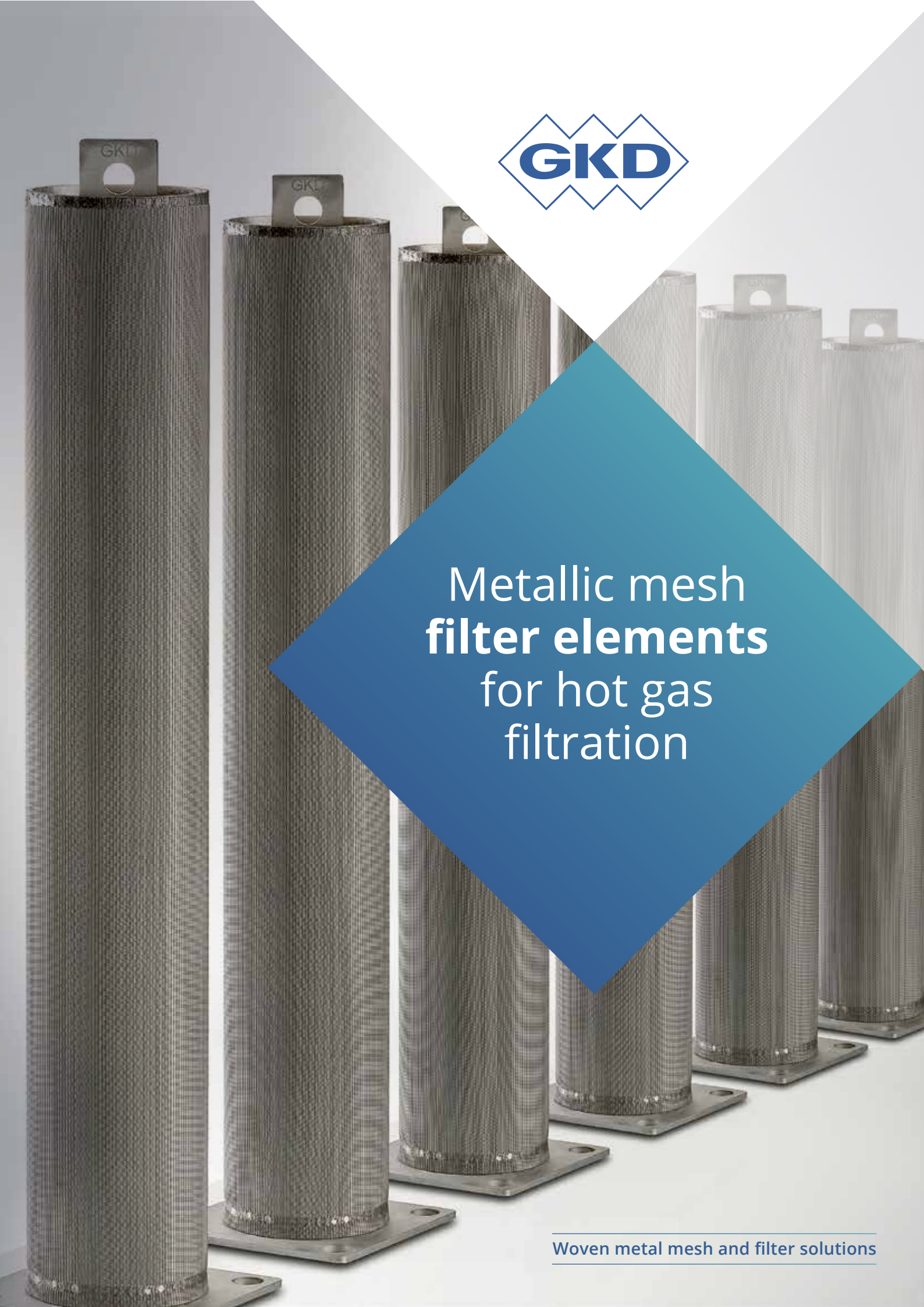


Metallic mesh **filter elements** for hot gas filtration

Woven metal mesh and filter solutions

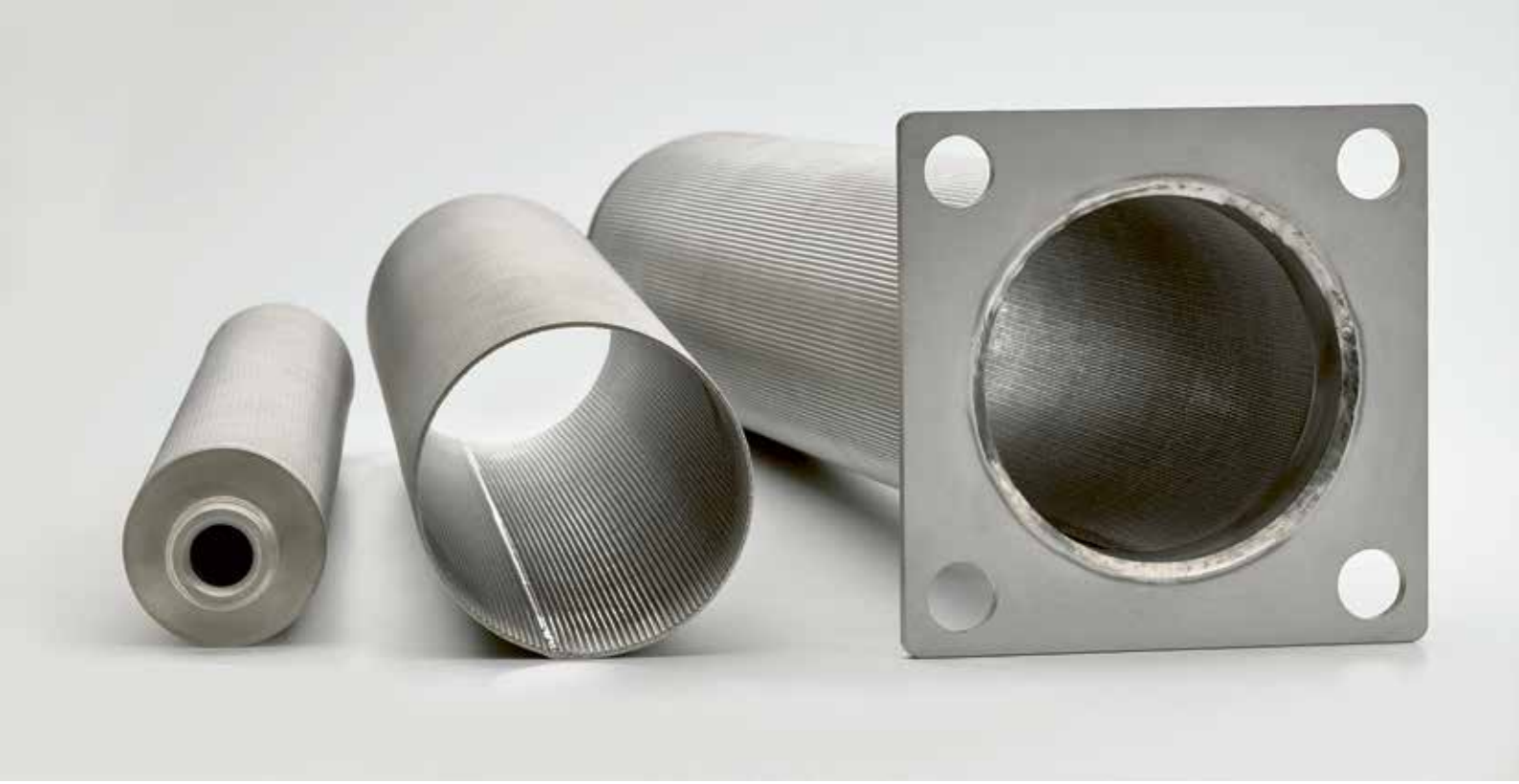
In hot gas filtration, recovering thermal energy after the filtration process not only prevents energy-intensive reheating of the exhaust gas, but also helps protect downstream units.

New efficiency in hot gas filtration

Whether for producing color pigments and catalysts, recovering reusable materials or burning wood chips, industrial and municipal waste: The filtration and treatment of hot gas flows plays a key part in addressing the increasing demands in terms of environmental protection and cost-effectiveness.

The use of filter media made from PTFE (polytetra-fluorethylene) or other synthetic fibers is restricted to temperatures of maximum 260°C. What is more, they can also be damaged by smoldering particles or even catch fire, compromising the safety of the entire system.

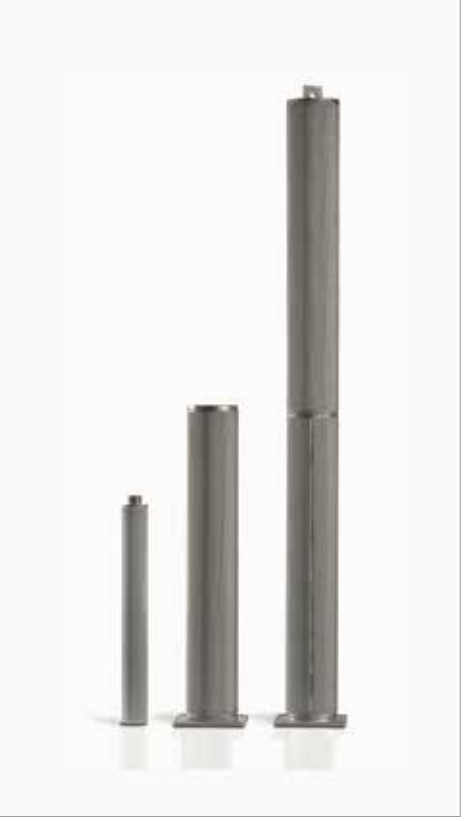
Ceramic media are therefore often used at high temperatures. However, they can only be used up to a certain length, as they begin to vibrate due to the pressure pulse used for regeneration – which in turn leads to a risk of breakage. Filter media produced from metallic materials can handle temperatures of up to 600°C, are non-combustible, and capable of resisting any vibrations that occur thanks to their mechanical robustness. With the highly-porous Trimetric filter medium, GKD now offers a filter medium that unites all the positive properties of existing proven filter types in one medium.



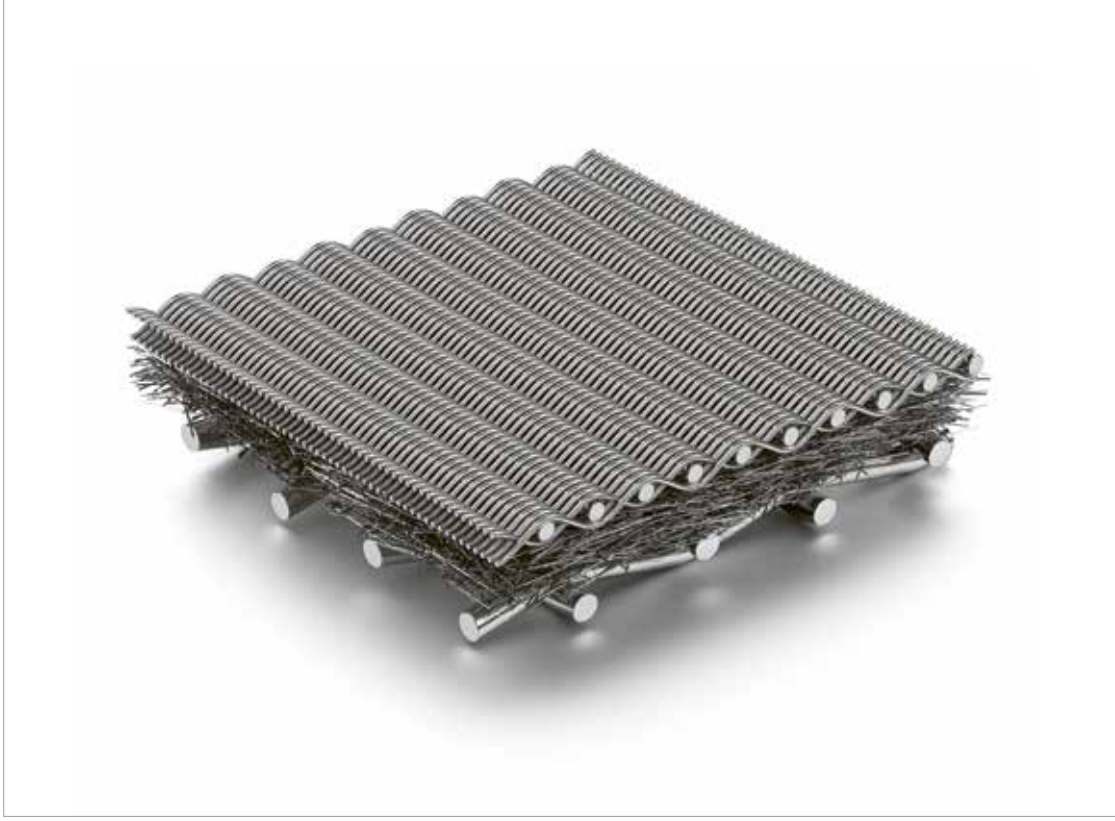
Thanks to their excellent regenerability, the Trimetric filter cartridges enjoy a long service life during operation.

Trimetric
Positive properties combined in a single medium

The innovative, highly porous filter medium Trimetric combines in one medium everything that efficient hot gas filtration requires: high retention rates, thermal resistance up to 600°C, mechanical robustness to vibrations, regenerability during operation, and external cleaning. With this new product range, GKD is making combinations of Optimized Dutch Weaves and nonwoven metal fiber mesh available for practical applications. Adaptable to specific applications, the inherently stable filter elements can be employed in all economical designs of standard dust filters – and also in bag filter systems with minimal adjustments to fixtures.



Generally speaking, there is no limit to the filter length with Trimetric filter media laminate



The combination of metal fiber nonwoven on the outflow side and Optimized Dutch Weave on the inflow side is unbeaten in terms of cleaning and filtration efficiency.

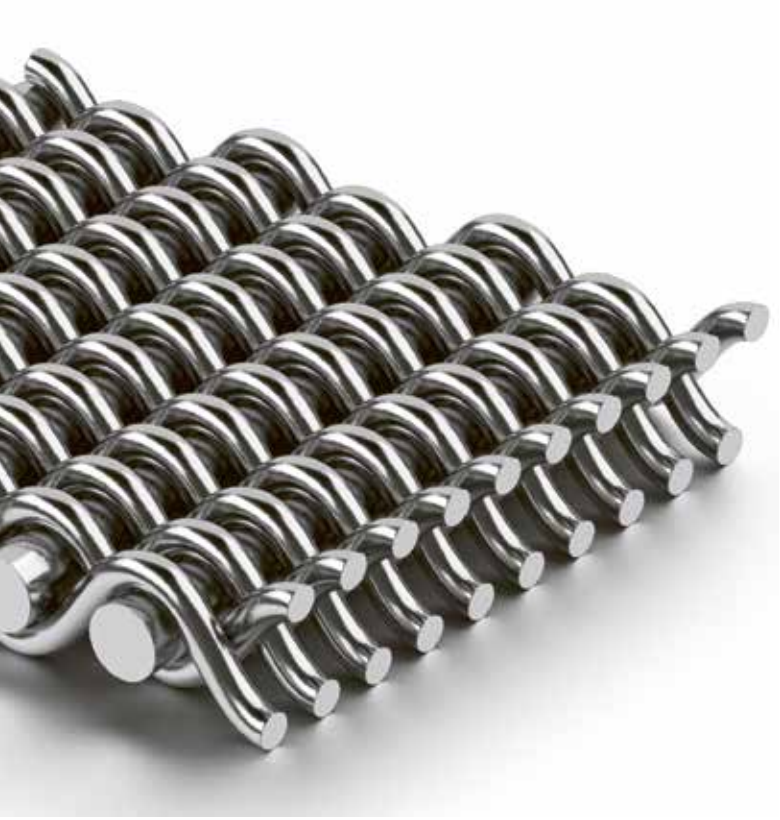
Trimetric
Universally deployable

Generally speaking, there is no limit to the filter length with Trimetric filter media laminate: The required formats are comprised of segments up to 900 millimeters long mounted specifically for the application without the need for tools or expensive molds. As such, defective individual segments can also be repaired or replaced at any time.

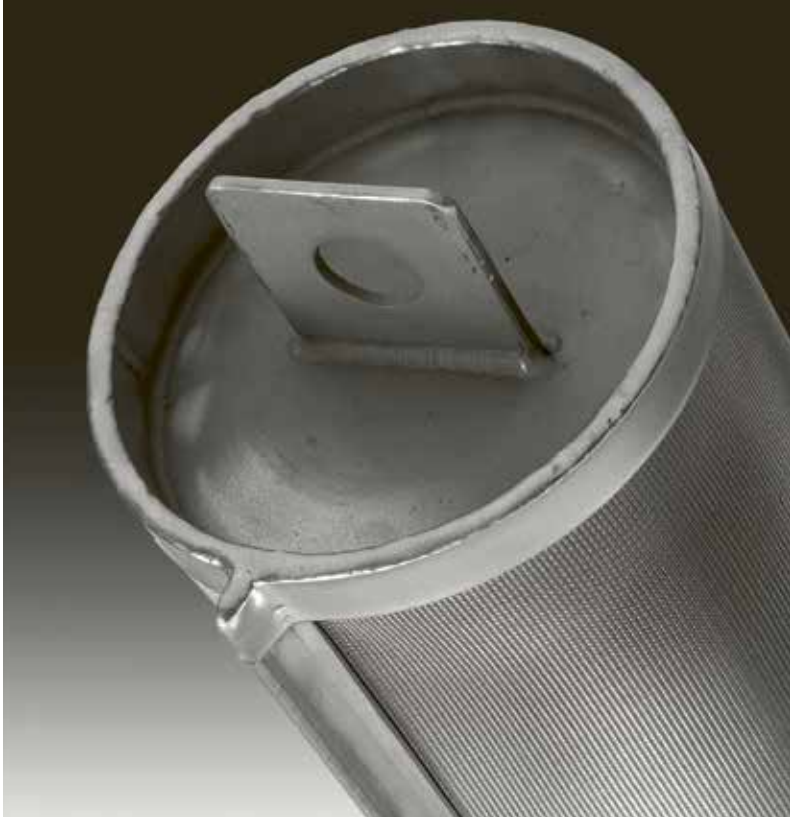
With external diameters that can be individually selected between 60 and 600 millimeters, Trimetric filter media have a cylindrical form as standard. In principle though, square shapes or any other geometry are also possible. This modularity enables Trimetric filter media to be used in all economical designs of the standard dust filter. In this application, it guarantees optimal dirt absorption with the usual inflow speeds of 0.7 to 1 meter per minute.

The innovative Trimetric filter media from GKD can be used in existing cartridge filter systems without alteration. Even existing bag filter systems or systems based on filter leaves can be converted with only a slight modification of the fastening elements in the filter housing.

The cleaning properties and filtration efficiency of Trimetric filter media were tested on the basis of series constructions on VDI test benches (VDI = Association of German Engineers). Compared with pure metal fiber nonwoven cartridges or powder cartridges, they exhibit very good regenerability, are also resistant to breakage, and comparable with PTFE media in terms of their retention rate – however only for temperatures up to 600°C. All of which means that Trimetric filter media significantly contribute to increasing process efficiency, reducing CO2 emissions, and maximizing cost-effectiveness.



Metallic media for bag filter applications, Reversed Plain Dutch Weaves (RPDW)



Special seam technology developed by GKD: thanks to tight fixing, the mesh is only subjected to minimal bending/alternating stresses.

Repairing filters and **replacing** filter media

Hot gas filtration can be achieved with appropriate support baskets using pure wire mesh layers. The ideal meshes for this are Reversed Plain Dutch Weaves, which boast increased tensile strength thanks to their structure. This makes it possible to attach these meshes to standard supporting bodies that are already in place, including those typically used for textile media.

The meshes are held in place very securely using the special clamping fold seam technology developed by GKD, so that they are only subjected to minimal bending/alternating stresses. Depending on the application, special materials for high chemical or thermal stress can also be used here. These can be optimized for the respective application and then manufactured specially.

For a healthier, cleaner and safer world

Technical weavers for industry and architecture

GKD is the world's leading developer and manufacturer of solutions produced from metal, hybrid, and synthetic mesh and spirals. The products are used around the world, both in industrial settings and the field of architecture.

Industrial meshes and highly efficient filtration solutions from GKD are used to filter exhaust gases, microplastics, and much more. Among other things, they also serve as strike protection on airplanes and are used as conveyor and process belts.

GKD **architectural fabrics** combine aesthetics and function in a vast range of building applications – including outstanding international projects by renowned architects and planners.

With innovative weaving technologies and simulation procedures, GKD generates technical weaves, semi-finished products, components, and filter equipment – precisely tailored to an enormous variety of requirements.

Constant innovation and certified production process ensure great performance and reliability.

Solutions from GKD make the world healthier, safer, and cleaner.

GKD - products and service close to customers, worldwide.

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