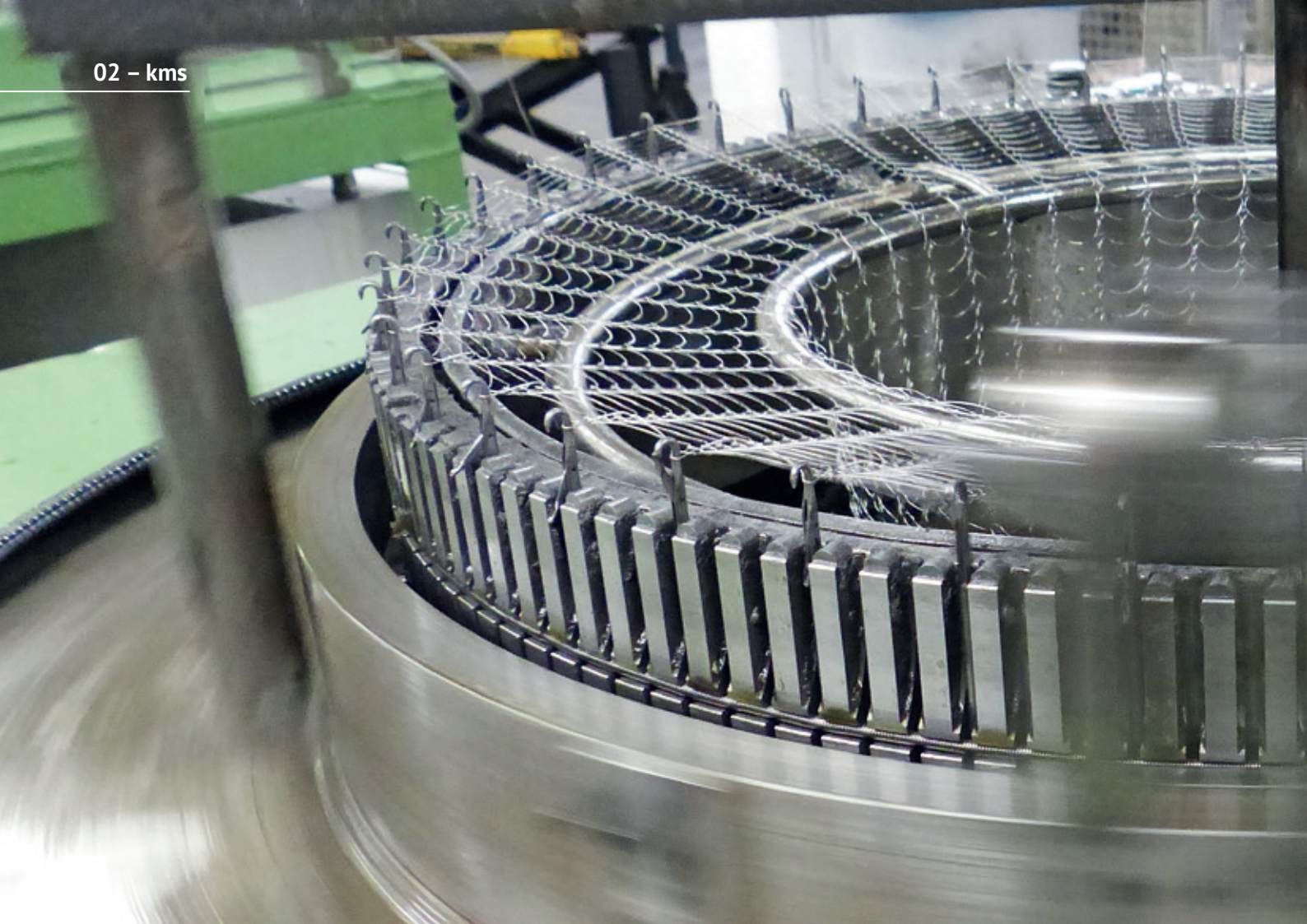




Tailor-made solutions  
for industrial applications



knitted mesh & separation  
SOLUTIONS BY RHODIUS®



## We knit your solution

Global competition leads to increasingly shorter development and production cycles and increasing cost pressure. With knitted mesh & separation (kms) as a strong production and development partner on your side, you are ideally positioned for the future.

We will provide you with **high-quality** and, at the same time, **cost-effective industry solutions** based on knitted wire mesh. Our services range from semi-finished products to finished components and right up to complete system assemblies. We have special expertise in the field of separation technology.

No matter whether it is product development or the optimisation of your processes and procedures, our experienced engineers will be happy to assist you. Thanks to **decades of experience** in the processing of metallic and synthetic wires, we are in a position to fulfil complex requirements.

On the following pages, you can read more about our company, our product portfolio as well as our research and development services.





## knitted mesh & separation

SOLUTIONS BY **RHODIUS**®

### **Europe's leading wire mesh knitter**

knitted mesh & separation, abbreviated as "kms", is a business segment of the RHODIUS Group. We offer customised industry solutions for the mechanical and plant engineering industry and for the process and environmental technology sector.

### **Our locations: locally anchored with a worldwide network**

Our headquarters are located in the Bavarian town of Weissenburg. It is here that we focus on research and development with a dedicated laboratory facility. Our administration and one of three production sites is also based at our Weissenburg facility. International sales partners allow us to meet the needs of our global customers in a timely manner.

### **Our origin: RHODIUS**

RHODIUS, our parent company, is a market leader in the field of wire mesh production and refinement. Founded in 1925, the company has evolved from a family business to become a sought-after global player.

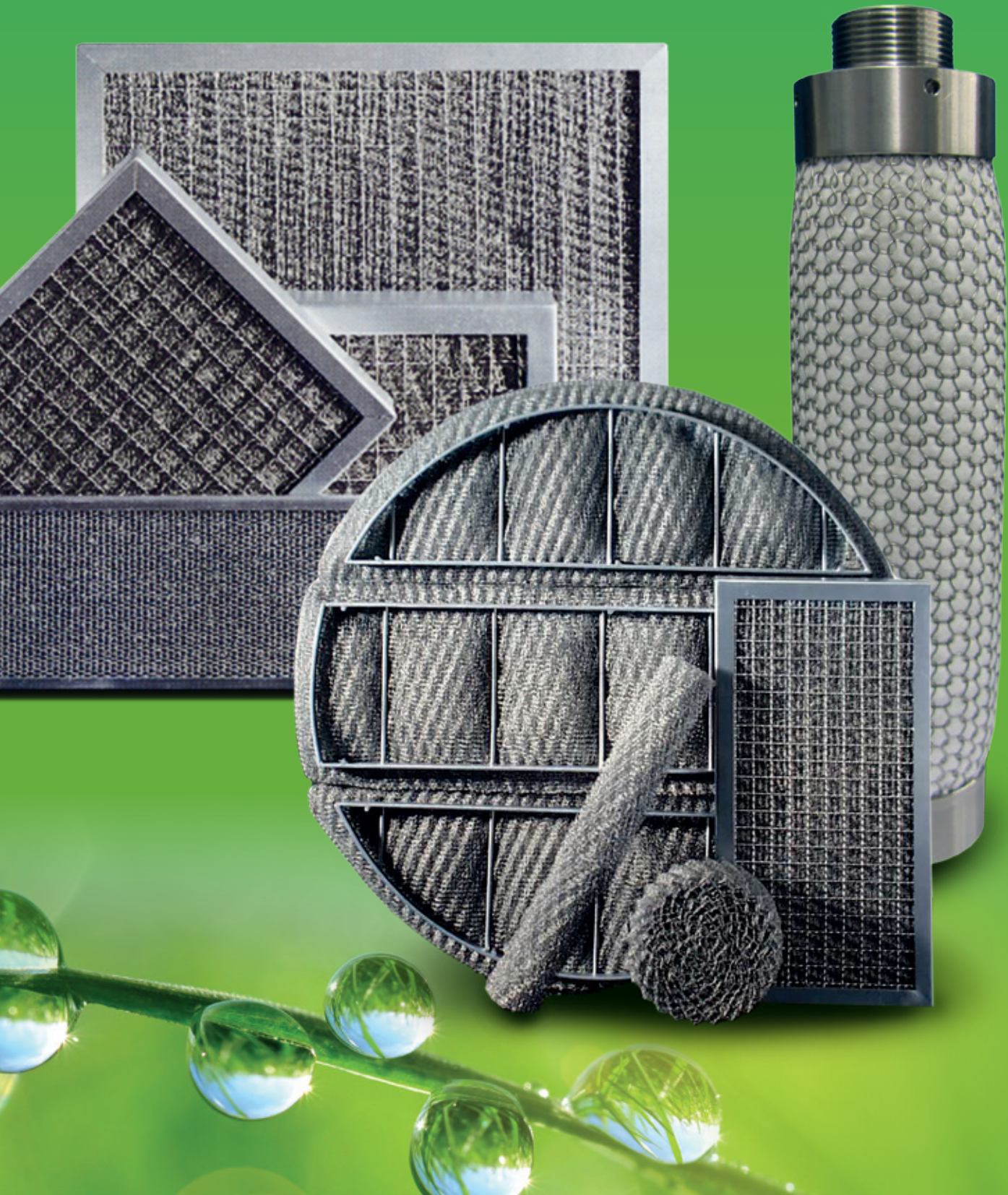
### **Our claim: sustainable success for our customers**

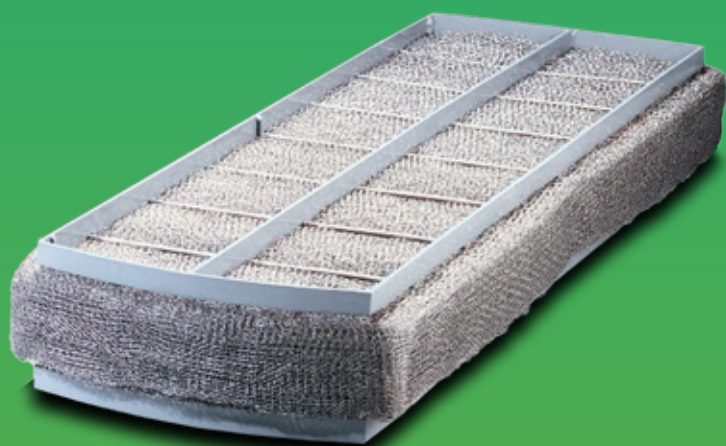
Our opportunities for research and development are unparalleled throughout Europe. We are also leaders in terms of production capacity and quality. Our manufacturing is not only high-quality and cost-efficient, but also takes into account work safety and environmental protection.

We maintain a close partnership with our customers. Renowned companies from the German industrial landscape rely on our know-how. Find out for yourself. We look forward to a successful cooperation.

## Powerful customised separation process

knitted mesh & separation (kms) develops and produces precise separation solutions based on knitted wire mesh and micro-fibre materials. We provide you with droplet separators and filter cartridges for **each standard and special application**. We can manufacture our knitted wire mesh in almost all geometries and consequently with the most ideal shape for every application. In addition to the wire diameter, the material and the density are matched perfectly to the requirements of the customer and the process.



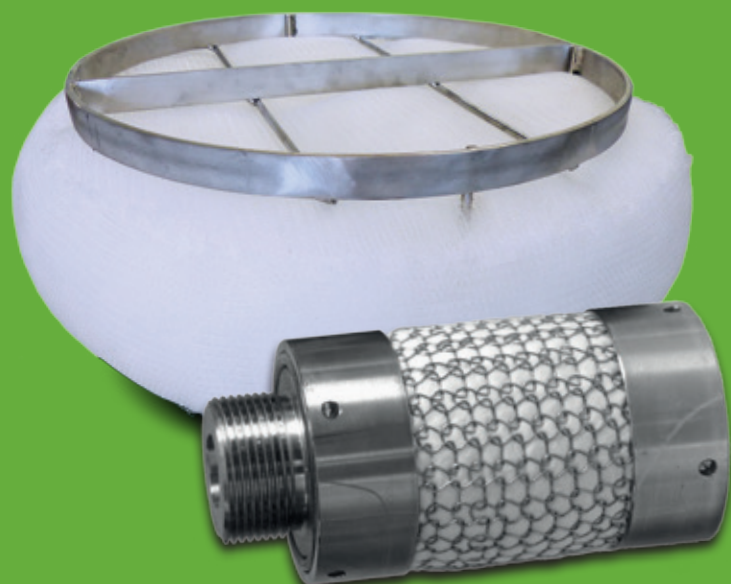


### Droplet separation from gases

Droplet separators are designed as the fundamental unit for operating various process and technical facilities. kms offers knitted wire mesh and coalescence elements with highly efficient separation performance. Unwanted contaminants from gas streams are separated until the required concentration of the pure gas is obtained. With the help of computers and our design program "Separate 2.1" developed in-house, we calculate the optimum droplet separator tailor-made for your process.

#### Application examples

- Scrubbers, absorbers
- Distillation and rectification columns
- Evaporation and pressure reducing plants, Knock-out drums
- Vacuum and compressed air systems
- Sea water desalination plants
- Oil and emulsion mist separators



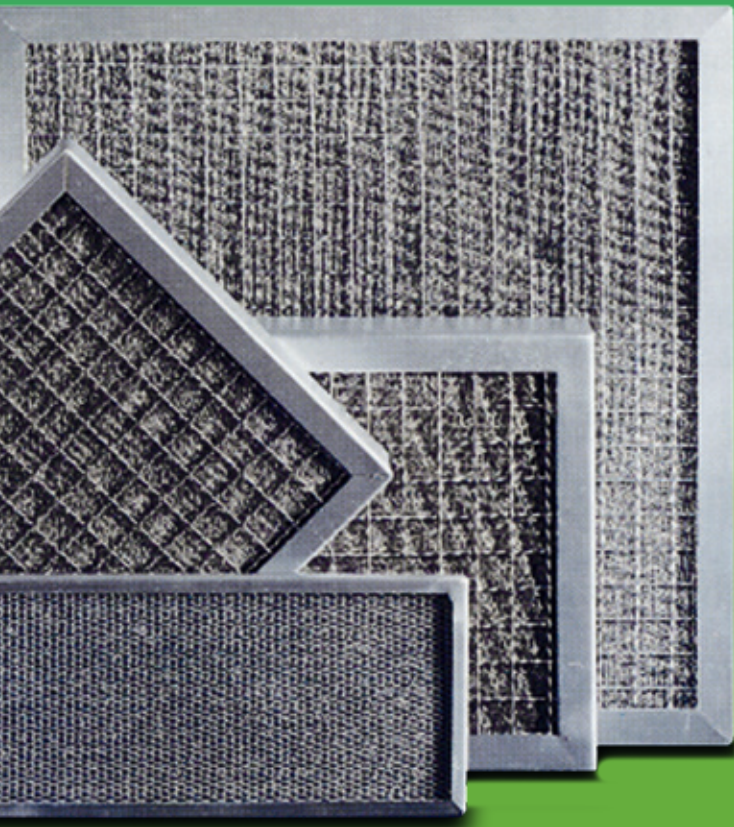
### Phase separation of liquids

We offer a wide range of various separation systems for physical separation of immiscible liquids. The procedure uses the coalescence behaviour of the drops at the wire surface to enlarge them thereby causing the force of gravity-induced phase separation to speed up significantly.

The required dwell time and consequently the dimensioning of the knock-out vessel can be significantly reduced.

#### Application examples

- De-oiling of wastewater
- Washing processes in the manufacture of plastics
- De-watering of silicone oils
- Extraction column
- Production of biodiesel
- Refineries



### Separator cartridges

Knitted wire mesh links form the filter media in our versatile filter cartridges. Besides other applications, these are used for fat deposition in catering establishments or as a filter in industrial production.

A kms wire mesh filter usually consists of several superimposed filter mats, a metal frame and a mesh on the front and back sides. We manufacture the frames using galvanised sheet steel, aluminium or stainless steel. The metal filter can be produced in almost all dimensions.

#### Application examples

- Extractor hoods
- Commercial kitchens
- Air conditioning systems
- Heating and ventilation systems
- Extraction systems
- Pre- and post-filters in industrial production
- (Wet) air filter



## Knitted Wire Mesh at its best

The technical diversity, flexibility, experience and know-how of the knitted wire mesh solutions delivered by kms inspire development engineers and buyers alike. As technical components, you will be able to perform a **variety of tasks**: from sealing and insulation to the mechanical protection and stabilising, right up to shielding sources of electrical interference. You, too, can benefit from the strengths of the knitted wire mesh produced by kms.

We process the metal and plastic wires to produce **wire meshes for a variety of applications**. In order to achieve the optimal product properties, if necessary, we incorporate several materials in parallel with combination wire meshes. Using the so-called **circular knitting process**, we create a hose by interlocking meshes. We supply this hose either in rolls or as cut sections.





### Storage and damping elements

What do engines, turbines and automatic production machines have in common? The forces acting during operation, generate vibrations that are transmitted to the entire machine. Integrated damping elements reduce the load and protect sensitive components from damage.

Our knitted wire meshes are ideal for this purpose, because they are highly resilient, flexible and versatile in use. Being a core element in systems for vibration damping, they ensure that you get a better durability of the machines.

At the same time, our components made from individually designed wire mesh packs reduce unpleasant noise generation in plants and thus ensure a higher operating comfort.



### Vibration technology

Vehicles, machines and their components are often exposed to the most diverse vibration loads and frequently with concurrent high temperatures. RHODIUS's moulded and pressed parts made of knitted wire mesh protect these sensitive components from damage and at the same time are noise-suppressing.

Our solutions made from individually designed wire mesh packs help reduce the generation of unpleasant noise.



### Pressed parts

We compress the knitted wire mesh to form pressed parts in accordance with the customer's requirements. Any technically feasible shape is conceivable. As a valuable component of modules and systems, the blanks will be further processed – either at your premises or at our factory.

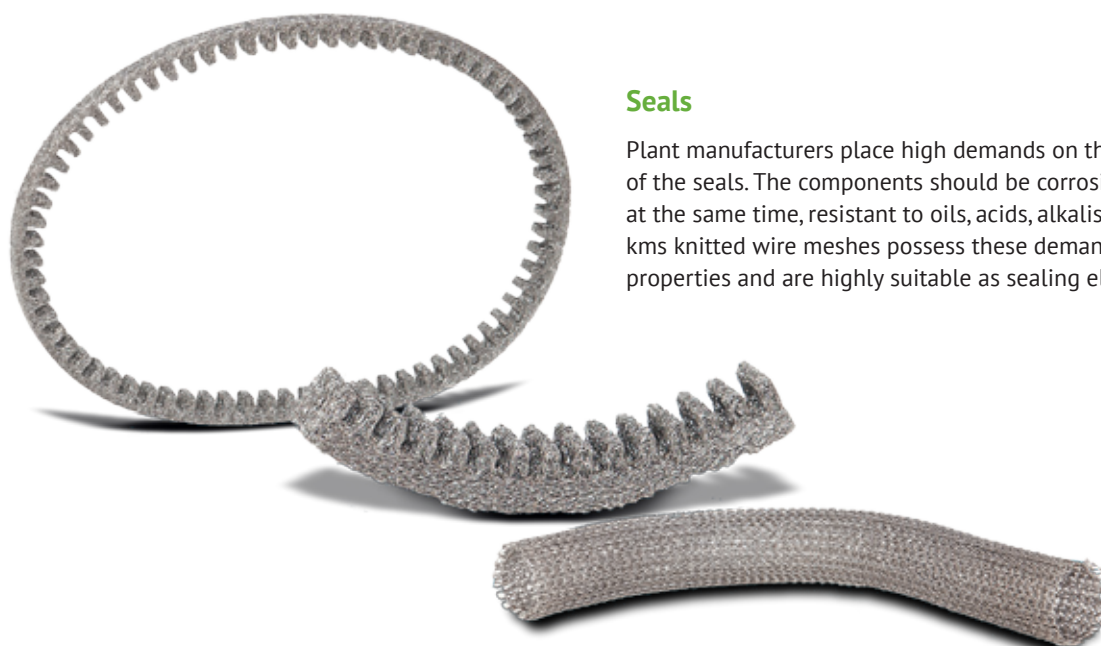
#### Assemblies and Components

We are happy to combine our fabrics and pressed parts with other elements to produce complete components and assemblies. Our portfolio ranges from mechanical vibration dampers to complex separation solutions.

What can we do for you?

We are happy to take up new challenges.



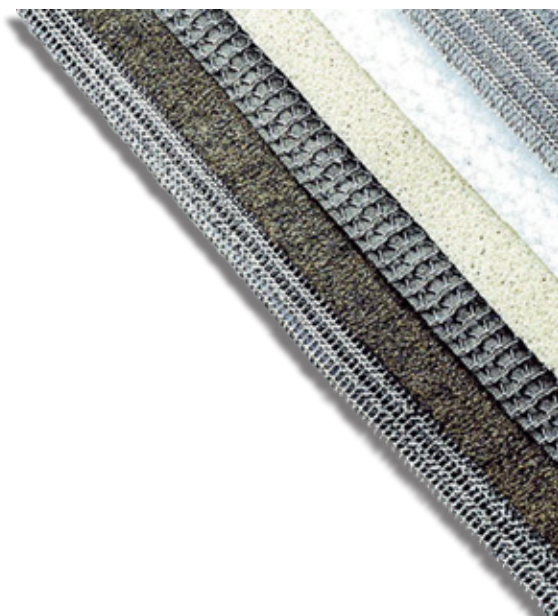


### Seals

Plant manufacturers place high demands on the resistance of the seals. The components should be corrosion resistant and at the same time, resistant to oils, acids, alkalis, fats and solvents. kms knitted wire meshes possess these demanding material properties and are highly suitable as sealing elements.

### Electromagnetic shielding

Our knitted wire mesh will help you meet the requirements for electromagnetic compatibility (EMC) of your products: they offer reliable protection against unwanted interference sources and, in particular, against electromagnetic interference (EMI) and radio frequency interference (RFI). For this reason, they are used as sealing solutions in electrical equipment.



### Vandalism protection

Our technical fabric is indispensable for the protection against vandalism in public transport. The wire nets integrated in the upholstery of seats in buses and trains cannot be cut with sharp objects. This makes it considerably difficult to damage the seats and more importantly, the components that are significant for fire prevention remain protected.

# The art of engineering made in Germany

The competent R&D team at knitted mesh & separation (kms) will be glad to offer support in the **development or optimisation** of your products, processes, and procedures.

We will stand by you right from conception of the initial idea to creating the prototype to serial production. Depending on the requirements, we will take over a **complete development process** or an individual step.

We are your **experts for wire mesh products** and their special applications. You benefit from the experience of our engineers in the fields of process engineering, mechanical engineering, environmental technology and chemical engineering. With the help of modern methods of calculation and our in-house technical centre, we are in a position to answer even the most complex questions.

## CAD design

We design and develop our components and systems with CATIA V5, Inventor and SolidWorks.

With the help of meaningful models, we can compare different design alternatives for you in a cost-effective manner.

The attractive 3D representations facilitate communication within the project team.

## Design and Simulation

Using SOLIDWORKS Flow Simulation we calculate and visualize the flow of gases and liquids in the plants.

Potential flaws in the system design can thus be detected and eliminated at an early stage in the planning phase.

At existing plants, the flow simulation is used to identify causes for poor performance and optimisations can be made.

Using validated data plant operators can thus quickly determine the profitability and payback of optimisation measures.

Material, design and process parameters can be adjusted so that flow losses are reduced and flow conditions can be optimised. We are thus able to achieve optimal performance and energy efficiency of the system.

## Measurements and tests at the technical centre

Our technical centre has a wide range of high-performance measuring instruments to validate computer models.

There we put our components and systems to the acid test before the start of series production.

In addition to other things, we use

- Efficiency tests,
- Investigation of pressure losses and downtime and
- Test set-ups in the field of separation technology

This rules out any possible sources of error in production or use well in advance.

Our options are as diverse as the industries in which we operate and our solutions are as individual as our customers.

Do you want to know what we can do for you? A personal conversation can help you learn more.

Contact us and make an appointment.

**We look forward to getting to know you.**

## Technical Data

### Wire Specifications:

- Round and flat wire
- Single-threaded or multi-threaded
- Metal, plastic and mineral materials
- Material combinations

### Knitted wire mesh specification:

- Width from 15 mm (0.6 inches) up to 1450 mm (57 inches) for circular knitting process; 1600 mm (63 inches) for flat knitting process
- Corrugation: non-corrugated, oblique or arrow-like corrugation
- Application-specific coatings, e.g. catalytical
- Flexible mesh images

## A selection of our materials

### Metals:

All common steels (SS)  
(rust and acid resistant)  
Special materials:

- Monel™
- Inconel™
- Incoloy™
- Titanium
- Copper
- Aluminium
- Brass
- Galvanised steel

### Wire thicknesses:

0.03 – 0.7 mm (49 – 22 SWG)

### Plastics:

PE (Polyethylene)  
PP (Polypropylene)  
PVC (Polyvinyl chloride)  
PVDF (Polyvinylidene fluoride)  
PTFE (Polytetrafluorethylene)  
ETFE (modified PTFE)™

### Monofilament dimensions:

0.22 – 0.60 mm (35 – 23 SWG)  
Also as poly filament

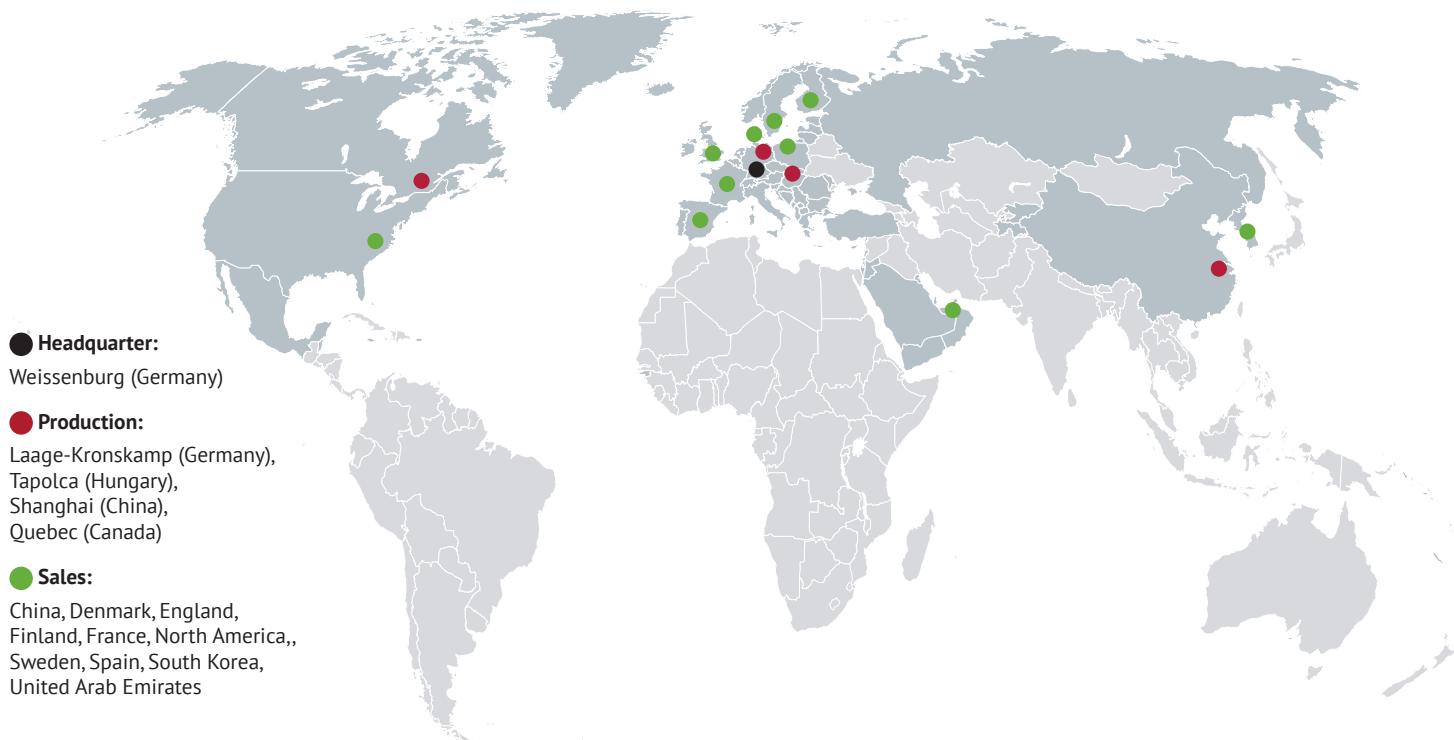
### Glass:

Glass fibre yarn  
Glass silk

### Single fibre thickness:

approx. 0.01 mm (0.0004 inches)





● **Headquarter:**

Weissenburg (Germany)

● **Production:**

Laage-Kronskamp (Germany),  
Tapolca (Hungary),  
Shanghai (China),  
Quebec (Canada)

● **Sales:**

China, Denmark, England,  
Finland, France, North America,,  
Sweden, Spain, South Korea,  
United Arab Emirates

# RHODIUS

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