Media is hard to beat when applications are challenging

For more than 100 years, Dorstener Drahtwerke has been manufacturing wire products of superior quality.
Woven wire cloth – filter cloth and square weave mesh is a strong and precise filtration media and can be produced as fine as 3 micron. The cloth is woven in a wide range of stainless steel, corrosion resistant and heat resistant alloys. DDD designs, weaves and fabricates mesh is a ready to use form.
The DDD Group has worked for years to enhance the filtration capabilities, workability, mechanical strength and the overall performance of their media. The most important new media for the DDD Group is diffusion bonded (sintered) woven wire mesh. The opportunities to enhance performace are unlimited, from basic filtration to space travel applications. Sintered metal fibers have filtration characteristics that add to the range of sintered media we supply.
Another DDD developement is woven mesh sandwiched into light gauge welded mesh. The product is used in applications, where larger woven mesh partitions need stability, often a requirement for air intake applications as a pre-filter.



DDD knows how important the certification of the characteristics of the filter mesh has become. Chemical analysis of the alloy, automated camera inspection of the woven rolls, filtration cut point and flow analysis are performed in house. We cut our filter media to any shape, calander, heat treat or fabricate it to the semi finished or finished product that our customers require.

TSI GmbH Hall 8 **E37**

Quality respiratory filter testing in the production process

TSI will show the new model 8150 automated in-line filter tester for quality assurance of P100 and FFP3 respiratory filters and cartridges in the production line for the first time. This oil-only filter tester is optimized for remote operation, non-destructive penetration testing, and 24/7 use with a high number of tests each day. It is controlled by a PLC for fast integration into existing manufacturing control and data acquisition systems.

The model 8150 features fast measurement and cycle times down to 6 seconds, very low relaxation time after defective filter tests, and matching results to the Model 8130A. While significantly smaller in footprint than the model 8130A, it shares the same architecture and even uses the same photometer box with two simultaneous measuring photometers. It will ensure that each of your respiratory filters comply with standards such as NIOSH 42 CFR 84, GB2626, and EN143/EN149.

The new 8150 Automated Filter Tester takes high performance and reliability from the lab to the production line. Visit our booth to learn more!

Asada Mesh co., Ltd. — Hall 7 P10

The World's Finest Sieving Meshes: SV-13/13 tw with 977 wires per inch

Asada Mesh is an ultra-fine woven wire mesh manufacturer with more than 80 years of history. Our company has once more been the first to successfully produce a precision woven stainless-steel (SUS) wire cloth with a square opening size of 13 µm and 977 wires per linear inch (named SV13/13 tw).
Furthermore, a technique was also developed in our facilities for weaving 977 mesh in a roll width of 1220 mm.
So far, the international standard E-11, developed by ASTM, recognize nominal opening sizes of industrial Woven Wire Sieve Cloth down to 20 µm (635 wires per inch). However, our product list also includes a SUS mesh with a square opening size of 16 µm and 795 wires per linear inch (named SV16/16tw).

Backed by results from independent testing labs, it is confirmed high accuracy on pore size distribution and excellent separation and classifying performance.
Moreover, the SUS wires used on the production of our meshes, due to its thermal and mechanical strength and its high chemical stability, make the range of our sieving an filtration meshes useful in demanding conditions, such as at high temperatures and pressures. SUS is also referred by its mechanical stability and excellent cleaning behaviour. Therefore, our woven SUS wire mesh has a wide range of applications as sieves and filters.

Dürkopp Adler GmbH — Hall 8 A5

M-TYPE DELTA platfom - Your perfect assistant and partner for the new era of digitalised sewing production

A machine that leads into a new era is something very special. It allows things that were previously not possible or difficult to reach. It makes working significantly easier. It makes processes many times better, faster and more effective. For that, it uses forward-looking mechanic and electronic technologies.
Previously, the operator had to know a sewing machine well in order to get a good result. The M-TYPE DELTA, on the other hand, knows the operator and helps her or him actively and easily to do the right thing right. This machine stores and computes information and automatically adjusts to the next task. But not only the work process, but also the seam quality has become even better: We have combined the best available technologies to create a perfect seam, even in the most difficult situations. And we actively help to quickly realize the benefits of a digitized production.

Discover the difference!

AUTEC Automation • Gusbi SpA — Hall 8 B26

Eco-filters: Automatic production process

The integration with AUTEC and GUSBI let to automate and have the production process under control from the loading of the paper to the unloading of finished products. The load of the media on the rotary table is automatically performed through the use of an anthropomorphic robot: the concentricity and the repeatability of the coupling of the paper with the endcap is ensured. The vertical press of the paper with the endcap is independent for each side of the filter. The load cells installed on the press allow to check each filter pressed; even the heating of the endcaps is controlled station by station setting the percentage of power for each single IR lamp and setting the height of the lamps. The load of the endcaps on the rotary table can be done automatically, with different solutions for loading the rotary table, with different level of automation and production autonomy. At the end of the production process the dimensional check is carried out automatically: a dimensional non-conformity is detected and the not compliance product is expelled from the unloading conveyor.

Flexible automatic loader of endcaps for eco-filters production

A new space-saving and flexible solution to load endcaps in the Gusbi table for the eco-oil filters production. A system that singularizes and orientates the parts using our experience of drop-down conveyors joined with vibration system and vision camera. Easy to set up for model changes and new models.

GKD - Gebr. Kufferath AG — Hall 8 B19

Innovative microfilter crucible for the analysis of microplastics

Methods for the analysis of microplastics are becoming increasingly important. TED-GC/MS is a method for high accuracies. In order to take into account an important step in the analysis of microplastics, GKD has teamed up with the Federal Environment Agency and the Federal Institute for Materials Research to develop an innovative microfilter crucible for sample preparation. This microfilter crucible, which was developed as part of the RUSEKU research project in the BMBF's "Plastics in the Environment" research program, is made of stainless steel and is temperature-resistant up to 600 °C. Its advantages in analysis were tested for a year and both, the improved analysis accuracy and the time savings in the laboratory were tested and confirmed. It has already proven its suitability for use in the analysis of beverages. It combines a filter and sample holder, saving steps and increasing sample throughput. Once separated, particles are transferred directly to the analyzer, reducing the risk of sample loss or contamination. An optimized weave in the bottom allows high recovery rates due to a high separation efficiency of 5 µm.

EMW Filtertechnik GmbH — Hall 8 C6

HEPA filters for air purifiers and HVAC systems to minimize the risk of a COVID-19 infection

The COVID-19 pandemic increases the focus on minimising the risk of infection, also indoors, via indoor air quality.
Common filter solutions are not efficient enough to counter the risk of COVID-19 infection. Viruses can be transmitted via particles which can be assigned to the size of a few hundreds of nanometers. Depending on the required air exchange rate, the HEPA filters must be designed in such a way that the physical filtration effects for particle separation can also be effective at higher volume flows. Also, it should be noted that the filter solutions for air purifiers must be designed with regard to efficient energy consumption and low noise pollution.

EMW filtertechnik offers manufacturers and users of air purifiers and HVAC systems a new range of HEPA filters in the filter classes H13 and H14 according to EN 1822 in order to minimise the risk of infection by viruses such as SARS-CoV- 2. EMW® can also provide tailor-made HEPA filter solutions which are optimally tailored to the specific requirements of air purifiers and HVAC systems.
For further details visit www.emw.de/en/filter-campus/hepa-air-purifier-covid.html

Mann+Hummel GmbH — Hall 8 C11

Best oil cleanliness and optimal oil control for eMobility

MANN+HUMMEL as a technology leader has transferred its extensive expertise in the area of oil filtration for combustion engines to the modern drivetrains and developed a product which impresses through its compact design while fulfilling manifold functions.

The plastic oil filter system for eAxles and hybrid transmissions includes an oil reservoir and one oil filter element each on the suction and on the pressure side for highest system cleanliness and reliability with smallest energy dissipation.

In addition, the system has moisture, pressure and temperature sensors, a switchable electric pump and an oil cooler with optional thermostat control. An oil dryer is part of the oil filter system and constantly maintains the oil quality at a high level and efficiently separates any water which has dissolved in the cooling oil. The highly efficient adsorber material of the oil dryer removes even the smallest amount of water from the oil.

assonic Dorstener Siebtechnik GmbH — Hall 8 E54

Efficient and environmentally friendly continuous filtration

Continous filtration without the need to changing or backflushing the filter media at 10 micron presents many challenges. Assonics re-engineered liquid solid separators offer a sustainable and economical solution. The crossflow filtration process in our RoSL 700 is supported by a patented ultrasonic technology to energize the filter media to achieve high throughputs. The heart of the unit is a woven stainless filter or a sintered laminate for fine filteration. A capacity range of 5000 - 6000 liters per hour and a filter rating of 25 micron have been achieved. The seperator supports a wide range of processes including chemical processing, water treatment and beverage production.

The more robust RoSL 710 can be equipped with a wedge wire screen. It is ideal for filtering high viscosity fluids with high solids contents. The applications range from biogas energy processes to chocolate production.

The advantages of the improved Assonic technology:

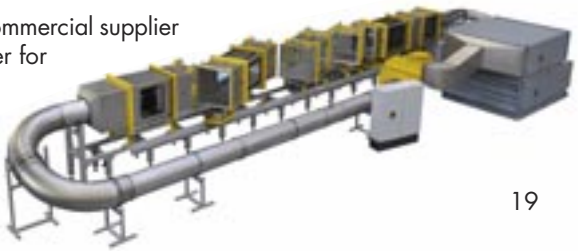
- No filter media to dispose of
- Low energy motors drives the machine
- Continous process with no screen changes
- Economical solution with a small footprint
- Ease of cleaning and long service life

TOPAS GmbH — Hall 8 E76

Water, dust, salt – challenging gas turbine filters with new GTS 114

Topas looks back to a long-term expertise in the field of development, construction, manufacturing and installing of air filter test systems. Based on the new normative regulations from ISO 29461 we have been requested by our key customers to offer a technical solution to test gas turbine filters. The new GTS 114 is based on the successful ALF 114 test system concept. Therefore it also follows testing requirements of ISO 16890 and ASHRAE 52.2. Main new features are related to increased air flow rates up to 11.000 m^3/h in recirculation mode with test air conditioning. Furthermore a list of different test aerosols such as oil droplets, salt and dust particles can be applied in combination with multiple measurement technologies such as optical particle counting, optical photometer or flame photometer. The major customer benefit will be the all-in-one solution we propose different from the various test setups described in the different parts of the ISO 29461 standard. Especially doing the water spray performance testing in the same duct required all our construction skills.

Good to know: Topas is the first and global commercial supplier of such a test system and an important partner for filtration applications in this field.



Topas – the air filter testing experts

DELBAG GmbH Hall 7 **K13**

FireTex Fulfills Railway Fire Protection Demands

Air hygiene plays a pivotal role in rail cars, as passengers and staff are continuously exposed to indoor air for extensive periods of time. The guideline VDI 6032 - Room Air Hygiene in Vehicle Interiors - sets minimum requirements for air quality in railways. It requires the use of inert materials in order to minimize metabolization by microorganisms.
To this end, the implementation of effective fire protection requirements is a fundamental obligation on all European railway networks. EUROSPEC requires the certification of all construction materials in rail cars that are acknowledged according to the European fire safety regulation EN 45545-2. By now, air filters failed to fulfill these requirements and could only selectively be used to the full extent of the requirements.
At FILTECH 2022 DELBAG GmbH debuts its FireTex air filter series, as the first filter manufacturer to produce a full range of filter designs. Their range include from bag filters K85 FireTex for the filters class ePM1, FireTex filter mats and FireTex Z-Line filter cells. DELBAG's entire FireTex air filter range is certified according to the European fire safety regulation EN 45545-2. All DELBAG ePM1 - ePM10 air filters are, needless to mention, subject to the supervision of the EUROVENT certification scheme and therefore, while being tightly checked for filter efficiency, DELBAG GmbH also documents an energy efficiency class for its entire ePM1 to ePM10 range of air filters.

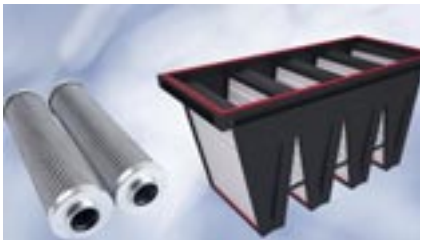
RAMPF Polymer Solutions GmbH & Co. KG Hall 8 **E29**

Conductive Casting Compounds for the Filter Industry

RAMPF Polymer Solutions has developed high-performance polyurethane systems for casting and bonding filter elements. The cutting-edge materials exhibit outstanding conductivity and flowability and meet the directives of the European Union on explosion protection (ATEX).

The directive 2014/34/EU (ATEX) of the European Union regulates the market for explosion-proof electrical and mechanical devices, components, and protective systems. It is relevant for numerous industries and applications, including the filter industry. Here, the static charge inside the filter during cleaning can lead to a spark that, in the worst case, could cause an explosion in the filter.

In order to prevent this, RAMPF Polymer Solutions has developed conductive casting compounds for use in potentially explosive applications. The polyurethane systems have an excellent conductivity of 0.03 MOhm/cm, whilst at the same time exhibiting a very low mixing viscosity and therefore very good flow behavior. As a result, users do not need any complex conveyor systems and potting applications can be easily processed.



The casting compounds are available in Shore hardness A 85 and D 80. Further benefits are high chemical resistance and good machinability.

Hengst SE Hall 7 **K13**

Innovative two stage water filter

Hengst offers a high quality two-stage filter system that makes clean drinking water available anywhere in the world. In cooperation with Grünbeck – a specialist for drinking water treatment – Hengst has developed a water filter that effectively filters out heavy metals, odors, turbidity and bacteria, in order to provide drinking water of the highest quality. The result of this development is a mobile filtration solution for recreational vehicles that can be adapted to virtually any drinking water tank in order to provide hygienic and pure water. The filter element comprises two innovative filter stages with activated carbon to filter out chlorine, for example, and an additional material to filter out pathogens and colloids.
Hengst chose the patented Energetic concept, an in-house development, for the system. The filter consists only of filter materials and plastic components, namely end caps and an internal tube. This concept, combined with ultrasonic welding, eliminates the need for adhesives during production. The filter thus reliably meets almost all drinking water standards and is food compliant.

HETA Verfahrenstechnik GmbH Hall 8 **B33**

Quick opening closure optimises downtimes

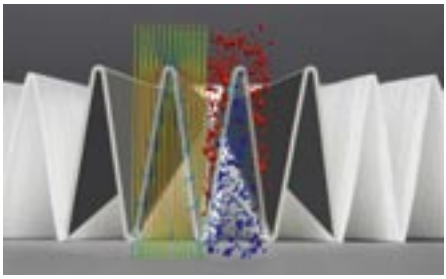
The ever-increasing cost pressure is forcing plant operators to optimise or, at best, prevent plant shutdowns. Instead of expensive quick-release fasteners, vessels have so far been equipped with standard bolt-nut connections. It costs time and money to open them, ties up maintenance capacities and can even lead to a plant shutdown.
HETA has been aware of this and therefore created an innovative quick opening closure. Only one vent valve needs to be opened to access without tools the filter elements to be exchanged. Conversely, quick closing of the vessel is obvious.
The new HETA innovative quick opening closure can be retrofitted at low cost to any existing vessel with standard welding neck flange. Separate or extraordinary tests for operation are not required as the closure itself is a separate approved component.

The advantages are obvious: service times are reduced significantly. The time-consuming opening of a vessel with a standard blind flange connection by loosening all bolts and screws is eliminated, as is the closing with the correct torque. The HETA quick opening closure has already proven its economic efficiency in a standard production environment. Convince yourself and join us on our stand for further information.

Fraunhofer Institute for Industrial Mathematics ITWM — Hall 7 L1

Modeling and simulation of filtration and more

The design and production of filter media and filter elements is a challenging task and in many cases, a purely empirical approach can become time-consuming and costly. Based on more than 20 years of experience and active research in the field, Fraunhofer ITWM offers problem-adapted models and simulation tools: FIDYST simulates the production process of nonwovens (spun-bound, meltblown, airlay), allowing to study the influence of process parameters on the resulting material. FiltEST is a simulation toolbox for the assessment of efficiency, pressure drop evolution and the lifetime of filters. Combined with suitable image processing, a digital twin for the entire process chain from the fiber laydown process to the final filter material can be established. This enables the users to optimize and control the product quality in terms of flow resistivity and filter performance, leading to a more efficient and reliable manufacturing. In addition, Fraunhofer ITWM develops FeelMath, a structural mechanics solver specialized in compound and porous materials and PoreChem, a simulation tool for reactive flows in porous structures.



Entec International B.V. — Hall 7 M51

High-end filtermedia: PAARS® Excellent. The new standard for the oxidation of gaseous contaminants at the highest level

Main target: Gaseous contaminants oxidation. Reducing bad odour from wastewater treatment plants, refineries, chemical plants, airports and much more. PAARS® is designed to permanently remove a broad spectrum of harmful gases from the air:

- Hydrogen sulphide (H_2S)
- Sulphur dioxide (SO_2)
- Sulphur trioxide (SO_3)
- Formaldehyde (CH_2O)
- Oxides of nitrogen (NOX)
- Chlorine (Cl)
- Ethylene (C_2H_4)
- Light VOCs

The granulate has a porous structure which is impregnated with potassium permanganate ($KMnO_4$), visible as the specific purple colour.

- PAARS® does not burn, suitable in environments prone to fire.
- PAARS® does not support microbial colonisation.
- PAARS® is very effective against cigarette smoke.
- PAARS® provides essential protection for artefacts in museums, art galleries and archives against acid gases.

In addition to the active oxidation effects, the purple colour is part of innovative "ENTEC Consumption indication system". The colour change that occurs during operation serves as a visual indicator that indicates the consumption level of the product at all times.

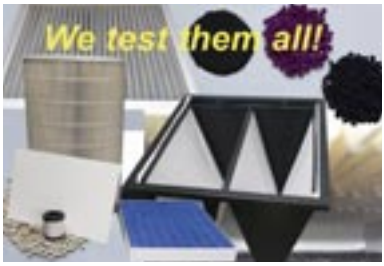
IUTA Institute for Energy and Environmental Technology e.V. Hall 7 **M25**

IUTA is among the leading research institutes to support your air filter development and marketing

We are specialized in a large variety of filtration applications, including indoor air cleaners, compressed air filtration, HVAC, adsorption filters and many more. Tests can be carried out in full accordance with the corresponding standards or in bespoke testing procedures that meet your requirements way beyond normative requirements. Our lab is accredited in accordance with DIN EN ISO/EC 17025:2018 (details see appendix D-PL-19759-01-00) we are in the process of extending our accreditation into the field of filter testing according to ISO 10121, ISO 11155 / DIN 71460, ISO 16890, ISO 12500 and GB/T 18801.

All test capacities are available at your service:

- Complete performance testing at 7 bar (e) of compressed air filters at nominal flows between 20 and 3200 m³/h (ref. 1 bar, 20°C) (oil aerosols and particles),
- tests of adsorptive air filters with standard and toxic test substances,
- Separation efficiency testing of HVAC filters at specific climate conditions and solid or liquid test substances,
- Standardized in-door Airfilter testing for clean air delivery rates and life time,
- and many more …



Hengst SE Hall 7 **K13**

Reduction of indoor airborne viruses during Corona pandemic

Highly effective protection against viruses in closed rooms with antiviral air filtration system Blue.care+ from Hengst Filtration

The indoor air purifier Blue.care+ from Hengst combines a Class F7 prefilter with a Class H14 high-efficiency particulate air (HEPA) filter featuring a filter capacity of ≥ 99.995 %. The system effectively filters indoor air to remove particulate matter, allergens, bacteria and especially minuscule aerosol droplets and viruses in the critical size range of 0.1 microns. The highly effective HEPA filter eliminates the need for UV-C radiation to kill viruses, preventing the release of toxic substances such as ozone.

Hengst Blue.care+ is also very quiet and highly efficient: The whisper fan achieves an air exchange rate of up to 1,800 m³ per hour. With six-fold air exchange Blue.care+ reduces the virus load by more than 50 % after 10 minutes of operation. As opposed to the small and portable units available, the flow-optimized design with Power Diffusor technology achieves optimal air circulation throughout the entire room with no drafts.

ATI - Air Techniques International

Hall 8 **F52**

100X Automated Filter Tester Validates Filter Efficiency of Respirator Masks

Air Techniques International (ATI) has been a global leader in the design and manufacture of specialized test equipment for HEPA filters, media, filter cartridges, respirators, and protective masks since 1961. The 100X Automated Filter Tester combines ATI's core technologies into a single, compact test unit to test and validate filter media, cartridges, and masks in production, quality control, and R&D applications.

Its innovative design allows it to meet a wide range of global industry standards including EN 143/149, EN 13274-7, EN 12941/42, ISO 23328, NIOSH 42 CFR Part 84, GB 2626, and more. During the COVID-19 pandemic the 100X has been widely used to validate the filtration efficiency of N95, FFP2/3, and KN95 style facemasks. Filter media and mask manufacturers worldwide depend on the accuracy and efficiency of the 100X.

ADVANSA Marketing GmbH

Hall 7 **P9**

ADVA®terra - A Strategy to Reduce Plastic Pollution

ADVA®terra, biodegradable polyester fibre made of 100% recycled feedstock.
ADVANSA applies an innovative technology to combine sustainability and biodegradability. ADVA®terra fibres originating from 100% post-consumer PET bottles are engineered via proprietary modifications to provide biodegradation capabilities without sacrificing from favourable mechanical properties of PET. It is available as water dispersible short cut fibre for the paper and wet laid nonwoven industry, as staple fibre for dry laid nonwovens and tow for the floc industry in various fineness and cut length, for production across diverse end-uses, even with food contact.

Products made from ADVA®terra have the same properties as conventional non-biodegradable standard fibres and can be processed easily, minimizing environmental consequences without sacrificing quality and performance. ADVA®terra is also suitable for recycling after completing lifecycle.

According to our laboratory studies based on the ASTM D5511 test scheme, ADVA®terra is expected to biodegrade to 30%-60% within 12 months - a degradation rate comparable to some natural fibre materials which may take from some months to few years.*
*Degradation rates strongly depend on individual factors like temperature, moisture, microorganisms etc.

Puffe Engineering GmbH — Hall 8 A24

Puffe Engineering GmbH, is the leading manufacturer of hot melt and dispensing systems for the filter market in Europe

Puffe Engineering is thanks to its decades of experience in hot melt adhesive technology, a reliable partner and provider for tailor made solutions in many industries.
The modules from Puffe Engineering are made from high quality components. They are perfectly matched to our application heads. Due to their quality, our modules are extremely durable, even when used at extremely high temperatures. You will achieve a precise application with a clean cut of the adhesive.
In 2022 we will be launching our latest P1 NSA module FM 12.5 AOAC including needle stroke adjustment. Optimized for PowerFoam®, with a glue bead pitch of 12.5 mm, it is only half the size of our previous FM25 modules with a pitch of 25 mm / 1 ". At a working temperature of up to 250 degrees and a working pressure of 90 bar, our modules made of aluminum and tool steel offer the smallest bead pitch to date.

AMES-PORE FILTRATION, S.L. — Hall 7 P14

Innovative filtration modules made of metallic membranes

The innovative AmesPore® XPM modules are filtration modules usable for ultrafiltration and microfiltration fully made of AISI 316L stainless steel. AmesPore® XPM modules are based on small porous metallic tubes of AISI 316L stainless steel of 8.5 mm diameter, inside coated with a ceramic porous layer which is interlocked to the porous 316L substrate.
The product is available in modules of 2'' – 4'' – 8'' Φ and 450 mm length (excluding connection), with filtration surface from 0.16 to 3.11 m^2.
The filtration grade goes from 20 nm to 500 nm.
Modules can be used to 230°C at a 10 barg pressure (depending on module design).
These modules are fully steam sterilizable.
The unique architecture of the AmesPore® XPM modules provides:

- High resistance to mechanical or thermal shocks, which means:
  Safety in handling, transport and assembly.
  Safety against pressure and temperature peaks.
  Great resistance to thermal fatigue.
  Economy, because installations require less temperature and pressure control devices.
- Great compactness: installation downsizing and small footprint.
- Easy cleaning by steam, ozone, backpulse, radiation or solvents.
- Ecology: no microplastics, high flow and high durability.
- Competitive price.

AmesPore® XPM modules comply with 2014/68/EU european directive.

MTK Magnet-Fabrik Solingen GmbH — Hall 7 K10

Long-lasting ferritic filtration - the MTK coolant cleaning system and much more

Our coolant cleaning systems are automatically working, permanent magnetic cooling and cutting agent cleaning systems. They can be used particularly well for filtering ferritic contamination from emulsions, aqueous solutions as well as cutting and grinding oils on various machine tools. The housing and the magnetic roller are made of a highly wear-resistant and corrosion-resistant stainless steel. This is what distinguishes our cleaning systems from others. The robust construction and the processing of high-quality materials create a long service life for our products. In addition, a special coupling prevents the motor from being overloaded.

The advantages of our system at a glance: Clean coolants and abrasives at the point of use. Better surface quality on the workpiece. No filter aids required. Low maintenance. Less disruption to the pump and inlet.

MTK Magnet-Fabrik Solingen GmbH will be happy to advise you on any solution to do with ferritic filtration or contamination. Please contact us at info@mtk-magnetfabrik.de or +49 (0) 212 645988 0.

Lenzing AG — Hall 8 B24

LENZING™ Lyocell fibrillated fiber for high efficiency sustainable filter media

Fine fibers are well known to be advantageous in the formulation of high filtration efficiency media for small particle capture.
Lenzing Fibers offer the commercial supply of LENZING™ Lyocell fibrillated fibers, for direct incorporation into filter media formulations to enhance performance attributes of sheet filter media including pore structure, permeability, filtration performance, mechanical properties, chemical resistance and formation.
Supplied in two freeness grades of 70°SR and 80°SR, the sub-micron diameter fibrils offer the opportunity to simultaneously increase filtration performance and mechanical properties of sheet filter media.
Commercial applications for LENZING™ Lyocell fibrillated fibers in filter media range from lightweight beverage filter papers, through pleatable media for industrial and automotive filters, to heavyweight depth filter sheets.
LENZING™ Lyocell fibers, produced from wood using a low environmental impact manufacturing process, are fully biodegradable, thereby conferring a sustainable competitive advantage in markets increasingly concerned with both performance efficiency and sustainability throughout the product lifecycle.

Fibertex Nonwovens A/S — Hall 7 H14

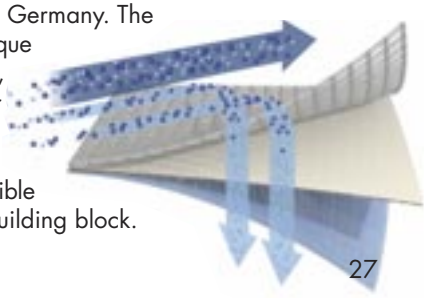
Fibertex 100% synthetic non charged filter media up to HEPA 13 efficiency level

Fibertex Nonwovens is one of the leading nonwoven manufacturers with latest production technology available. A unique building platform with multiple production technologies allows tailored filtration product concepts for filter manufacturers within both air and liquid filtration based on needlepunch, spunlace, spunbond, high loft, activated carbon and nanofibre production technologies.
The state-of-art nanofibre production capability allows air filtration products up to HEPA 13 efficiency level and being fully mechanical filtration meets latest filtration standards. HEPA 13 pleatable filter media Fibertex Pleatex 80AH13NP6 can be used in various applications, including vacuum cleaners, air purifiers, HVAC systems, respirators and cabin air filters.
The filter media is made of synthetic durable nonwovens, including nanofibres with a low pressure drop and non-charged efficiency, which can replace glass fibre and melt blown media that is commonly used. Fibertex filter media has approximately half the pressure drop compared to commercially available glass fibre products.Fibertex Pleatex 80AH13NP6 is easy to handle with existing pleating machinery. Additional properties as permanent extra hydro and oleophobicity can be added by state-of-the-art plasma treatment.

Lehmann&Voss Co.KG — Hall 7 L16

Tailor-made Process Membrane Modules Made in Germany & New Partnership with ORELIS Environnement - KLEANSEP™ ceramic membranes and modules

Lehmann&Voss&Co. has developed with its decades of experience in filtration and separation into a sought-after advisory partner and has established itself as a supplier of tailored solutions in many industries. In our new segment "Membrane Technologies" we are specialized in the production and distribution of membranes and the trade with membrane accessories. Our core competences lie in our own products and know-how in the field of membrane technology. Membrane filtration is not only based on sound technical knowledge, but also on a great deal of experience in application technology. Especially in the field of plant design, piloting and cleaning, it is necessary to accompany the customer in an advisory capacity. That is what we do. Another important mile stone is our new partnership with ORELIS Environnement in the field of ceramic membranes for high-performance applications in Germany. The KLEANSEP™ ceramic membranes and modules show their unique strength, more particularly, in the field of oil/water separation, like the treatment of degreasing baths, industrial wastewater treatment for use as process water and the recovery of recyclable materials up to the sterile filtration of milk.
With the ceramic membranes and modules our range of possible application-specific solutions is extended by an important building block.



Sani Membranes ApS — Hall 8 C26

A new Technology Platform for continuous filtration from Lab-scale to Industrial needs.

SANI Membranes ApS is a Danish cleantech company producing innovative continuous Micro- and Ultrafiltration solutions for the Biotech, Pharma, Food and Process industries.

Vibro-Lab3500 is the perfect benchtop filtration solution for process development and small-scale filtration applications. Low fouling continuous filtration where the filter is kept clean by vibration shear.

Vibro-I is our industrial MF and UF solution. The Vibro-I is perfect for difficult MF applications where high transmission is crucial and can concentrate your valuable products to extreme concentrations in UF.

The patented Vibro technology creates the needed turbulence on all membrane surfaces by vibrating the membrane relative to the media. The Vibro technology eliminates the need for a cross flow pump and delivers uniform TMP throughout the system at exceptional low energy consumption.

• Ideal Separation • Unique Microfiltration • Low Energy Consumption • High Concentration, Viscosity and Solids Load • Better Product Quality • Higher Yield • Sanitary

MÖLLER GmbH & Co. KG — Hall 8 A15

4V frame system for high temperature applications

The features and benefits of our product line include:

- 20 mm and 25 mm frames and accessories for the assembly of pocket filters
- Panel filter frame systems with and without header in the sizes of 45 mm, 48 mm, 78 mm, 96 mm, 100 mm, 150 mm and 292 mm.
- Frames for 3V and 4V compact filters
- Double wall construction for added strength
- Flexible design to accommodate production of custom sizes
- Accessories and technical equipment

Our latest development is a new 4V frame system for high temperature applications. This 4V-cell frame system can withstand temperatures up to max. 120° C / 248° F, offering application solutions previously reserved for metal systems only.

The MÖLLER 4V-HT (high temperature) frame system impresses with its simple and fast click-lock assembly, its stability and favorable price.

The new 4V-HT frame system will be available in the following stock sizes: 592x592x292 mm, 592x490x292 mm and 592x287x292 mm.

Catalytic Instruments GmbH & Co.KG — Hall 8 D15

The New Silver Standard: The Silver Particle Generator (SPG)

Catalytic Instruments are proud to announce our latest instrument, the Silver P0article Generator (SPG), which produces high concentrations of solid silver nanoparticles in the size range 1-100nm; ideal for instrument calibrations, filtration testing, and air quality research.

Uses for the SPG include the calibration of condensation particle counters, measuring filtration efficiencies, and the calibration and complex measurements made possible with specialist aerosol equipment.

The solid aerosol generated is stable in concentration, is of known chemical composition and physical characteristics, allowing highly accurate research to be conducted with ease.

We will have on display our Catalytic Stripper, which removes semi-volatile material from an aerosol, for solid-particle measurement, and our Catalytic Vapor Filter, which removes harmful butanol vapors from your CPC exhausts!
Visit our booth to learn more!

Neenah Gessner GmbH — Hall 7 H3

NeenahPure® - highly charged air filtration media combines high efficiency with reduced energy consumption plus antimicrobial coatings

Neenah Filtration's NeenahPure® product range is the media solution for HVAC, Air Purification & Air Pollution Control filter elements to provide clean indoor air for a better protection.

The NeenahPure® highly charged Meltblown media increases efficiency but maintains a low pressure drop and thus allows for low energy consumption. Reducing energy consumption will be the key for our future. To ensure the quality of a filter it is important to use a charged media that maintains the charge over time and thus the efficiency. Our superior in-house charging technology allows the NeenahPure® material to ensure long term charging stability. Our internal tests have shown a stable efficiency even after several weeks of outside air (from an industrial area) being constantly pushed through the media. Electrically charged Meltblown media can be a solution to a more sustainable world by reducing the energy used to clean our air.

As there is nothing more important than breathing clean and germ-free air, Neenah Filtration additionally provides an antimicrobial solution for its NeenahPure® media that is innovative and contemporary without restricting the air permeability. Feel free to contact us for detailed information.

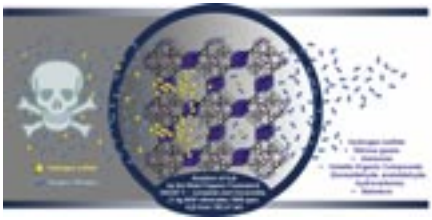
INTERMAS Hall 8 D11

The European leading manufacturer of extruded netting

Today, an increasing number of industrial applications require materials resistant to high-temperatures.
Most common air filters do not need to bear temperatures beyond 90°C. Intermas has developed a wide range of meshes that are used as pleating support of filter medias. Our extruded plastic netting made in Polyethylene (PE) or Polypropylene (PP) is commonly used to reinforce the pleat of filter medias for HVAC filters, dust collectors, cabin airs and intake filters.
When it comes to liquid filtration, filter components are usually exposed to a much higher temperature range whilst in contact with aggressive chemicals. Intermas extruded netting made in Polyamide 6 (Nylon) and Polybutylene Terephthalate (PBT) is designed to operate under the most demanding conditions and environments.
As opposed to netting made in Polyethylene (PE) or Polypropylene (PP), netting in PA6 and PBT is today a very competitive solution for high-temperature filters and represents the alternative to steel and fiberglass meshes.
Intermas also has a specific family range of meshes used as feed spacers for Reverse Osmosis filters. They are made in PP and are used as membrane separators in RO modules.

TU Dresden - Materials Center Institut für Anorganische Chemie Hall 8 C41

Tailor-Made Adsorption Materials



Our business model is to offer a portfolio of standard adsorbents (MOFs, carbons, and silica-based materials), syntheses of materials according to customer requirements, shaping materials to agglomerates in a wide range of shapes and sizes and other services according the characterization of porous materials.
Our main focus is to close the gap between MOF science and possible applications in industrial scale. Customers ask us for MOF compounds useful for specific problems, e.g. the filtration of toxic gas mixtures containing ammonia, hydrogen disulfide and/or volatile organic compounds, for gas separation or CO_2 capture. We aim to find the best solution for this problem by means of economics.
Most MOF syntheses from literature are designed as single crystal synthesis with low space-time yields. In contrast to this low scale synthesis, the materials center deals with alternative synthesis methods. The yield of one synthesis is often thousand fold and higher than the largest yield known from literature.
For almost every application, dust-free pellets or beads are needed. It must be possible to immobilize the adsorbent on a rack without significant loss of material even at high flow rates or other mechanical stress. Our group has established a portfolio of different binders useful for the shaping of MOFs, too.
Our MOF granules show a crush strength of 10 N or higher and only, a small loss of porosity compared with the initial powder.

Nordic Air Hall 7 **K13**

Filter cartridges with nanofiber media - ePM1 85% efficiency and 72% longer lifetime

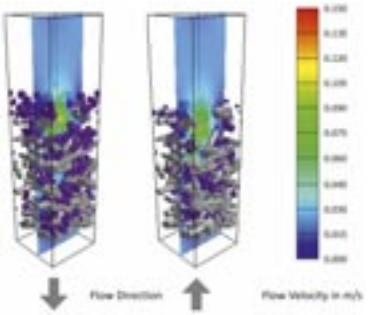
High-Performance Flame-Retardant Media: Consisting of a blend base carrier with flame retardant properties equipped with a nano layer, the UXNANO HP FR handles extreme fine dust and fume applications such as metal welding, thermal spraying, laser, and plasma cutting.
Filtration Efficiency: UXNANO HP FR proves to be a superior media capturing the finest dust particles and reaching the filter class ePM1 85% in accordance with ISO 16890. Due to surface filtration, the cartridges are getting extended longevity and enhanced pulse cleaning.
Media performance with and without nano coating: In contrast to the traditional filter medias, the nano layer will enhance the media's filtration properties, capturing the dust on the surface of the media and remove it almost entirely with compressed air cleaning.
The UX NANO HP FR ensures:

- Better cleanability - the nano layer won't allow the dust to penetrate the media surface, leading to an easier and faster cleaning process.
- Substantial operational savings - a better cleanability means also a lower pressure drop, increased air flow, therefore fewer cleaning cycles and reduced energy costs.
- Longer filter lifetime - with less cleaning cycles, the filters will last longer, therefore the filters will be changed less often, and the maintenance costs will be lower.

IT for Engineering (it4e) GmbH Hall 8 **C14**

1½-Way CFD-DEM Coupling with DNSlab: 3D Simulation of Microscale Fuid-Particle Processes including Filter Cake Restructuring, Detachment and Re-Entrainment of Deposited Particles

By simulation, filtration processes and filter media can be analyzed, designed and optimized. The more precise the simulation reproduces the real process, the more predictive and meaningful are the simulation results.
1½-Way CFD-DEM Coupling is a new feature of DNSlab which allows to simulate microscale filtration processes including filter cake restructuring, detachment andre-entrainment of deposited particles. The method combines a high modeling depth with a low demand of computation resources. The consideration of detachment and re-entrainment effects is necessary in particular to model solid-liquid-separation processes, where higher viscous forces cause an increased occurrence of these effects.
As an example, the illustration shows the simulated particle distribution in a microfiber nonwoven before (left) and after (right) backwashing, with a reduced particle load after backwashing caused by particle detachment.



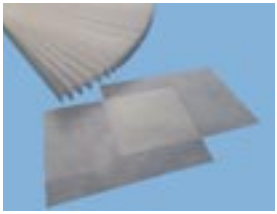
ONIS Hall 8 **B35**

Change your strainer in few seconds instead hours

The issue: Shutdown time to separate pipe connections in order to replace filters can adversely impact a plant's value process and create unnecessary non-productive time (NPT). To eliminate this type of NPT a plant will often implement redundant process equipment to eliminate the need to stop production during this maintenance. However, these types of redundant solutions un-necessarily increase capex requirements.
The solution:
The Quick Filter Changer is equipped with a redundant strainer and includes technology to efficiently switch the strainers in process piping systems. Time to replace a filter with a new one can be reduced by more than 90% compared to conventional methods. These time savings are enabled by a simplified operational sequence that doesn't require separating the piping connection.
This quick action clamping mechanism is self-locking and resistant to overpressure and vibration. Advanced sealing technology is also used with the clamping to maintain the connection integrity in extreme pressure, temperature, and process conditions.
Once a new filter strainer is moved to be inline of the process piping, process conditions can be resumed while personnel remove the old strainer that is offline of the piping system.

Wetzel Technologies Europe GmbH Hall 8 **E21**

New PTFE membrane filter products with increased filtration efficiency and less pressure drop



WETZEL TECHNOLOGIES is now launching PTFE membrane filter products which allow our customers to increase the filtration efficiency while decreasing the pressure drop levels simultaneously.
This combination offers a higher security and will reduce energy consumption and thus costs of ownership significantly.
With our new PTFE media in the filter efficiencies of ePM 1 55% according EN16890 up to H13/H14 according EN1822, WETZEL-TECHNOLOGIES is offering a new range of products like single pleat packs as well as finished filters with all kind of different frame materials like plastics, metal or aluminium in customized sizes or media combinations.
Especially in the clean room business the challenges are about gaseous substances or molecularly contaminations which have to be absorbed or filtered. For these applications, WETZEL TECHNOLOGIES, is able to determine and offer the right filter combinations for customized filtration requirements.
With our completed product range WETZEL TECHNOLOGIES has become a global supplier of innovative and competitive filtration solutions for future challenges in high end filter applications.

Nordson Deutschland GmbH — Hall 8 A35

Nordson's economical TruFlow™ Flex system provides outstanding process control of fluid dispensing for enhanced product quality

Nordson advanced technology incorporates ultra-precise dispensing accuracy. The combination of our extensive product portfolio and expert teams continuously offers customers best value proposition at best total cost of ownership.

The New TruFlow™ Flex controllers enable flow monitoring and closed-loop control for the installed base of material delivery systems when used with a Nordson TruFlow meter.

When operated in control mode, the TruFlow Flex controllers measure actual material delivery compared to the requirement and continuously adjust pumps in real-time; thus vastly improving material delivery accuracy.

TruFlow™ Flex Controllers:

- Accurately monitor or control up to two flow channels in real-time;
- Intuitive touch-screen interface simplifies set-up and operation;
- Data logging and graphing improve operational control;
- Easily integrates with existing system.

Leanfil Oy — Hall 7 M62

Leanfil® - world's most eco-friendly bag filter

Leanfil® bag filter is a completely new invention on the bag filter market. Its most important feature is that its frame is not disposed of with the filter element as mixed waste, but the frame always remains in the property and only the filter element is changed. The filter element is slid into the frame, after which the elastic band of the bag element is bent on the outer edges of the frame, covering the entire frame. The frame of Leanfil® bag filter is made of durable Finnish wood. Leanfil® filter elements are easy to install in and remove from the frame, thanks to the brilliant attachment mechanism. After use, the filter elements are sorted as mixed waste. The invention has a patent application internationally.

GENERAL FILTER ITALIA S.p.A. Hall 7 L13

High efficiency & Optimal Air Filtration

General Filter Group is a multinational leader in the field of filtration and indoor air quality. Over 50 years of presence on the market, the strong propensity for Research and Development and the investments in productivity carried out in recent years, have allowed us to acquire the competitive strength necessary to grow the company on international markets. General Filter offers specific products for every need, offering solutions with maximum efficiency combined with minimum pressure drop. We have relaunched a specific line of Energy Saving products which offers high efficiency in addition to optimal air filtration. This line is constantly evolving and our R&D department is continuously dedicated to researching and testing new and better performing raw materials to meet the needs of the market. In the last period, characterised by health emergency, General Filter designed OD1, a portable air purification device suitable for indoor use. In addition, we introduced Synthetic Line, specifically designed for environments with a lot of humidity. Another novelty is the Atex line, with a technical revision of the products that become more performing. We look forward to meeting you at the Fair! Our technicians and sales staff are waiting for you to offer you personalized advice.

POROMETER NV Hall 8 B17

First Bubble Point Tester: POROLUX™ 50

We continue to expand our portfolio!

The POROLUX™ 50 is our newly developed first bubble point (FBP) tester, and is used to detect only the largest pores (FBP) in filtration and separation media. With a pressure going up to 5 bar (75 PSI), the instrument is able to detect pores down to 0.1µm.

Ideal for applications where knowledge of only the largest pore is important, the POROLUX™ 50 offers quick and accurate result on

- Measured first bubble point
- Calculated first bubble point

Curious to see how the POROLUX™ 50 can serve your business? Contact us today for your demo and sample testing at info@porometer.com!

Fraunhofer Institute for Material and Beam Technology IWS — Hall 8 C41

Rapid testing system to determine the adsorption properties of porous materials (Infra-SORP)

The portfolio of the Fraunhofer IWS Dresden includes two overlapping working areas: the laser and the surface technology. The development of technologies and systems with tailored laser light and the engineering of functional surfaces are both thrilling research areas with fantastic opportunities for the future.
The research and development work at the Fraunhofer IWS is based on a solid materials science background and extensive technical capabilities for materials and component characterization. The Fraunhofer IWS closely works with equipment & system manufacturers to offer one-stop-solutions.
One of our activities concerning filtration technology is the synthesis, characterization and shaping of different (novel) porous materials for gas, vapor and liquid adsorption.
The evaluation and testing of filter media for particle filtration are also research topics at the Fraunhofer IWS. In addition, special filter solutions and entire systems have been deve-loped to select harmful gases and particles from the air. The Fraunhofer IWS offers measurement systems for the objective assessment of atmospheres containing particles or other chemical substances, for example in varios battery manufacturing or recycling processes.

Sommer & Strassburger Edelstahlanlagenbau GmbH & Co. KG — Hall 7 R5

Module and depth filter housing with hygienic press unit

The clamping mechanism for filter inserts in many commercially available module filter housings can cause problems for the user with spring pre-tensioning and cleanability of the clamping mechanism.
Sommer & Strassburger has developed a module filter housing that uses an external pneumatic cylinder to clamp the filter inserts. This ensures reliable and even clamping of the filter elements independent of operating temperature. Moreover, the clamping force can be corrected and adjusted at any time from the outside.
Wetted stainless steel components are available in 1.4404 stainless steel in the standard version and in 1.4435 stainless steel on request. The material of the seals is EPDM with FDA certificate or, alternatively, USP-Class VI and BSE certificate. The specified operating pressure is -1 to +6,7 bar. The max. temperature is 140 °C. Surfaces can be manufactured to Ra 0.4 µm and electro polished. This new generation of module filter housing is available in four different lengths.
The housing design and the function is registered with German Patent and Trade Mark Office.
Please contact us for a detailed quote. 3D models (STEP) and further dimensional specifications are available on request.

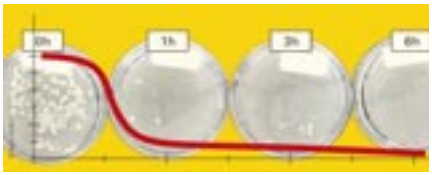
abcr GmbH Hall 8 **C64**

abcr eco_antimic© – A multivariable, antimicrobial material – Completely without 'nano'

More and more microorganisms are coming into focus because of their health-endangering properties. The formation of multi-resistant germs is one of the big challenges for new, sensible solutions.

To equip all surfaces with antimicrobial properties - even in water-bearing systems - abcr eco_antimic* from abcr GmbH is a proven alternative.

The material provides an enormously wide range of applications as a surface-active substance in respect of incubation time, effectiveness and duration of action. The substance can be used as a coating or as part of the matrix and then shows practically no wear and tear and a long-lasting effect over several years. Challenging applications can be found on all contact surfaces touched by people, e.g. in hospitals, sanitary facilities, on medical equipment. Another field of application is the reduction of biofilms in water-bearing systems.



abcr eco_antimic* has already been successfully patented and the biocide approval exists. How the material works and what results have been achieved can be found in our presentation and at booth A24.

Wasser 3.0 gGmbH Hall 8 **C64**

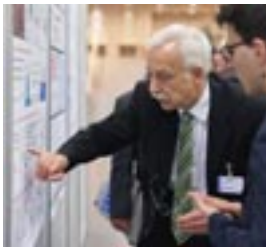
Microplastic-free production with Wasser 3.0: Saving money through environmental protection

Industries are increasingly confronted with their handling of various pollutants in their process waters. Challenges range from high costs through large amounts of chemicals and waste disposal, millions of liters of contaminated water, high energy demands, and an unclear situation regarding microplastics.
Greentech R&D think tank Wasser 3.0 gGmbH now offers a holistic solution to detect | remove | reuse microplastics – and micropollutants – from waters. Technological innovations for fast and cost-effective microplastics detection and filter-free removal are embedded into a circular economy and Zero Waste strategy. The key advantage: An agglomeration-fixation through which microplastics and micropollutants clump together, float to the surface and are skimmed off; within minutes. A standardized detection of microplastics and a continuous process control determining removal efficiencies and conserving resources as well as reuse of removal products becomes possible.

Reproducible 95 % removal efficiency for microplastics, 90 % reuse of process chemicals, 100 % reuse of waste and process water, and 50 % reduction of energy demand lead to significant cost reductions and a microplastic-free production.

Short Course 1 — 9:00 am - 6:00 pm

Solid/Liquid Separation



This 1-day Course "Solid/Liquid Separation" is of interest to engineers, scientists, managers and other technical personnel involved in solid-liquid separation in the process and other industries. They will find the course informative, regardless of whether they design, purchase, research or use filtration and separation equipment. Plant engineers, technicians and operators should find the course materials directly applicable, and graduate research students will value the expert introduction to the technologies. It is a comprehensive review of the processes involved in the separation of solids from liquids, which will emphasise practical aspects and present appropriate theoretical information as necessary.

Course Presenter

Dr.-Ing. Harald Anlauf was till March 2020 Academic Director at the Karlsruhe Institute of Technology (KIT), Institute of Mechanical Process Engineering and Mechanics and since more than 40 years active in the field of solid liquid separation technology. He earned his academic degrees as Chemical Engineer 1980 and 1985 at Karlsruhe University. 1999-2006 he was Chairman of the VDI-GVC working party „Mechanical Liquid Separation", since 2000 Co-Chairman of the FILTECH Congress Scientific Committee. 2004-2008 he was Chairman of INDEFI and President of the 10th World Filtration Congress 2008 in Leipzig, Germany. He published more than 190 technical papers, books etc. and is internationally active in giving consultations and lectures.

Short Course 2 — 9:00 am - 6:00 pm

Fine Dust Separation

This 1-day "Fine Dust Separation" Short Course is of interest to engineers, technicians, scientists, managers, and other personnel involved in gas-solid separation in the process and other industries. They will find the course informative, regardless of whether they design, purchase, research, or use dust separation equipment for product recovery, emission control, air cleaning or process gas cleaning. It is a comprehensive review of the processes involved in the separation of solid or liquid particles from gases, which will emphasise practical aspects and present appropriate theoretical information as necessary.

Course Presenter

Prof. Dr.-Ing. habil. Eberhard Schmidt is Full Professor for Safety Engineering/ Environmental Protection at Wuppertal University. His academic degrees he earned 1991 and 1998 at Karlsruhe University. From 1993 to 1994 he was affiliated with the Joint Research Centre in Ispra/Italy. In the years 1998 and 1999 he was with Degussa company in the department of process engineering/ particle technology.

He is Co-Chairman of the FILTECH Conference and was Scientific Secretary of 10th World Filtration Congress. He has published more than 100 technical papers, books, patents, etc. and consulted and lectured throughout the world.

The Conference

The FILTECH Conference is the globally acknowledged platform for scientific exchange of the latest research results and knowledge transfer between theory and practice. It provides a representative overview of current research and state-of-the-art developments for filtration and separation targets in a wide range of sectors and covers all relevant subject areas and techniques for the separation of particles from liquids and gases.

More than 220 Technical Papers

An exciting programme gives a representative cross-section of the different procedures and appliances of separation technology as well as across the industry about the applications, from the preparation of mineral raw materials, the chemistry, environmental technology and water purification down to the pharmacy and biotechnology.

For full programme and compendiums of all abstracts visit www.filtech.de

Conference Fees

Early Bird until	**20.01.2022**
Day-Ticket	€ 300
3-Day-Ticket	€ 630
Short Course	€ 480
Regular Price from	**21.01.2022**
Day-Ticket	€ 395
3-Day-Ticket	€ 810
Short Course	€ 580

(all prices including German VAT).

Your Conference Registration includes:

- Proceedings featuring all papers in an abstract book & personalized download-link
- Refreshments during breaks & lunch/es
- Entrance to the FILTECH 2022 Exhibition & Catalogue
- Cologne Public Transport Ticket (March 7-10,2022)

Travel & Accomodation

Travel Restrictions do not apply for trade fair visitors, delegates and exhibitors. Trade fair participants can enter into Germany, as they are considered business travellers with an urgent need to travel. Further regulations and testing obligations for business travellers are currently developped. As regulations can change, attendees are urged to inform themselves before travelling.

FILTECH 2022 will be held again at the venue Koelnmesse in Cologne. Due to Koelnmesse's central location, which is conveniently situated for all transport links, visitors can quickly reach the exhibition centre by car, train and plane.

Train travel time from Airports to Cologne

From **Frankfurt Airport** (FRA): ⟶ Approx. 50 min.
From **Cologne-Bonn Airport** (CGN): ⟶ Approx. 12 min.
with train line S13 – Ticket Category 1B
From **Düsseldorf Airport** (DUS): ⟶ Approx. 45 min.

koelnmesse
Hotel Service

Find, compare, and book at your hotel with the online portal of the Koelnmesse Travel & Hotel Service. Make your online hotel accommodation reservation easily, securely and profit from favourable prices:

The Koelnmesse Travel & Hotel Service does everything to make your stay at **FILTECH 2022** as pleasant as possible. Use their experience and profit from particularly favourable prices.

For assistance please contact:

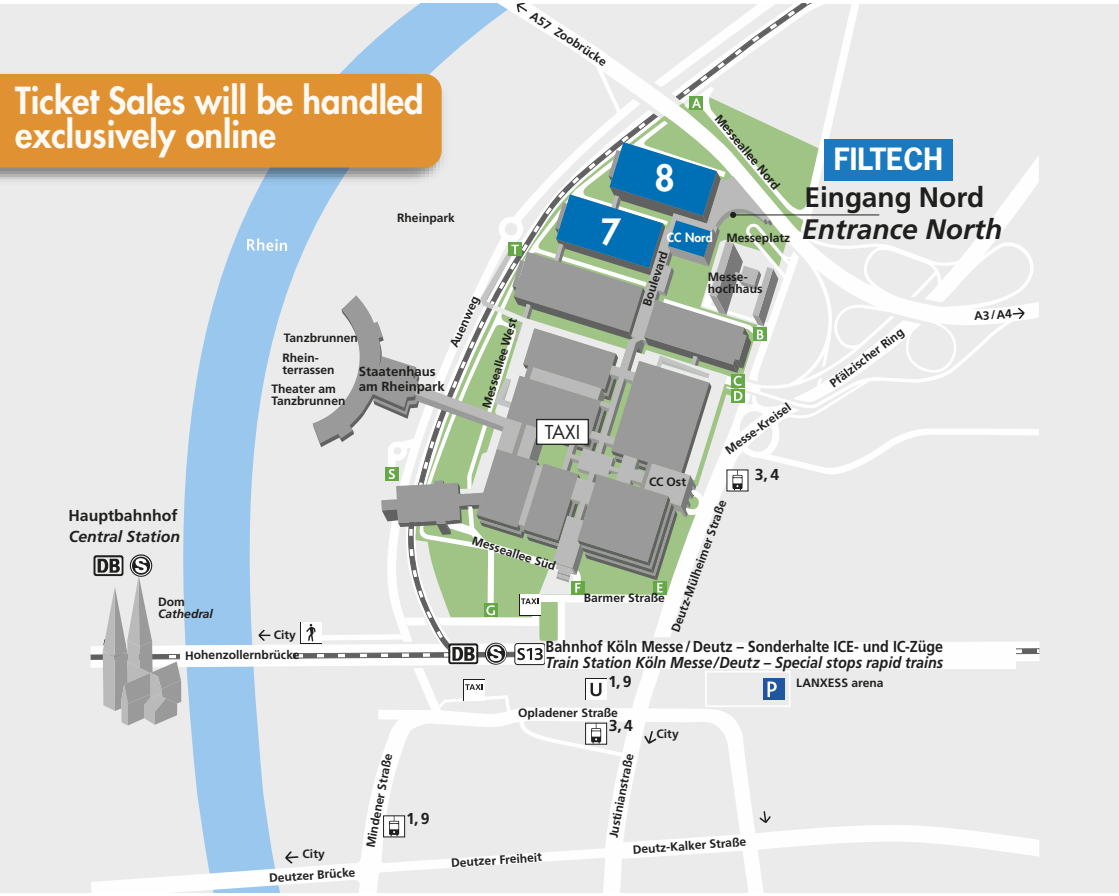
Ms. Sara Langiu-Kollack
Koelnmesse Travel & Hotel Service
Phone: +49 (0)221 8212087
E-mail: s.langiu-kollack@koelnmesse.de

For online booking visit:
www.filtech.de → plan your trip

FILTECH 2022

Koelnmesse · Cologne · Germany

Ticket Sales will be handled exclusively online



Opening hours Exhibition
March 8 - 9 9 am - 6 pm
March 10 9 am - 5 pm

Koelnmesse – Halls 7+8 – Entrance North
Messeplatz 1
50679 Cologne · Germany

Visitor Tickets

Registration until 04.02.22	from 05.02.22
1-Day Ticket: 20,00 €	1-Day Ticket: 40 €
2-Day Ticket: 25,00 €	2-Day Ticket: 45 €
3-Day Ticket: 30,00 €	3-Day Ticket: 50 €

Pre-register now!
Have fast track entry to the exhibition and save up to **50%**
Pre-register at www.filtech.de