



WORLD WIDE WEAVE

GKD: Expert bridge builder at ACHEMA

From the initial challenge, through the idea, all the way to the innovative filtration solution

Leading international technical weaver GKD – Gebr. Kufferath AG (GKD) will be presenting a wide range of groundbreaking mesh designs and filter elements at the ACHEMA event in Frankfurt from June 11 to 15. The focus among industrial meshes will be on the latest developments of optimized dutch weaves and Porometric mesh for process water and waste water filtration applications. Special woven designs for batteries and fuel cells represent another focus. These latest examples of the company's integrated solution expertise are sure to once again make GKD a popular contact and engineering expert for concrete challenges in key applications at the leading trade fair for the process industry.

Efficient and reliable preparation of process waters is becoming increasingly important in industrial applications. The components used to increase process efficiency are therefore right at the top of the list of priorities for companies seeking not just to survive, but also thrive in the face of ever increasing competitive pressure on the global markets. However, the waste water and ballast water filtration sectors also require optimized processes, as well as new technologies and products to comply with ever stricter legal rules and requirements with the requisite efficiency. GKD is setting unsurpassed standards with its two product ranges in all applications where high permeability, stability, dirt holding capacity, and optimum cleaning characteristics of the filter media make a key contribution to productivity and thereby also profitability. Optimized weaves and Porometric meshes significantly increase flow rates while maintaining the same apertures. They



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also allow filtration equipment to take up less space and consume less energy. Thanks to their precision, ease of maintenance, and reliability, both mesh types also deliver impressive performance under extreme deployment conditions. Optimized weaves and Porometric are also unrivaled when it comes to cleaning in filter processes. Beside excellent release properties, they also excel through their optimally dimensioned backwashing rate. The lower pump performance required as a result of this not only reduces energy consumption, but also increases the service life of the components. Thanks to their mechanical robustness, the meshes can be repeatedly regenerated. Since they also do not clog, they guarantee a significantly longer service life and greater efficiency than conventional synthetic mesh. Their special designs allow the two types to meet various requirements in the field of water filtration, including polymer or gas filtration. They are used both in filter elements and in plate, drum, or cartridge filters.

Optimized dutch weaves

At ACHEMA, GKD will be presenting its range of optimized dutch weaves with selectivity from 6 to 100 μm . The ODW6 products made of stainless steel with a woven pore size of 6 μm in line with IMVT are the most recent addition to the product family. Its single-layer mesh design reliably separates particles $> 6 \mu\text{m}$ and combines this extreme separation rate with the high throughput required for large-scale water processing. This also predestines ODW6 for filtration of the outlet water at sewage plants as a way of preventing microplastics from entering urban waters. Other filter media used to date only allow particle retention above 20 μm at the requisite throughput rates. The excellent performance offered by optimized weaves, on the other hand, can be attributed to their special weave with slot-shaped pores on the mesh surface and larger pores inside the mesh. This special structure means that particles of the requisite separation limit can pass through the mesh without any issues. The surface filter therefore combines filtration rates down



to the micro-filtration range with high permeability and dirt holding capacity. A low clogging tendency and good backwashability guarantee a long service life. This is also underlined by excellent mechanical strength and exceptionally high pore stability thanks to use of significantly more stainless steel wires across the surface area than in conventional fabrics.

Porometric mesh

The three-dimensional weave of the Porometric meshes with selectivity from 20 to 170 μm is unsurpassed in terms of the ratio of pore opening to permeability. Despite its very open design, Porometric combines this exceptional performance with a high degree of stability. The three-dimensional slit structure with rectangular pores facilitates three times greater permeability than conventional meshes, while maintaining the same separation rate. GKD offers its Porometric meshes in stainless steel or on a purely synthetic basis. Compared with standard synthetic meshes available in the market with 20 μm or 25 μm apertures, Porometric made of synthetic wires excels by delivering almost five times the flow rate. The use of plastic also allows both cost and weight reductions. The GKD portfolio now also includes a hybrid version of Porometric up to 20 μm . This version combines the respective advantages of metal and plastic in a single weave and is ideal for applications where the use of plastic would make cleaning more difficult due to static charges. Another new and saltwater-proof Porometric version with 24 μm pore opening surpasses all filtration meshes previously used in ballast water filtration with separation rates of around 10 μm . This excellent filtration, while maintaining a significantly higher flow rate, also delivers significant savings potential for downstream UV treatment operations.

Special woven mesh designs

Custom combinations of various materials and special weave types in a single design allow GKD to develop previously unknown solution approaches



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for a large number of industrial applications. The individually developed spectrum of mesh design characteristics opens up a wide range of optimization potential through use of up to ten material components in a single mesh. This also makes GKD a sought-after contact for all aspects of custom woven mesh designs that are used as components for alternative drive technologies, such as batteries or fuel cells.

Integrative solution partner

Thanks to its decades of experience, the worldwide technological leader also has extensive cross-sector market and process knowledge. The integrated solution expertise is based on close networking of engineering, development, and production of application-specific optimized filter media at the company. A high-performance simulation environment with fast feasibility checks and in-house prototype construction guarantee the efficiency of development here. Coupled with state-of-the-art manufacturing – also fully automated under defined cleanroom conditions as and when required – and the globally collaborative organization of the GKD Group, the technical weavers thereby meet even the highest expectations of industrial users in terms of quality, process reliability, and cost-effectiveness.

Visit GKD – Gebr. Kufferath AG at ACHEMA 2018

June 11 to 15, 2018

Messe Frankfurt

Hall 5.0

Stand C62

7.188 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, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.