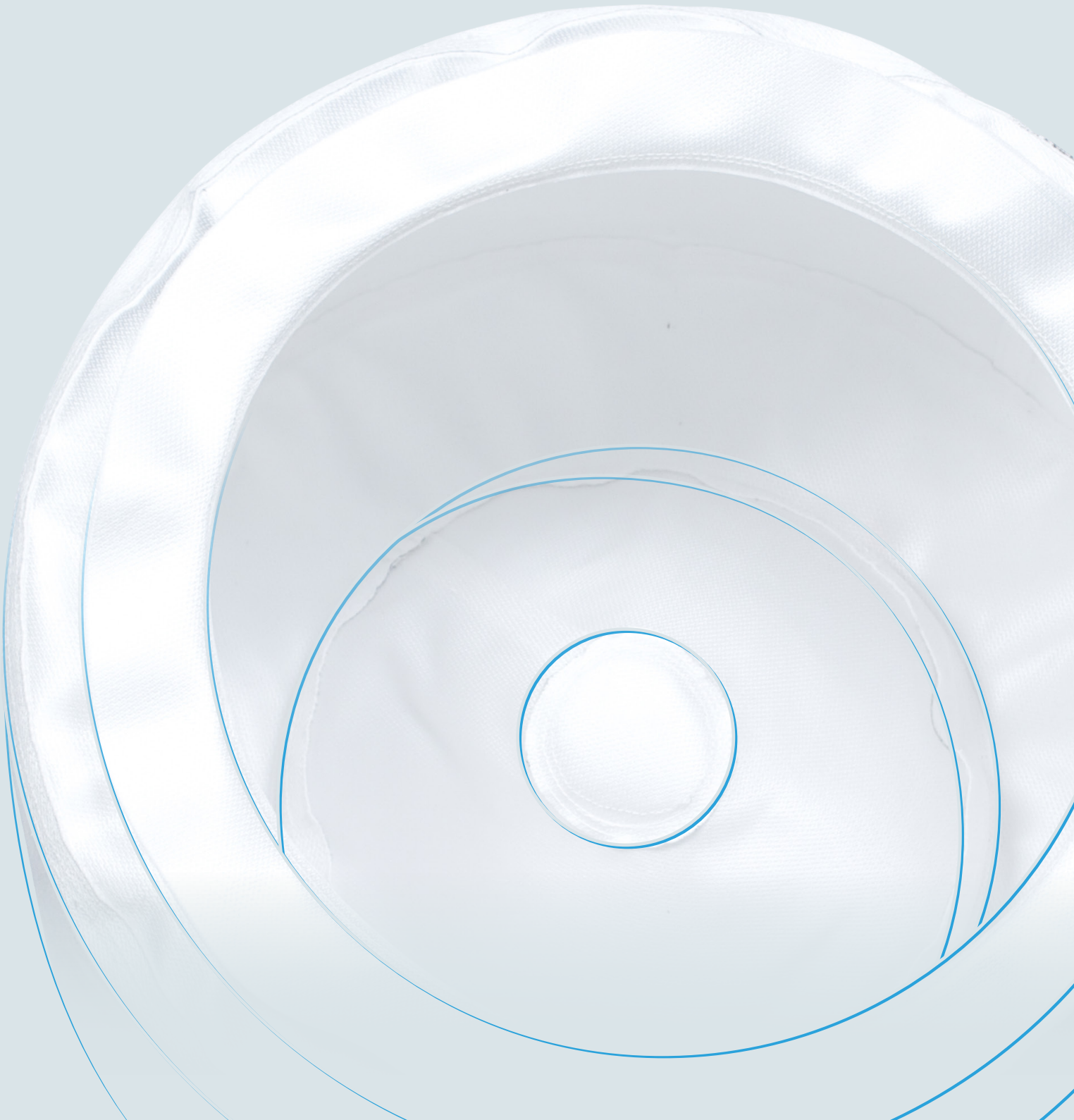


Pharma & Food





The Markert Group was established in 1929 and has been thriving over the years in the filtration industry specializing in manufacturing and selling filter cloths for industrial process filtration and hoses for industrial application.

Our mission is to make our customers' filtration process as efficient as possible. Consequently, Markert has successfully created a close network with leading OEMs and end customers.

In December of 2022, Markert made their way into the United States market with the acquisition of Cross Filtration. Cross Filtration became an industry leader in the US by maintaining a legacy of leadership, innovation, and high-quality craftsmanship. With the new name, Markert USA, Cross Filtration's legacy in Moravia, New York will be carried on as part of Markert Group.

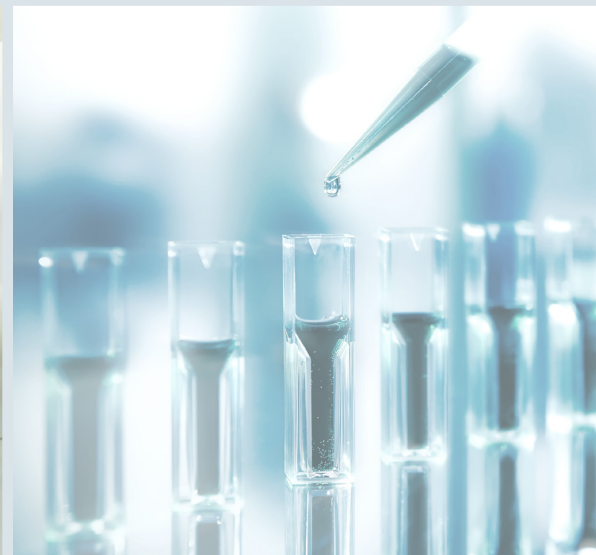
Today, as a market leader in the United States and Europe, Markert continues to base their strong brand reputation on three leading principles:

- 1. Integrity**
- 2. Optimization**
- 3. Innovation**

The experts at Markert stand by these principles to provide application specific advice and products that will optimize the effectiveness, lifespan, and overall efficiency of a liquid filtration process in any industry.

Markert USA LP

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Textiles

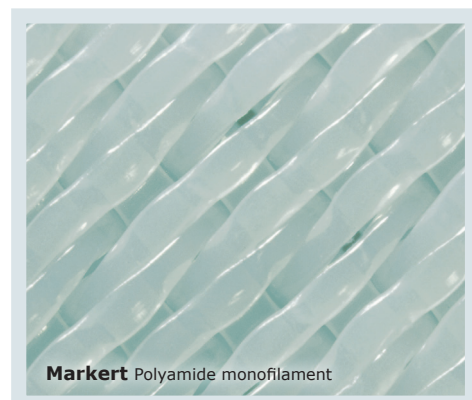
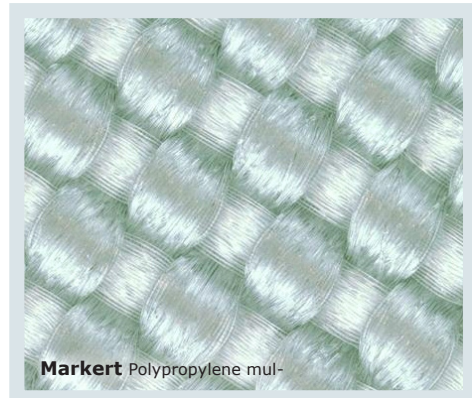
In order to continually increase the effectiveness and efficiency of filter textiles in the filtration process, filtering units have been developed further over the years. Accordingly, the materials for filter textiles must also be developed further to be able to withstand mechanical, thermal and chemical influences. Because of these extreme applications, we use high-tech textiles for individual demands of filtration processes, depending on the machine, person, material, method and environment. This includes the following materials:

High-tech raw materials

- Polyethylene (PE)
- Polypropylene (PP)
- Polyamide (PA)
- Polyester (PES)
- Polybutylene terephthalate (PBT)
- Polyvinylidene fluoride (PVDF)
- Ethylene/Tetrafluorethylene
- (ETFE)
- Ethylene/Chlorotrifluorethylene (ECTFE)
- Polyphenylensulphide (PPS)
- Polytetrafluorethylene (PTFE)
- Polyetheretherketone (PEEK)

The quality and properties of the used materials substantially influence the filtration process. We ensure the optimum choice for the individual process with regard to service life, product quality, handling, etc.

The bases of the **Markert** textile is monofilaments, multifilaments, spun yarn and combinations of these. In accordance with the ATEX explosion protection directives 94/9/EC, Markert textiles can also be fitted with conductive carbon or stainless steel fibres.



Production



Markert Knife edge cutting machine

Markert filters for pharmaceuticals & food are always produced individually.

Sewing, cutting and processing robots are part of our lean manufacturing approach. Processes from yarn to the finished product are standardised in accordance with ISO 9001. We can guarantee the traceability of our raw materials.



Markert Sewing machine



Markert Laser cutting machine

Filters for centrifuges

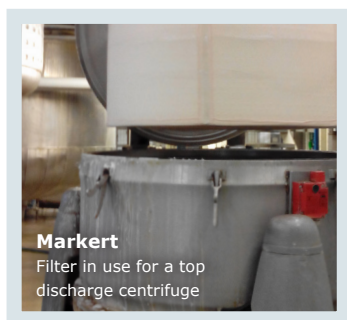
Large selection:

- Filter bags for top discharge centrifuge with removable or fixed board rings
- Inserts for peeler centrifuges
- Filter inserts for inverting centrifuges
- Textile composed of different fibres (polypropylene, polyester, cotton, PTFE etc.)
- Various weave types (plain weave, twill, satin, double-layer)
- Versions in various types of yarn (monofilament, multifilament, spun fibre)

We are able to find a solution for all demands.

Markert centrifuge inserts are known for:

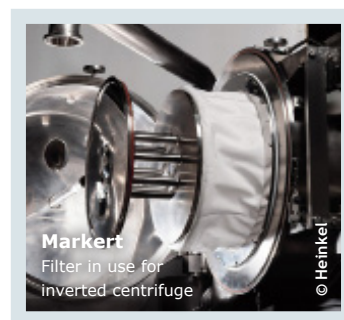
- Excellent mechanical resistance
- Simple installation thanks to individual solutions
- Various retention capacities
- Low loss of particles
- Very good cake formation
- Low cake moisture



Markert
Filter in use for a top discharge centrifuge



Markert
PEEK double layer textile for peeler centrifuge



Markert
Filter in use for inverted centrifuge

© Heinkel

Markert centrifuge cloths are developed for use in the pharmaceutical industry. Here, we work together with leading pharmaceutical companies as well as with OEMs.

We produce our products under "clean-room" conditions and our products are packed and labelled individually.

As a standard, no pencil markings are used.

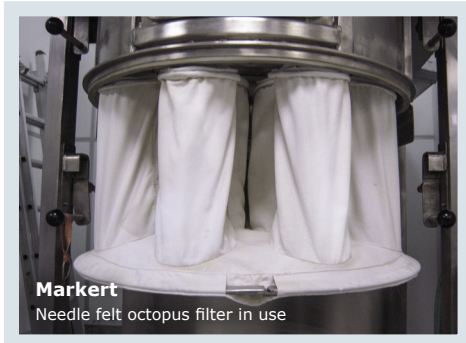
The textiles, yarns, etc. used comply with the following ordinances/legal requirements: EU 10/2011 and EC 1935/2004 as well as the FDA.

Polypropylene, polyester and polyamide are normally used, but also high quality plastics such as PEEK, E-CTFE, PVDF or PTFE.

Filters for fluid bed driers



Markert Fluid bed drier



Markert
Needle felt octopus filter in use

Markert filters for fluid bed driers can be produced in different sizes and with up to 98 sleeves. Furthermore, we offer these in an anti-static fabric or needle felt with a different separation efficiency and different surface qualities.

We can produce bags for fluid bed driers in different shapes and versions, e.g.:

- Round or oval
- With a flat body (conservative or slanted perimeter band, complete with cord or closing zip)
- Sleeves with special longitudinal seams
- Bottom ends round or conical with stainless-steel rings



Markert Octopus filter in use

Filter bonnets for pelletizing systems

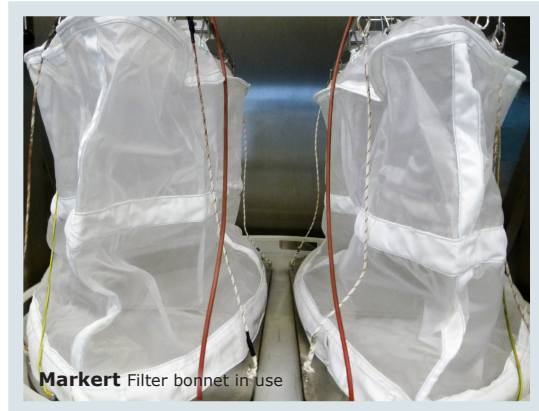
Markert filter bonnets are developed for use in the pharmaceutical industry. Here, we work closely together with leading pharmaceutical companies as well as with plant manufacturers.

The challenges and demands are increasing.

We produce our products under "clean-room" conditions and our products are packed and labelled individually.

The textiles, yarns etc. used comply with the following ordinances/legal requirements: EU 20/2011 and the FDA.

Polypropylene, polyester and polyamide are normally used, but also high quality plastics such as PEEK, E-CTFE, PVDF or PTFE.



Filter sleeves for candle filters



Candle filters have a large, specific filtration surface due to the form of the filter elements. We also produce filter sleeves and supporting textiles to fit these filters.



Textile discs for pressure plate filters

Markert filter discs are individual cuts in all desired diameters to fit onto horizontal disc filters, pressure and vacuum filter devices and suction filter devices.

Depending on the material, cut edges are processed either thermally or mechanically.

In addition, we offer solutions with hemstitched seams and inserted cord to make assembly easier. As well as traditional plastics, PTFE textiles are frequently used due to their excellent cake release ability as well as high

chemical and thermal resistance.

These filters are suitable above all for suspensions with a low solid content. Here, we offer solutions with extremely varied pore sizes.

For our PTFE textiles, we issue manufacturer declarations in accordance with (EC) 1935/2004, (EU) 10/2011 directives and in accordance with (FDA) 21 CFR 177.1550.



Markert Horizontal disc filter in use



Markert Horizontal disc filter in use

© BHS Sondhofen



Markert PTFE filter disc

Filter cloths for filter presses

All **Markert** filter cloths are manufactured tailor-made to meet the specific characteristics of the filter press and the technical conditions of the filtration process.

Our filter cloths are produced as:

- Simple filter cloths,
- Barrel neck filter cloths and
- Overhang filter cloths
- Leak-proof filter cloths

for chamber, frame and membrane filter presses.

Our filters ensure:

- The optimal separation of solid material
- The best filter cake removal and simple cleaning
- Excellent chemical, thermal and mechanical resistance

- Customized manufactured
- Shape retention and no formation of creases

Considering the specific features of machine design the **Markert** cloth varies in the following characteristics:

- Fabric type, i.e. material and weave pattern
- EPDM barrel neck connections or coated fabric
- Double or single layered
- Edge coatings
- Edge coatings and stay bosses reinforcement
- Zip fasteners
- Eyelets or welded binding holes

The filter can be combined with backing cloths or support textiles to improve drainage and to protect them from damage.

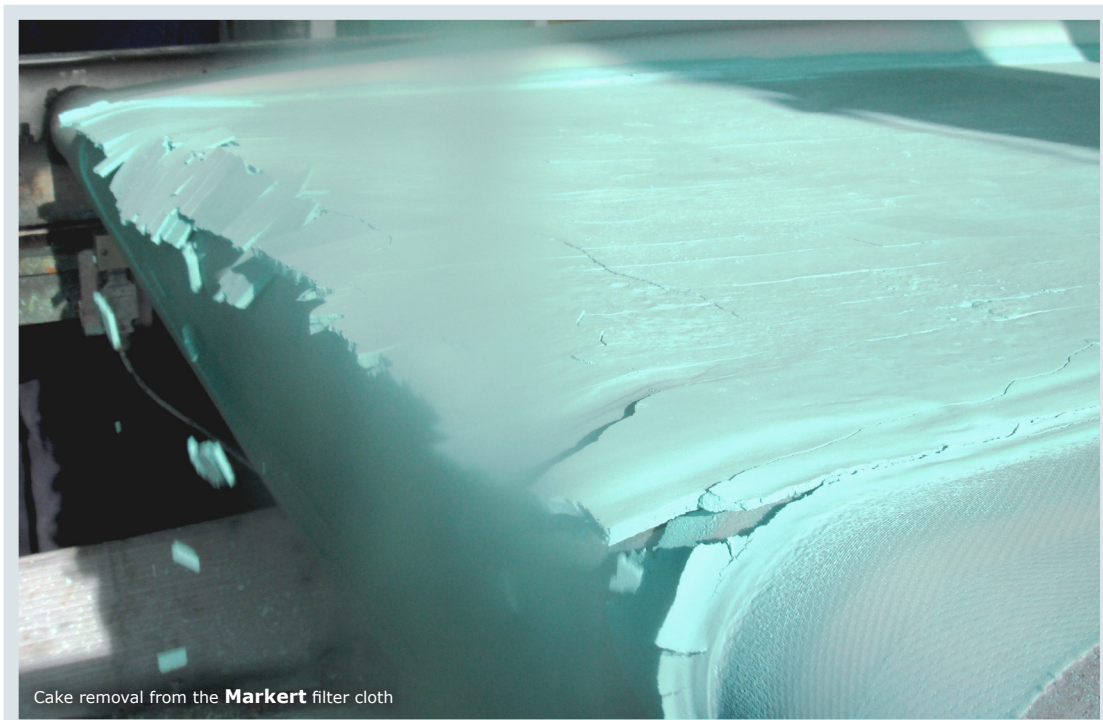


Filter belts for vacuum belt filters

Markert filter belts guarantee a perfect operation of the filter units.

The following features are important:

- Short cake formation time
- Minimal loss of product
- Even textile structure over the entire width and length
- Good abrasion-resistance
- Perfect alignment
- Good transverse
- Smooth and stable edges for perfect edge control
- Easy to assemble



Cake removal from the **Markert** filter cloth



Drying belts

PERFABRICS® drying bands are made from heat-resistant polyester (PES) or polyetheretherketone (PEEK).

The hot air flow of over 100°C can pour out through the open mesh of the fabric. The aim is to dry the product in an optimal manner.

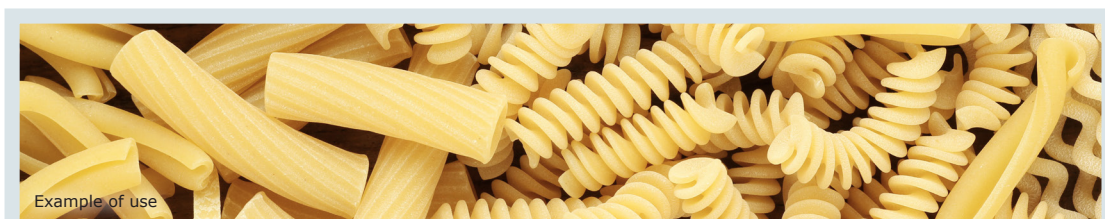
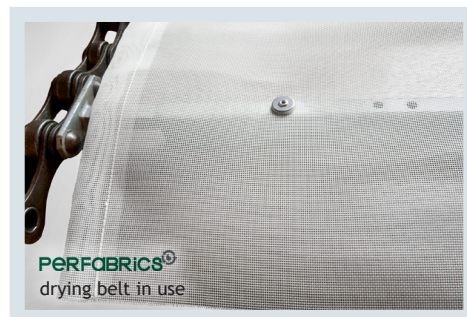
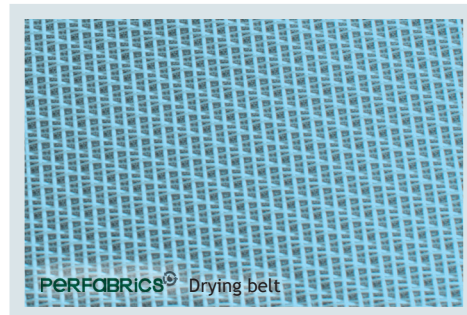
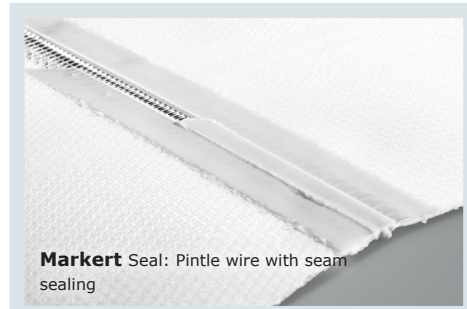
The temperature resistances are:

Polyester 150°C
PEEK 250°C

As well as the large mesh size, our fabric structure guarantees:

- Optimal mechanical stability
- A low level of shrinking/stretching
- Efficient belt control
- Quick and simple assembly thanks to an efficient locking system
- The yarns used in the fabric are harmless

PERFABRICS® drying belts can be provided with strengthened side edges and different locking systems corresponding to your process requirements.



Filters for dust filtration

Markert filters for dust filtration offer comprehensive solutions in the pharmaceutical and food industries.

They make it possible to achieve a low loss in pressure, almost complete freedom from emissions and a constant volume flow. They also contribute to reduce maintenance and operating costs of filter systems. Productivity and safety are also increased in many industrial processes.

Crucial for the performance of the filter is the selection of the best raw materials and the use of additional equipment.

As well as optimal filtration performance and efficiency, **Markert** dust filters offer:

- Manufacturing quality for a long lifespan
- Simple assembly and a perfect fit
- Resistance against high temperatures and mechanical stress
- Wide selection of felts with different features for specific applications
- Easy cake release and fast cleaning
- Filter inserts made from mesh fabrics

Markert filters for dust filtration are available as filter hoses, filter pockets, filter bags, filter covers, inserts for fluid bed driers and as ring filters.



Areas of Application

With their sensitive filtration processes, the pharmaceutical and food industries are subject to many regulations and quality criteria.

Development of an individual quality agreement together with the customer from the pharmaceutical industry. Ensuring the quality criteria

for **Markert** centrifuge inserts, filter bags, filter discs and other products.

Please get in touch with us.



AREAS OF USE

Pharmaceuticals:

- Ibuprofen
- Insulin
- Active ingredients
- Pancreatin
- Soda
- Salts
- Antibiotics
- Amino acids
- Penicillin

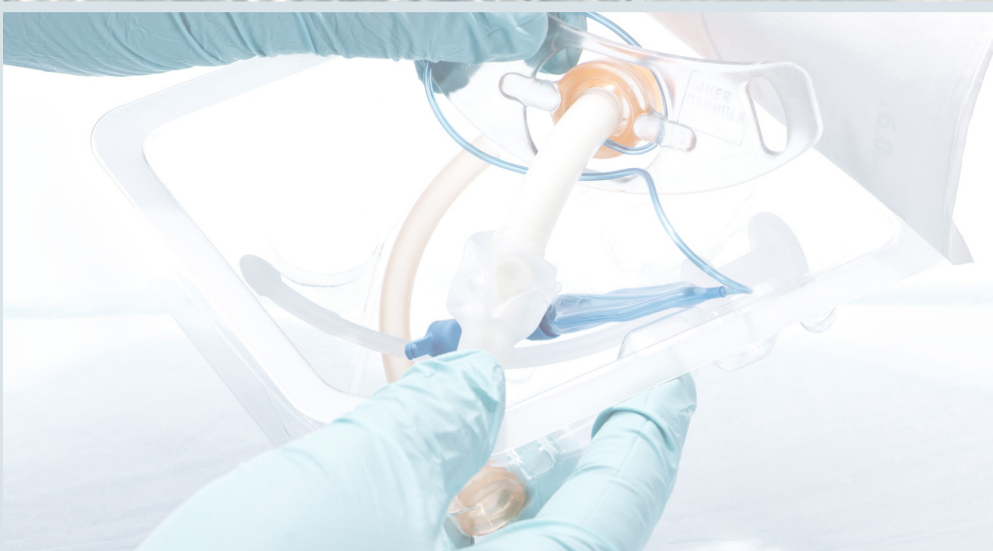
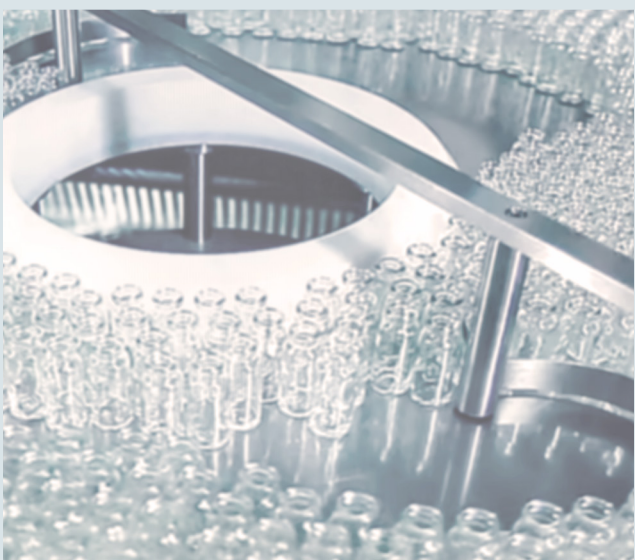
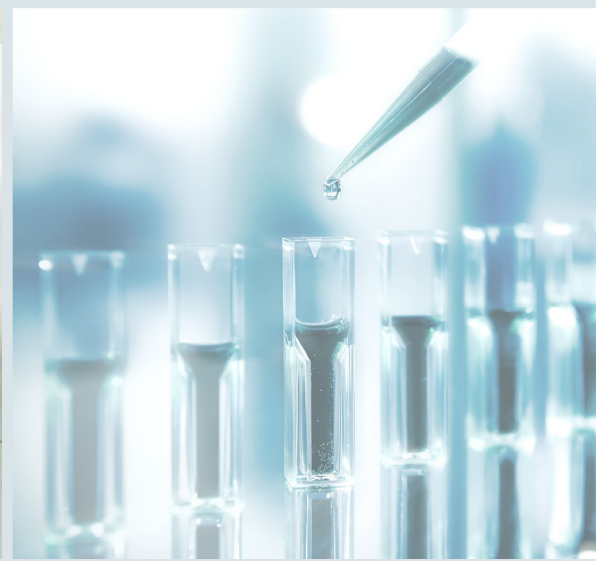
Foodstuffs:

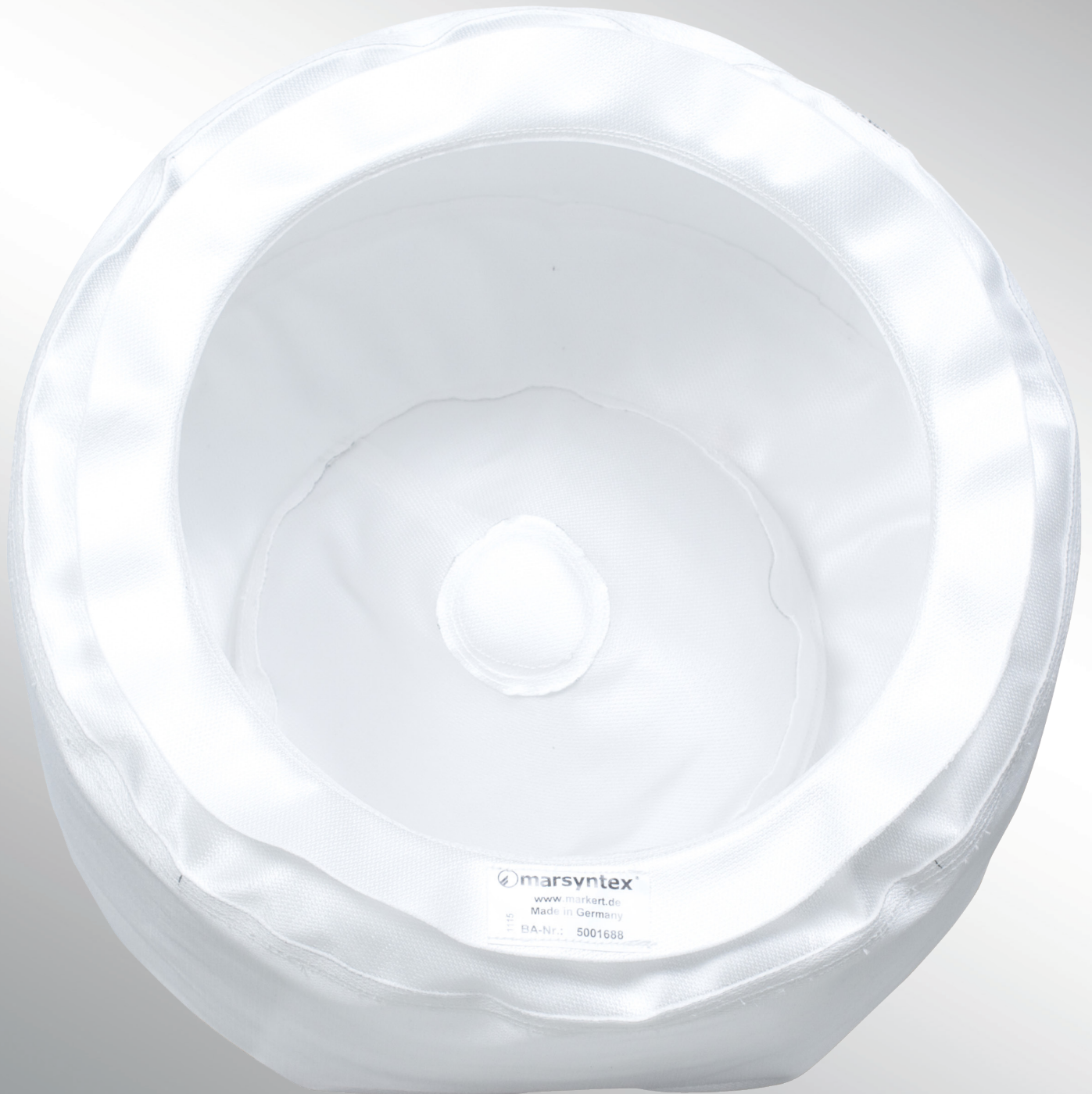
- Fats
- Cooking oils
- Wine, fruit juice and beer mash
- Caffeine
- Starch
- Pasta
- Milk powder
- Vitamins
- Pectin
- Citric acid
- Sweeteners
- Sugar
- Paraffin wax
- Yeast
- Amino acids
- Proteins

RULES

which **Markert** filters fulfil

- EC 1935/2004
- EC 10/2011
- GMP EC 2023/2006 or cGMP
- FDA CFR 177
- ISO 9001
- ATEX (EC 94/9)
- Single packaging
- Specific labelling
- Traceability
- Test report





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