



**BENNINGER**

**You can feel it's Benninger**

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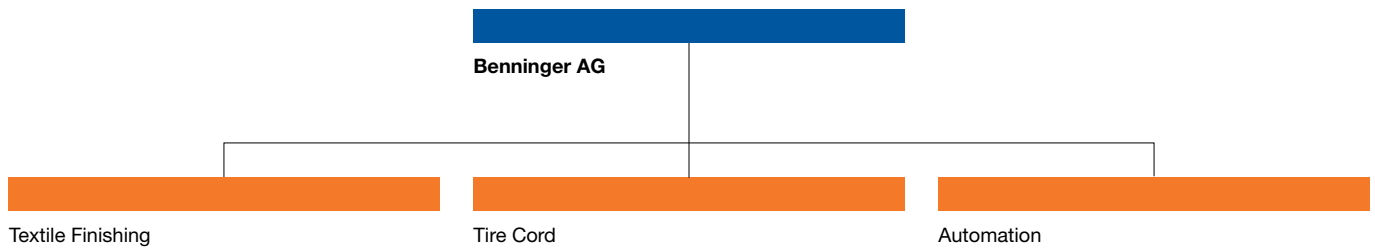
# Profile

## Leading partner of the textile industry

**Benninger machines and ranges are an important link in the textile value chain. What consumers purchase as underwear, garments, sportswear, table and bed linen or car tires owes a part of its creation to Benninger – you can feel it's Benninger.**

### System solutions

Benninger develops and manufactures textile finishing and cord production machines as well as providing complete system solutions. The vast knowledge of Benninger in the field of controls and automation is based on many years of experience with machines and ranges, also in other industries.



### Core competencies

Benninger distinguishes itself in the market through three core competencies:

- Comprehensive process know-how with consultancy and project planning
- Innovative and reliable products
- Customer-focused service through start-up support and individual problem solutions

### Customer benefits

Benninger places customer benefits and customer needs at the center of all efforts. The joint success is based on being aware of the customers' needs and intending to fully fulfil them at any time and in any location as a trust-reliable partner.

### Sustainability

Benninger commits to sustainability by investing in the development of high-quality products as well as ecologically responsible processes (recycling of waste water, waste heat and precious raw materials).

### Tradition

Benninger is a long-established Swiss company with a global presence and its own branches in Asia's and Europe's most important markets.

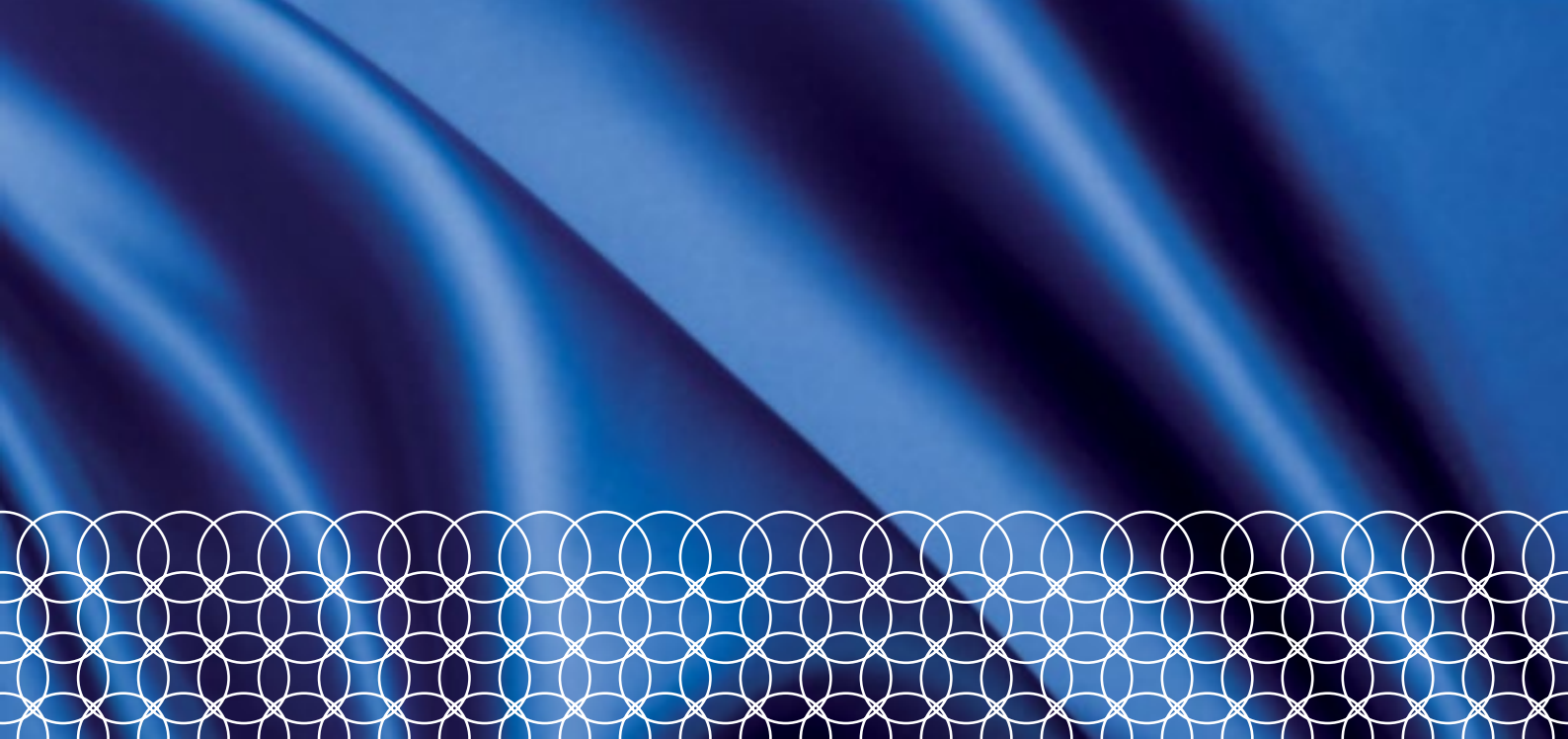
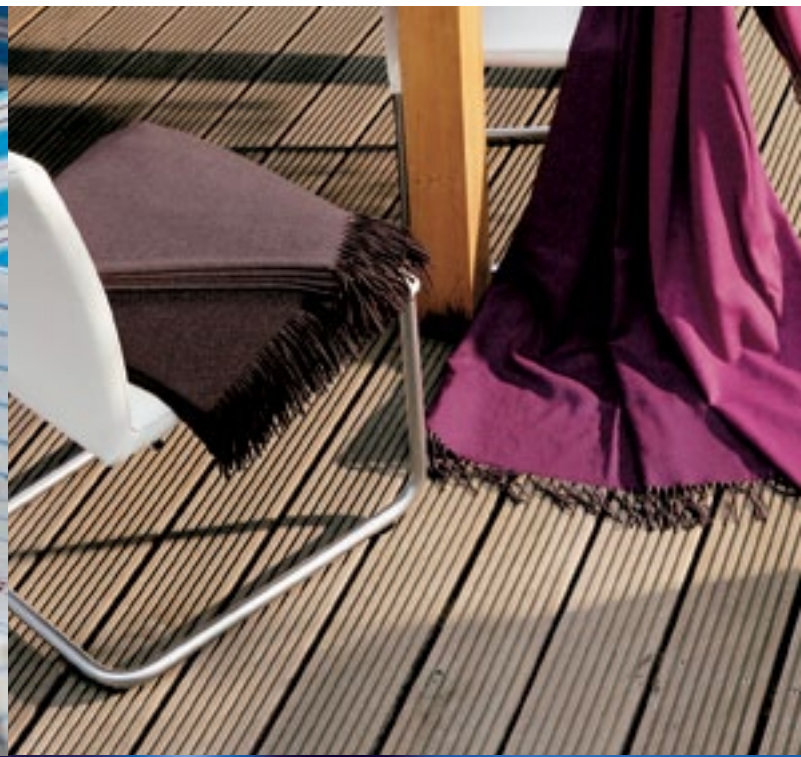


## You can feel it's Benninger ...

... when tying a tie, choosing stylish lingerie or deciding on new curtains, when buying your wardrobe for the spring season, new towels, a car tire or a painting canvas.

Benninger is also involved with airy bed linen or trendy table cloth, as well as special applications which require textiles to meet the highest technical requirements, for instance airbags, paragliders or sails.

Benninger machines and installations produce industrial intermediate goods which are a significant link in the whole textile value chain. The most important customer segments using Benninger products are wet textile finishing companies as well as tire and technical textile manufacturers across the globe.



# Focus on customer benefits

## Benninger is wherever your customers are



Customer consulting



Helpdesk



Technological consulting

**Thanks to its comprehensive process know-how Benninger not only understands the specific customer needs and requests but copes with the respective languages, cultures and conventions without difficulty due to its establishment in the local markets.**

The comprehensive process know-how is a significant basis for meeting customer needs, as it enables cross-process consultancy and one-stop industry-exclusive solutions. We continuously offer our customers high quality, due to our more than one hundred and fifty years of experience and consistent implemented knowledge management, as well as a quality control system documented through certifications. The Benninger service enjoys a first-class reputation, as highly qualified service and textile technicians are available for our customers worldwide at any time with regard to product optimisation and process technology. Benninger provides advice to customers on site during the project planning phase, offers full support during the start-up of machines and installations as well as for problem solutions. It also ensures a smooth production process with its competent service.

### Benninger service

Comprehensive cross-process consultancy	Competent consultancy through process know-how and one-stop professional solutions for almost all textile requirements.
Fast on-site service	Customer intimacy thanks to service representatives.
Spare part service	Fast and reliable worldwide deliveries of original Benninger spare parts under full warranty.
Competent helpdesk	Diagnosis and fault clearance in any situation.
On-site staff training	Knowledge transfer and comprehensive instruction by experienced trainers.
Regular maintenance	Reduction of unexpected production breakdowns through regular maintenance undertaken by Benninger technicians.

# A success story spanning more than one hundred and fifty years

## Future needs origin

### Milestones

1859	1870–1880	1900	1990–1992	1995	2001	2005	2007	2008	2009
Foundation of <b>Benninger AG</b> in Uzwil, Switzerland	Cornerstone for the production programme: <ul style="list-style-type: none"> <li>■ Width-dyeing machines and washing machines</li> <li>■ Beaming machines</li> <li>■ Sectional warpers</li> </ul>	First exports	Foundation of <b>Benninger Far East Ltd.</b> , Hong Kong, China  Foundation of <b>Benninger India Ltd.</b> , Mumbai, India  Acquisition of <b>J. Krückels KG</b> in Zell, Germany  Opening of <b>Benninger Moscow</b> , Russia	Foundation of <b>Benninger Textile Machinery Co. Ltd.</b> , Shanghai, China	Acquisition of the wet finishing programme of <b>Kleinewefers, Textilmaschinen GmbH</b> , Krefeld, Germany	<b>Management buy-out</b> with Swiss investors	Acquisition of <b>Küsters Textile GmbH</b> , Zittau, Germany	Sale Weaving Preparation to <b>KARL MAYER Group</b> , Germany	<b>150 years</b> Benninger

**Hardly anything is more important than one's own history, because today's and tomorrow's innovations and customer relations are based on the experiences and know-how of the past.**

Benninger is always committed to constantly uphold its tradition to continuously improve the company's service and its products – you can feel it's Benninger. Therefore quality, reliability and visions for the future can continue to be associated with the Benninger brand worldwide.

# Textile Finishing

## Always up-to-date



Open-width washing range for woven fabric



Bleaching range

**Benninger offers solutions for all important textile finishing processes and specializes in the continuous open-width treatment of fabrics and interlaced yarns.**

With innovative process systems Benninger increases efficiency and therefore provides customers with significant competitive advantages. Whether with regard to increasing productivity, optimizing quality or ensuring ecological standards. In order to always implement the latest scientific findings Benninger closely cooperates with the world's leading market research institutes for textile chemistry and physics. Saving energy and reducing the use of chemicals takes priority in textile finishing, at the same time, quality requirements must be one hundred percent fulfilled.

### BEN-WASH



High washing effect with low water consumption

### BEN-BLEACH



From grey cloth to full dyeing or print white

### BEN-DIMENSA



Precise mercerization

### BEN-COLOUR



One-step dyeing technology

### KNIT-LINE



Knitware open-width concepts

### Resource Management



Zero Discharge – Environmental protection through waste water recycling and heat recovery

### Washing ranges

The worldwide renowned washing modules EXTRACTA, TRIKOFLEX as well as INJECTA, developed by Benninger, are crucially important for efficient washing in textile finishing. The variety of models on offer and the modular concept cover every textile washing requirement.

### Bleaching ranges

The Benninger continuous pretreatment concepts comprise continuous desizing and bleaching in one cycle with just one steaming process. In one step grey cloth is turned to dye ready fabric. This process is fast, economical and of immaculate quality. Due to this optimized one-level process the operational costs are lowered by approximately thirty percent, and the impact on the environment is significantly lower.



Mercerizing range



Padsteam dyeing range



Open-width washing range for knitted fabrics

### **Mercerizing ranges**

Alongside lustre, colour and touch, the most important goal of mercerizing is dimension stability. In this area, in particular, the DIMENSA enables results which no other machine can provide. Length and width of the fabric can be influenced at will within the physical limits thanks to the combination of “chainless positive guidance” and stenter frame.

### **Dyeing ranges**

Benninger is your reliable partner of leading optimized process technology for all continuous or semi-continuous dyeing processes. The recognized high standard of the applied technology, the design and the manufacture of the machines and installations makes it possible to achieve the best dye quality in the most economical way. Benninger has at its command a comprehensive know-how for all dyeing processes and their after-treatment.

### **Knitwear line**

The success of the Benninger Knitwear line is based on low tension treatment and outstanding reproducibility combined with minimum resource input. The heart of the open-width treatment is the TRIKOFLEX system.

### **Resource Management**

Global energy and water shortage calls for ecological solutions for wet chemical production procedures. Benninger is already well-known as a provider of modern, energy and water saving high-performance finishing machines. With the new “Resource Management” programme water can now be recycled, and the emerging waste heat can be utilised. Thanks to Benninger the desire for a waste water free textile finishing operation can technologically already be fulfilled today.

# Tire Cord

## Fabric and yarn treatments for the most sophisticated requirements



Tire cord installation



Trio canter

**Benninger tire cord and single end installation impregnation systems are technologically mature, guaranteeing total reliability and the highest possible level of safety of the treated fabrics in the most diverse areas of application.**

For more than sixty years Benninger has been setting the standards as manufacturer of complete installations for tire cord fabric, single ends as well as conveyor belt fabrics. As the market leader Benninger's technology guarantees total reliability and the highest quality. With its one-step complete solutions Benninger appeals to technical textile manufacturers, tire manufacturers as well as the chemical fiber industry.

### Tire cord installations

The impregnation and hot stretch process for 100 percent reliability and safety on the road

### Single end installations

The impregnation and hot stretch process for universal and customised yarn solutions

### Conveyor belt installations

The impregnation process for highly wearing-resistant and dynamic conveyor belts

### Impregnation solution preparation units

For maximum adhesion of the cord fabric to the tire

### Cutting installations

For precise cutting with a high degree of automation

### Calender accessories

The latest calender accessories for tire manufacturers

### Tire cord installations

Tires are the essential link between vehicles and the road. One hundred percent reliability and safety are an absolute must. One of the most important tire compound components is the tire cord fabric. The fabrics used in various tires are impregnated and thermally treated on Benninger tire cord installations ensuring they meet the most sophisticated requirements.

### Single end installations

On Benninger single end impregnation installations fabrics and yarns made from polyamide, polyester, viscose as well as glass, carbon fiber and other raw materials are treated in such a way that they can be used universally:

- Tires, v-belts, flat belts and timing belts
- Hydraulic, cooling water and oil hoses
- Cord and rope industry as well as cable and telecommunication industry
- Pneumatic spring systems and other special applications



Single end cord line



Impregnation solution preparation station



Cutting installation

### **Conveyor belt fabric installations**

Particularly high demands are placed on conveyor belts because of their operating conditions. A high level of wearing resistance when transporting packaged and bulk mineral goods is only one example thereof: Additionally a high level of dynamic resistance is required because of the ever increasing transport speeds as well as the associated load alternations. For many decades Benninger has specialised in manufacturing installations (with widths of up to 3.2 m) which meet these requirements and needs.

### **Impregnation solution preparation units**

The consistent production of the impregnation liquor is synonymous with the thermal treatment of the fabric. It is a major guarantor for maximum adhesion of the cord fabric to the tire rubber. With the Benninger AUTO MIX preparation unit almost all impregnation liquor variations can be automatically mixed in the highest quality and uniformity.

### **Cutting installations**

The versatile use of conveyor belts in diverse industry areas requires virtually unlimited fabric widths. Benninger delivers made-to-measure solutions for this purpose. Precise cutting technology in combination with a high degree of automation hardly leaves any wish unfulfilled.

### **Calender accessories**

In addition to the installations for the treatment of cord fabric Benninger delivers well-known tire manufacturers with the latest calender accessories.

- Fully automated and highly precise fabric guide devices
- The latest cord unwinding devices with AC technology
- Made-to-measure air driers and cylinder driers
- Integrated drive and control concepts

# Automation

## Additional experience beyond the textile sector



Training and Consulting



Engineering

**Benninger also applies its experience in engineering and switch cabinet assembly to other industrial sectors. Our clients come from many different machine and plant constructions. They value our experience as well as our ability to develop complex control techniques and mechatronic automation concepts.**

The range of services covers the entire product's life cycle: from detailed specification to hardware project planning and software engineering; from the assembly and testing of switch cabinets to Benninger's well known after sales service. Throughout this process, Benninger always thinks in terms of solutions and their implementation in the systems. Benninger is closely connected to its customers by the common goal to develop economically sustainable automation solutions.

### Training and Consulting



Application oriented consulting for optimal solutions

### Service Features



High availability of machines and reduction of downtimes

### Engineering



Innovative technology and perfect implementation of your automation tasks

### Quality Management



Quality guidelines to guarantee best possible quality

### Switch Cabinet Assembly



High level of repeatability and high quality in control cabinet assembly

### Training and Consulting

Benninger passes along its know-how. With training sessions that are customized to the customer's needs and the specific application, shortened project planning times are achieved.

Regularly conducted market research studies give Benninger a good market overview and help customers to make the right decisions.

### Engineering

Benninger assembles a team that implements complete automation projects.

Clearly arranged software structures are guaranteed through Benninger's programming standards. Extensive documentations allow a seamless delivery of software and hardware to our clients after project completion.



Switch Cabinet Assembly



Service and Helpdesk

**Switch Cabinet Assembly**

Through the assembly and logistic services of control cabinets, Benninger relieves its customers in the areas of material purchasing, logistics and warranty inquiries. Benninger Automation stands for precision in the assembly of switch cabinets. Cabinet and assembly plates are processed at a CNC-production center which guarantees consistent quality.

**Service Features**

Benninger Automation customers benefit from the resources and infrastructure of the globally operating Benninger Group.

Furthermore, in many cases the tele-service department has diagnostic tools at its disposal that save a costly trip to customers.

**Quality Management**

Quality management at Benninger Automation includes all relevant processes. From order processing to service, quality guidelines are in effect that guarantee the best quality possible. The Benninger quality concept connects all processes that influence the quality of the product.



# Locations



The Swiss company Benninger has been the textile industry's leading partner across the globe for more than one hundred and fifty years with global branches and service representatives. Benninger develops and manufactures textile finishing and cord production ranges as well as providing complete system solutions. The vast knowledge of Benninger in the field of controls and automation is based on many years of experience with machines and ranges, also in other industries.

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