



WORLD WIDE WEAVE

GKD: Focus on plastic-free filter media

Premiere at IFAT: Crucible for sampling of microplastic loads in mineral water

With innovative products and solutions for central challenges of the water industry, the stand of the technical weavers GKD – Gebr. Kufferath AG (GKD) at the IFAT trade fair is once again one of the top places to visit when it comes to filtration technology. GKD, as a sought-after partner for researchers, manufacturers and users in the field of industrial mesh, is presenting three focus topics at the world's leading trade fair for environmental technology: high-performance filtration solutions for mechanical wastewater treatment with pore openings of 5 to 1,000 µm, cascade filters and crucibles for sampling and analyzing microplastic loads in outlet or mineral water, as well as the four-ply Trimetric filter media laminate for hot gas filtration. All three subject areas focus on plastic-free filter media. From May 4 - 8, at Stand 318 in Hall A2 of Munich trade fair, the filtration experts will be demonstrating the added value of GKD media woven from stainless steel for a clean environment and maximum water quality. They will also be available to discuss current problems with the specialist audience.

It is GKD's declared goal to create products that help make the world healthier, safer and cleaner. With plastic-free filter media, reliable measuring technology and leading technologies for water purity and energy-saving processes, GKD is exhibiting new solutions at IFAT, which set benchmarks once again. The stainless steel mesh designs and filter elements impress with mechanical robustness, wear-resistance and weldability. They also prevent contamination of the water through plastic abrasion. With almost one-hundred percent recyclability, they are also the intelligent alternative to



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the unavoidably high waste volume that goes hand in hand with plastic media. GKD stainless steel filtration meshes therefore respond to customers' increasing sensitivity to the use of plastic media or adhesives in processes. They help to reduce the environmental load and give companies access to important saving potentials as far as their CO₂ balance sheet is concerned.

Optimized dutch weaves

In the water industry, the optimized dutch weaves (ODW) mesh range with pore sizes of 5 - 15 µm is a multi-talent. From outlet filtration of municipal sewage plants to large industrial treatment plants for process and service water, filter cartridges for drinking water pipes in domestic installations, domestic appliances to avoid microplastic load or scientific devices for sampling of microplastic loads: optimized dutch weaves made of stainless steel mesh provide outstanding performance everywhere. The sampling basket developed by GKD is an example of this. Its core element is an integrated filter cascade of up to six sieve pans with filter media of different pore sizes. It enables, for example, the scientific sampling of tire abrasion, which, in Germany, is the biggest cause of microplastics in the sea, at 110,000 metric tons annually.

Crucible

However, the specialist visitors are likely to pay particular attention to a crucible developed by GKD together with the German Institute for Materials Research and Testing (BAM) as well as the German Federal Environmental Agency (UBA) for the sampling and analysis of drinking and mineral water. The core element of this patented sampling body is an optimized dutch weave with 5 µm pore opening. Worldwide, drinking water from the tap or plastic bottles is considered the main source of microplastics in the human body. To date, however, there have not been any recognized, uniform methods for sampling and analysis of the plastic particles, with the result that



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comprehensive monitoring and valid statements have not been possible. Thanks to the crucible revealed by GKD for the first time at the IFAT trade fair, the required methodology now exists. It is also set to be incorporated in future legislation as a new standard procedure. This is supported by the patented construction of the crucible from ODW 5, which is welded onto the base of the container for the mineral water to be sampled. The filter cake of the conveyed mineral water sample is deposited in it directly. As the crucible, like all other components of the sampler, is made of stainless steel, the entire construction can be accommodated directly in the test device for the two-stage TED-GC-MS analysis process (a combination of Thermal Extraction and Thermal Desorption). Unlike before, sampling with the crucible eliminates time-consuming intermediate steps, which pose a risk of contamination and material loss. It therefore contributes towards significantly faster sampling and greater measuring precision: detection rates of over 90 percent mean microplastic particles of less than 1 µg/l can be detected. Since this method of sampling and analysis can be used not only to investigate mineral water from PET bottles but also to analyze all other water-based liquids filled into plastic containers, the GKD crucible promises to be a real trade fair highlight at this year's IFAT.

Porometric

With Porometric – a further development of the optimized dutch weaves – GKD is presenting a high-performance mesh for a variety of treatment processes in the water industry. Stainless steel Porometric mesh, with pore openings of 13 - 25 µm, is currently considered to be the best product on the market for water filtration. Whether for industrial process water treatment, filtration of greenhouse or golf course irrigation, water treatment of aquacultures, filtration of washing water from artificial grass or ballast water filtration: Porometric's three-dimensional slit structure with almost 90 percent porosity increases the flow by up to a further 40 percent compared to



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optimized dutch weaves. The mesh's regenerability is also unsurpassed. In independent comparison studies of the cleaning properties of a range of plastic and metal meshes at the Karlsruhe Institute for Technology (KIT), Porometric asserted itself as the best filter medium by far.

Trimetric filter media

The third focus of GKD industrial mesh at the IFAT trade fair will be Trimetric filter media for hot gas filtration. These give access to significant optimization potential for exhaust gas filtration of biogas plants too. The sintered, four-ply filter media laminate made of three different stainless steel filter media – including metal nonwoven – achieves retention rates that are as high as those of PTFE media. Unlike these polymer filter media, however, Trimetric filter media laminates are permanently temperature resistant up to 600 degrees Celsius and can therefore be used wherever PTFE media no longer work. This also eliminates the need for energy-intensive reheating of the exhaust gas. Its material-specific weldability ensures secure sealing between the raw gas side and the clean gas side. As a self-supporting filter element, they do not require a support basket. Their robust design can also be regenerated outside the filter housing using a high-pressure cleaner. The universally usable media are not limited in cartridge length and can be used in existing cartridge filter systems without alteration. Use in existing bag filter systems or systems with filter leaves only requires a minor modification to the fasteners in the filter housing.

Visit

GKD – Gebr. Kufferath AG at IFAT 2020

Munich trade fair

Hall A2

Stand 318

7.457 characters incl. spaces



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As a privately owned technical weaver, GKD - Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof: Industrial Mesh (woven metal mesh and filter solutions), Process Belts (belts made of mesh and spirals), Architectural meshes (façades, safety and interior design made of metal fabrics) and Mediamesh® (Transparent media façades). With its headquarter in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in France, Spain and worldwide representatives, GKD is close to markets anywhere in the world.

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