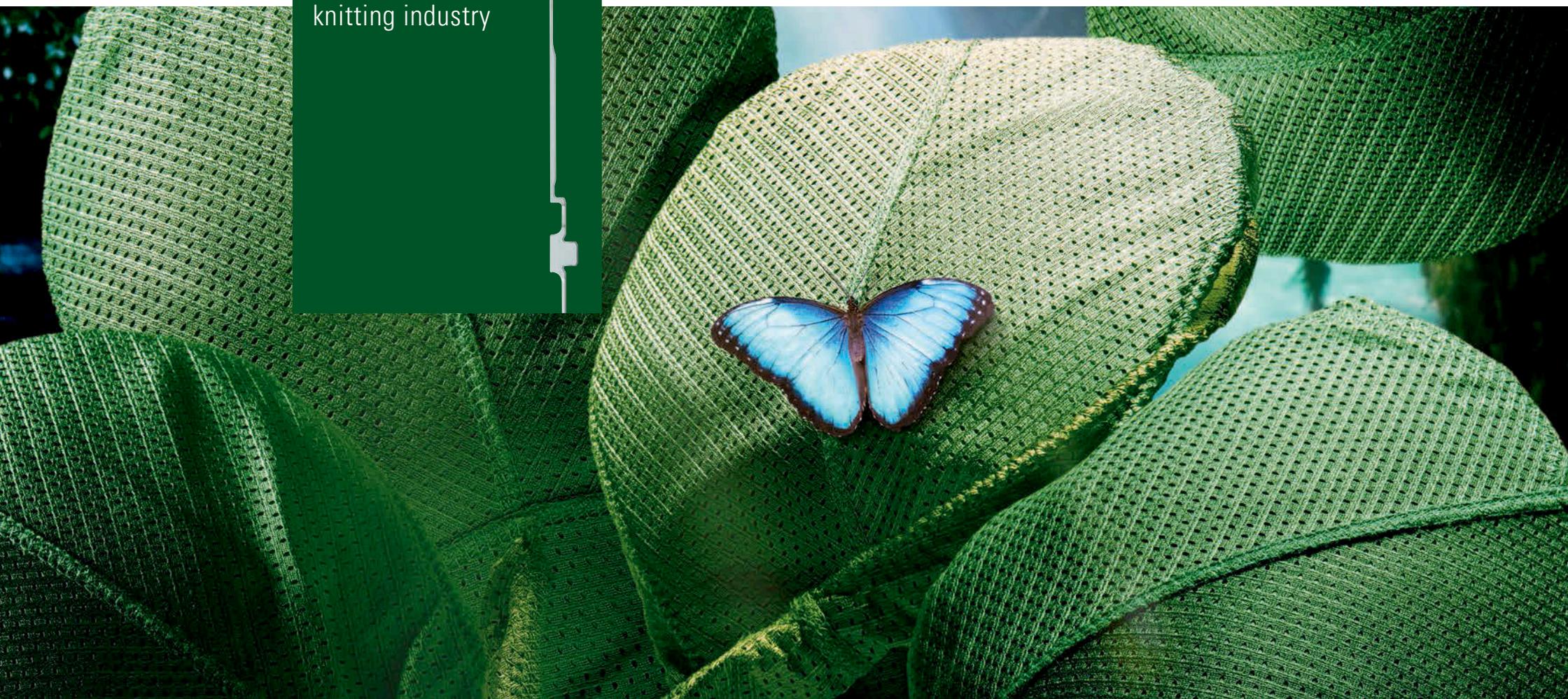


# Knitting

Products and  
services for the  
knitting industry





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## Tradition and Future

**Groz-Beckert was founded in 1852 and is active in over 150 countries today with around 7,700 employees. Whether for knitting, weaving, felt-ing, tufting, carding or sewing: Our total product portfolio contains over 70,000 products. As a leading supplier of industrial machine needles, precision parts, precision tools, systems and services for a wide range of textile production and joining methods, Groz-Beckert supports its customers and partners within the textile value chain – and beyond: The Technology and Development Center (TEZ) is a pioneering platform with which Groz-Beckert has been shaping the future of the textile industry together with machine manufacturers, end users, textile producers and institutes since July 2010.**

### Groz-Beckert

Textiles are everywhere and are found in a wide variety of shapes and functions in all areas of life: Fashion, sports and leisure, home textiles, flooring or in architecture. And textiles are also indispensable for mobility – from cars to space travel – and

for health. Groz-Beckert manufactures machine needles, precision parts and precision tools and offers supporting services for all aspects of the textile industry, from fashion, home and domestic textiles to technical textiles.



### Technology and Development Center

Groz-Beckert represents reliable product quality and customer service in the world of textiles. The Technology and Development Center (TEZ) was opened in 2010 in order to advance new development and application fields for textiles in cooperation with customers and partners. Not only is the TEZ furnished with state-of-the-art equipment, it also provides the perfect environment for combining the competencies and knowledge of Groz-Beckert. As a future-oriented company, Groz-Beckert places great value on the research and continued development of new technologies and application fields in the textile industry.

### About Groz-Beckert

- Founded: 1852
- Head office: Albstadt, Germany
- Employees: 7,628 (as of 31.12.2014)
- Sales: 571 million euros (2014)
- Production companies: Germany, Czech Republic, Portugal, USA, India, China, Vietnam, Belgium
- Distribution network: Distribution subsidiaries and partners in over 150 countries

## Customer targets in focus

**Every customer has individual needs and faces different challenges. By providing experience, expertise and available capacity, Groz-Beckert can help its customers on the road to success as a supplier of systems and solutions.**

### Profitability/Productivity

#### **Do you want to squeeze the very most out of your production facilities?**

Ever rising labor and energy costs, volatile yarn prices and globalization are all pushing up the pressure on individual producers striving to stand out from their competitors. The use of Groz-Beckert products and services enables you to achieve the greatest possible profit, irrespective of the price position of our competitor products. The efficiency of Groz-Beckert tools helps you leverage the full potential of your existing production facilities. Which means: Maximum machine speeds, less machine downtime, lower energy input and reduced oil consumption. Our global distribution network also guarantees the rapid availability of our products.

### Quality

#### **Are you in the business of producing flawless knit fabric to a premium standard of quality?**

By ensuring ultra-narrow production tolerances and stable processes, Groz-Beckert guarantees optimum knitting results. Independently of when production takes place, our products can be combined as required and stand for a uniform loop structure, prevention of stripes and holes in the fabric, flawless plating and the ability to process even the most sensitive of yarns.

### Innovation

#### **Are you seeking new markets and application fields?**

Groz-Beckert will support you as an innovative development partner with a wealth of expertise and sound knowledge of the market. Known in our own right as an innovation leader, we have the infrastructure and a visionary team of competent specialists that it takes to support you in your

development work. Individual products and system solutions with special properties, such as ultra-fine gauges or tools capable of exposure to extreme forces, enable our customers to open up whole new fields of application only made possible by these exciting new product characteristics.

### Environment

#### **Do you want your production to be sustainable and gentle on resources?**

Groz-Beckert offers you products which allow a significant reduction in carbon emissions. The low incidence of waste resulting from the longer service life of our products and the lower incidence of faults during knitting are more than just a pleasant side effect. Together with its partners along the textile value chain, Groz-Beckert also offers you interesting scope for achieving sustainable solutions.



#### **Groz-Beckert provides invaluable assistance in the implementation of your goals through:**

- An optimum cost-to-performance ratio and high-quality products
- A high level of availability and a broad product spectrum
- Application advice, training and customer service
- Development partnership
- Systems and solutions
- Environmental awareness
- Innovations
- Fairness, partnership and integrity

# Products





## Guarantee of quality

**Groz-Beckert knitting products stand for maximum quality and process reliability. We will be pleased to help you find the right solutions and work with you to identify your untapped performance potential.**

## Product portfolio



### Large-diameter circular knitting

#### Knitting machine needles

- Comprehensive range of latch needles from coarse gauges through to E 90 with a wide range of shank, hook and latch forms
- Spring-loaded latch needles

#### System parts

- Sinkers with and without partial hardness
- Selection parts
- Joint parts
- Intermediate jacks
- Holding-down parts

#### Knitting cylinders

- Single-jersey cylinders with and without sinker ring and double-jersey cylinders with dial



### Fine hosiery and seamless bodysize

#### Knitting machine needles

- A wide variety of latch needles for different applications. From fine hosiery and medical articles, through to high quality products for underwear, sports and swimwear.

#### System parts

- Sinkers with and without partial hardness
- Selection parts
- Transfer parts
- Joint parts
- Intermediate jacks

#### Knitting cylinders for seamless bodysize

- Single-jersey and double-jersey cylinders with dial



### Socks

#### Knitting machine needles

- Latch needles for sock machines of all gauges and links needles for double-cylinder machines



## Flat knitting

### Knitting machine needles

- Latch needles
- Spring-loaded latch needles
- Compound needles
- Links needles

### System parts

- Joint parts
- Intermediate jacks
- Selection parts
- Holding-down parts
- Transfer parts
- Takedown comb parts

## Warp knitting

### Warp knitting machine needles

- Compound needles for automatic warp knitting machines
- Patent and compound needles for warp knitting machines
- Latch and compound needles for Raschel machines
- Threading needles

### System parts

- Jacks
- Guide needles
- Warp sinkers
- Points
- Holding-down parts
- Loop forming parts

### Modules for automatic warp knitting machines

- Guide needle modules
- Warp sinker modules
- Jack modules

### Perfect interaction of all system components:

- All Groz-Becket products offer ideally coordinated functions and tolerances
- Long-term consistency of the knitting process and flawless fabric through the perfect interaction of needles, system parts and other components.
- Worldwide availability of inter-coordinated system components

## Product standard

**Products and systems for every aspect of loop formation have traditionally been our core business. Today, our range of products in the field of knitting encompasses over 50,000 different articles, all of which are subject to a standardized ISO certification. Groz-Beckert's cutting edge is based on a solid foundation which includes the following aspects.**



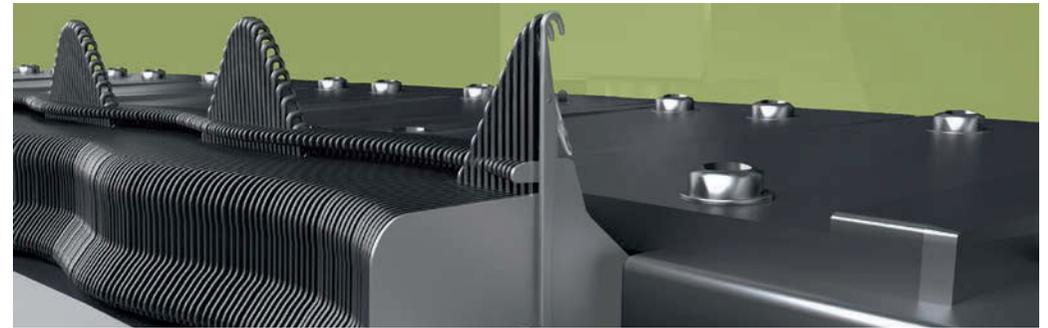
### High product quality

The top-class raw materials used coupled with high ISO-certified processing standards, a flawless surface finish and meticulously designed geometry make our products ideally suited to withstanding extreme loads in the loop forming process. Their durability has a positive impact on the cost efficiency of your production.



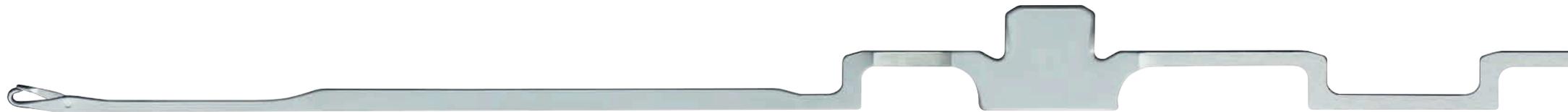
### In-house mechanical engineering department

The machines and tools used for the manufacture of our products are designed and produced in our own in-house mechanical engineering department in Albstadt, Germany. As these products are constructed in-house, tolerances can be achieved to within thousands of a millimeter – not visible to the naked eye but decisive when it comes to process reliability and production economy.



### Inter-coordinated systems

At Groz-Beckert, all the components of knitting or warp knitting systems are precisely inter-coordinated. The perfect interplay of knitting machines, needles, system parts and other components guarantees a homogeneous, flawless loop forming process. Even the most complex production processes and different functional requirements can be implemented without problems.



### **Development partner to machine manufacturers**

Machine manufacturers and end users the world over place their trust in Groz-Beckert as a development partner and quality supplier. We continue the further development of our product spectrum based on our wealth of expertise.

### **Patents**

An array of different patents testify not only to innovative ideas but also to a focused, open approach, and underpin Groz-Beckert's position at the forefront of the market.

### **Environmental awareness**

Right from the product development stage, Groz-Beckert focuses on the sparing use of resources and reduction of harmful emissions. One notable example of this approach is the litespeed® needle family for high-performance circular knitting machines. In 2010, Groz-Beckert was awarded the KYOCERA Environmental Prize for the litespeed® needle, and in 2011 it received the Korea EU Award.

# Services





## The added bonus of customer support

**Groz-Beckert's performance spectrum encompasses far more than just knitting tools. Over 160 years of accumulated experience, expertise and a worldwide corporate network enable us to provide excellent customer support with individual systems and solutions.**

## Application advice and customer service

**A global distribution network guarantees rapid delivery and low warehousing costs. Customers are free to choose which type of purchase order process they prefer. Groz-Beckert offers its customers comprehensive partnership – without ifs and buts – directly located in more than 150 countries.**



### **Service and expert advice**

Comprehensive expert advice – from the development of innovative products for machine manufacturers through to individual solutions for end users. All this is made possible by our qualified team of experts and a whole range of technical options.

### **Availability from a single source**

A premium product deserves to be backed by excellent planning and logistical processes. The availability of inter-coordinated system components sets the stage for fast restocking and smooth production on the factory floor.

### **High-productivity knitting processes – using potential to the full**

Dynamic markets and rising demands: In the age of globalization, productivity has become a pivotal competitive factor. Productivity-enhancing potential is leveraged by optimizing work sequences and organizational structures. Lowering the cost of stocking parts can only benefit your productivity balance sheet. Using the most suitable processes and top-quality products, squeezing out their very best performance and ensuring perfect coordination between them are other pivotal factors. Alongside machine and plant efficiency, high-quality equipment such as knitting machine needles and system parts are vital to ensuring trouble-free production processes. And most importantly, this is what speeds up your production and determines the high quality of your end products.

## Research and development

**New products and applications are one way of standing out from your competitors. This goal can be achieved by joining forces with Groz-Beckert as your development partner.**



### **The Technical Knitting Center**

With its own in-house Technical Knitting Center, Groz-Beckert is setting whole new standards in terms of customer focus. Users benefit from a fast solution to their knitting application problems. The Technical Knitting Center is able to draw on an extensive infrastructure and competence in every sector of the knitting industry, from apparel through to technical textiles.



### **Technology and Development Center (TEZ)**

In the Technology and Development Center (TEZ), Groz-Beckert works with mechanical engineering firms, users, textile manufacturers and institutes to shape the future of the textile industry. The objectives: Market-ready innovations, greater efficiency and new potential within the textile value chain.

### The TEZ in brief



- 25.000 sq.m. working floor area
- Competence centers and technical labs for different textile production and joining techniques
- Concentration of different fields of expertise: Central lab, product portfolio, mechanical engineering competence
- Generously dimensioned auditorium for specialist events

## Laboratory Services

**Whether application advice or damage analysis, Groz-Beckert supports its customers with a sound laboratory analysis service. Extensive and ultra-modern equipment enables the integral analysis of all relevant aspects.**



### Damage analysis

Damage, fatigue, wear and corrosion are all classic root causes for the failure of knitting elements. The individual symptoms can vary enormously, although they all cause mechanical damage, result in damage to other different components, and ultimately diminish the quality of the end product. Frequently encountered root causes are overloading, dirt accumulation, insufficient lubrication, chemical corrosion, exacerbated wear or mechanical damage. Groz-Beckert will help you identify where the problem lies.



### Needle oil analysis

Groz-Beckert offers its customers a manufacturer-neutral lubricant analysis service. The results not only allow a qualified, reliable conclusion about the efficiency of needle oils, they also allow a comparison between several different lubricants. All commonly used needle oils from around the world have been evaluated in detail and cataloged in compliance with the requirements of the DIN 62136-2014 standard.



### Textile analysis

Fiber, yarn, finished product – our test lab is able to put all kinds of textile properties to the test under standard climatic conditions. As well as physical parameters such as density, surface weight, yarn thickness and fiber length, chemical composition and the content of finishing agents can also be determined. We are not only able to characterize the structure and determine the strength of fabrics and seams but also test wear and abrasion behavior.

## Groz-Beckert Academy

**Groz-Beckert supports its customers and partners with full service support within the textile value chain. This also includes developing knowledge as well as conveying and passing this knowledge on. The company offers a comprehensive training program through the Groz-Beckert Academy, covering the most important textile manufacturing and joining processes.**

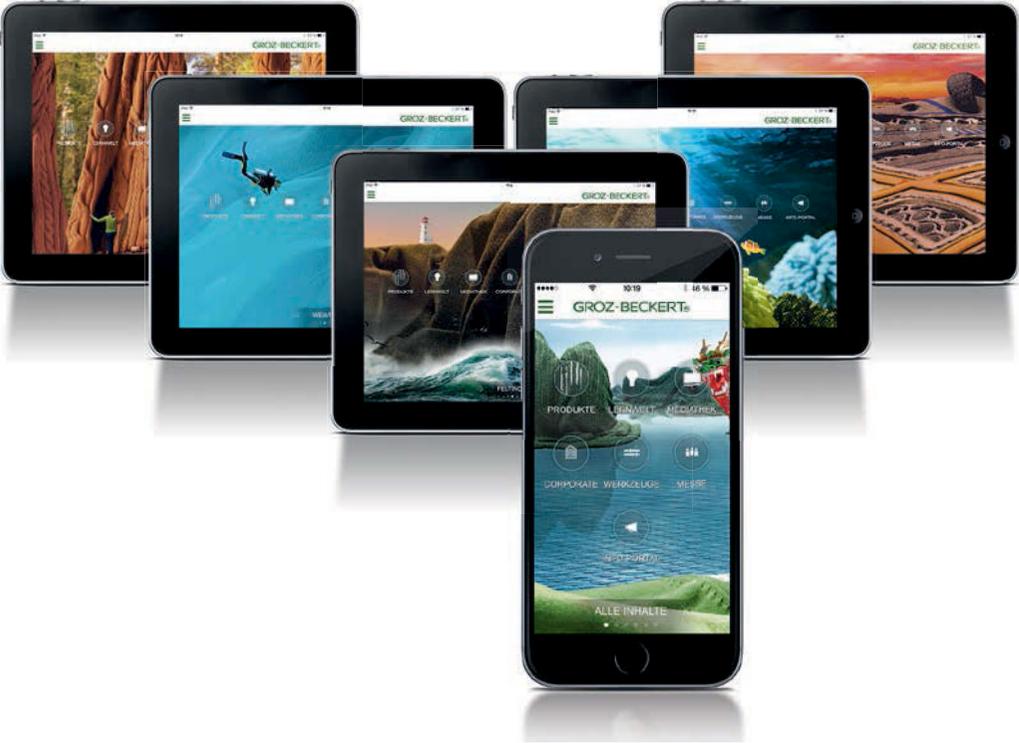
Share and pass on knowledge, impart experiences, make know-how and competencies accessible – these are the core competencies of the Groz-Beckert Academy. Experienced trainers teach specialist knowledge to Groz-Beckert colleagues and customer employees in application-oriented courses. The training is carried out according to the latest methodological and didactical findings.

In addition to numerous basic, advanced and special training courses which are held in the Technology and Development Center (TEZ) in Albstadt, custom training sessions on-site at the customer are available as well. Courses are offered in German, English, Spanish and Chinese. Further languages are available upon request.

Download the current training program:



# App myGrozBeckert



## The world of textiles in a single App

Know more and work more efficiently – that’s what “myGrozBeckert” is all about. The App contains well-founded knowledge of the textile value chain and Groz-Beckert, as well as numerous useful tools and calculation apps in the so-called “Toolbox”. The App features a user-friendly navigation structure with intuitive user guidance in order to find the

required information as quickly as possible. The App settings can be customized as well. The free App is available for all smartphones and tablets with the iOS and Android operating systems, and in the languages German, English and Chinese.



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