



WORLD WIDE WEAVE

## **A welcome boost for process reliability and product quality:**

### **Woven dryer belts for the food industry**

**The food industry is facing growing challenges due to shorter product cycles, rising consumer demands, and dwindling margins. The industry must also work to the strictest hygiene requirements and product safety standards, while continuously optimizing efficiency. Here, drying and cooling processes play a key role in retaining sensory qualities such as taste or appearance, as well as increasing the nutrient content of the natural products and extending their shelf life. Plastic or metal mesh belts from GKD – Gebr. Kufferath AG (GKD) make a key contribution to securing the requisite efficiency for the industrial belt dryers and coolers used here. Both custom-designed and precision-manufactured, they impress with a long service life and high productivity.**

According to a 2016 survey undertaken by the German Society for Quality (DGQ e. V.), some 42 percent of consumers in Germany choose food that is healthy, rich in nutrients, and free of artificial additives. Indeed, natural taste intensity is a key purchasing decision factor for 36 percent of German citizens. These high expectations of food quality are reflected in the production processes. Whether pasta, fruit, vegetables, cereals, meat, gelatin, coffee, potatoes, herbs, tobacco, animal feed, starch, chillies or onions: the established technique for drying the products prepared in upstream processes is belt drying. The key here is to provide gentle yet economical drying processes as a way of combining reproducibly high product quality with efficient throughput. In terms of drying, focus is on maintaining valuable ingredients such as vitamins or essential oils, as well as



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attractive properties of the products, such as color, aroma, or appearance. Functional properties, such as a high water absorption capacity during cooking, should be guaranteed. At the same time, it is also important to prevent product losses in the process and secure the lowest possible fluctuations in the residual moisture content. A continuous process with a specially matched output system is therefore used to distribute lumpy, generally bulk materials, as well as pasty or gel-like products evenly on the dryer belt in a process-relevant layer thickness. Here, it passes through a gentle yet highly efficient drying process with graduated temperature zones and air speeds. Strict requirements are therefore placed on the woven or spiraled dryer belts used for industrial food drying. Leading international web technology and decades of growing sector expertise make GKD a sought-after specialist for these belts, which are designed for specific systems, products, and processes.

**TRACKMATIC™ belts: Accurate tracking and excellent lateral stability**

GKD TRACKMATIC™ belts have been proven over decades and are used particularly often in industrial belt dryers. Produced from highly tempered stainless steels, they impress with their hygienic safety when it comes to contact with foodstuffs. In addition to this, their resistance to aggressive cleaning agents makes them ideal for clean-in-place (CIP) processes. Its unique design, comprising cables in the running direction and crimped cross bars with guide lugs on the bottom side, ensures both excellent tracking stability and flexibility. As a special characteristic, GKD produces TRACKMATIC™ belts with a plastic-coated warp wire. This is food-safety-compliant and simplifies belt cleaning, as significantly less product gets stuck on the smooth surface. As the belts are available with apertures from 0.01 to 8 millimeters, the right belt for the respective process conditions can be selected to ensure even product drying and dried product quality. The excellent transverse stability allows high layer thicknesses to be output. The



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robust belt construction guarantees long system availability, also in continuous operation. Depending on the application, it is not unusual for belts to last five to ten years. Optimally designed woven seams for specific applications also contribute to this process reliability. Customers examine a broad range together with the GKD application engineer, select the most suitable seam, and then install the belts either themselves or with the support of service staff from GKD.

#### **Synthetic belts: Precision-manufactured and stable running**

Synthetic belts from GKD are an attractive alternative to conventional belt types for the belt dryers used in the food industry. Tailored precisely to the respective system type and process, they guarantee the requisite process reliability for these critical applications. Their small pore size, coupled with their high air permeability, ensures efficient drying and cooling with minimal product loss. Beside use of the latest web technology, the key here is finding the optimal thermal treatment of the mesh for the respective application. The belt is perfectly matched to the customer's specific process temperature here. This thermosetting minimizes uncontrolled shrinkage or elongation of the belt in the system and thereby reliably reduces creasing, as well as inaccurate belt tracking. Using mesh types with a smooth surface also ensures light and gentle product release. Depending on the mesh, this results in temperature resistance up to 130°C for polyester, the most commonly used material. Insensitive to temperature fluctuations, the synthetic belts from GKD cover the standard range of drying temperatures in conventional belt dryers and vacuum belt dryers. Purely thermally sealed edges offer valuable protection in case the belt accidentally touches the machine frame. The PAD seam, which is only available from GKD, offers key benefits for exacting dryer processes in the food industry. This particularly flat woven seam, which is produced using a combination of hot melting and



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pressing processes, guarantees greater seam strength and lower seam wear throughout the belt's life if scrapers or wipers are used. The mesh and the seam are obviously also compliant with EU Directive 10/2011 and the comparable FDA regulations. GKD produces synthetic mesh belts precisely to customer requirements in widths of up to eight meters and lengths of up to 140 meters.

### **Leading belt technology for secure processes**

The range of dimensions and temperatures, coupled with the stability, smooth running, and matched ratio of open area with defined pore size to air and vapor permeability make GKD dryer belts the ideal choice for exacting drying processes in the food industry. These belt solutions, which have been specifically designed to secure long-term success for customers, therefore make a key contribution to improving competitiveness. Together with individual consulting by GKD experts with many years of industry expertise, proven development expertise as a technological leader, and fast on-site service, GKD is a genuine problem solver for challenging drying processes in the food production industry.

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### **GKD – WORLD WIDE WEAVE**

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,



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

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