

FIBER-BASED

# NONWOVEN LINES

**TRÜTZSCHLER**  
NONWOVENS

## Nonwoven lines

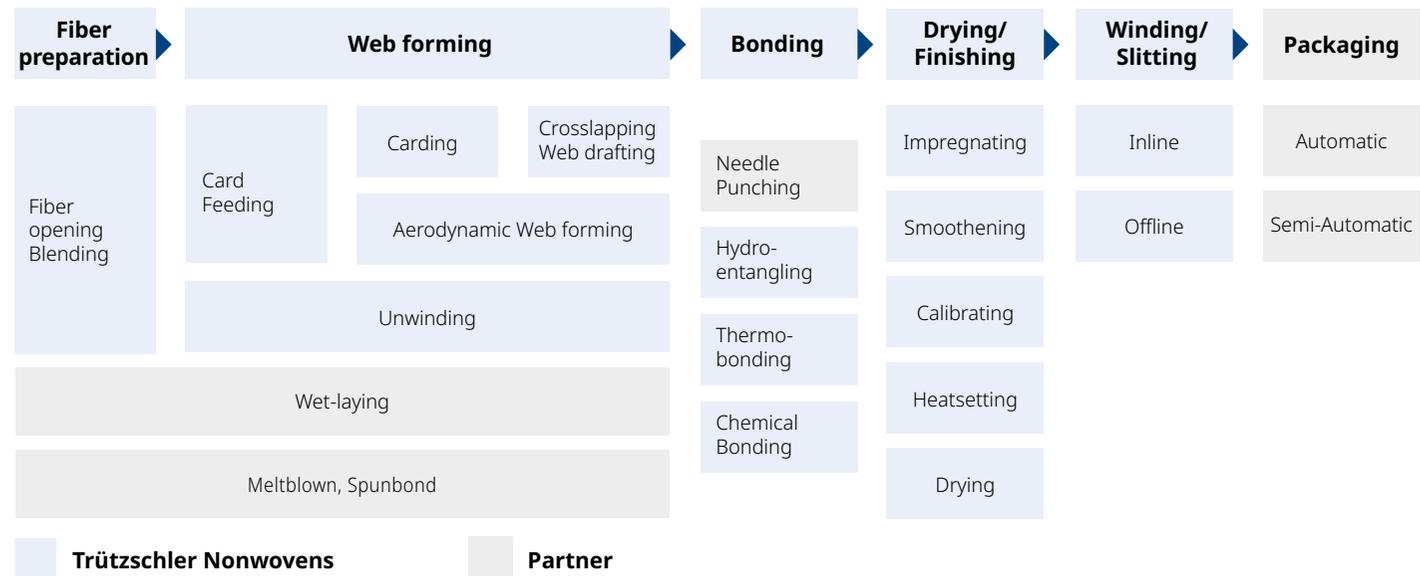
Our passion is machines and everything associated with the economic production of high-quality nonwovens. We love the challenge of opening up new fields of application with new materials and innovative technologies.

When you choose machines and installations from Trützschler Nonwovens, you can be sure that all components – whether supplied by Trützschler Nonwovens or one of our trusted partners – are perfectly coordinated.

We accompany you from planning to commissioning, from fiber opening to the finished nonwoven roll. Are you only interested in individual components from our product range? Welcome – our machines also set standards as solitaires.

### Competence along the entire process chain

Our aim is to turn your product ideas into reality. Whatever fiber you use, whatever process you choose, we implement your requirements in a way that ensures optimal production.



# Content

4	Hydroentangled nonwovens	16	T-SUPREMA needle-punching lines
6	Hydroentangling (spunlacing) lines	24	Nonwovens from recycled fibers
8	Lines for spunlaced cotton nonwovens	26	Through-air and chemical bonding lines
12	Pulp-based CP and WLS lines	28	T-ONE and NCTC
14	Hydroentangling lines for technical end uses		

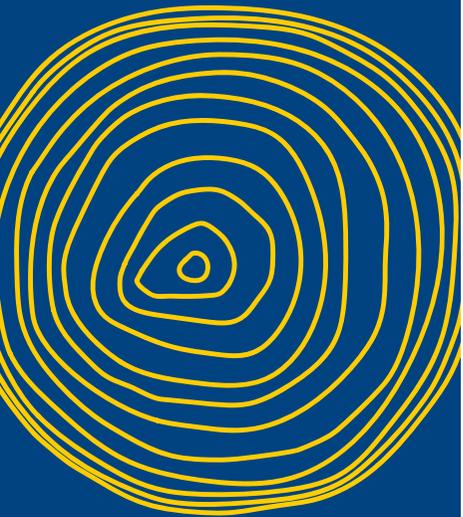
**Legal disclaimer:**

The brochure has been compiled to the best of our knowledge and in good faith with the utmost care. However, it may be subject to type errors or technical changes for which we assume no liability. The photos and illustrations are purely informative in nature and in part show special equipment options which do not feature in the standard scope of delivery. We provide no guarantee as to the current nature, correctness, completeness or quality of the information provided. Warranty claims for material or immaterial damage against us or the respective author based on the use or forwarding of the information provided, even if the information is incorrect or incomplete, cannot be asserted. Our provided data is non-binding.

**SPUNLACED**

NONWOVEN LINES

VISCOSE  
LYOCELL



PET  
PP

## Hydroentangled nonwovens

Many of Trützschler Nonwovens' core competencies bundle along the spunlaced (hydroentangled) nonwovens value chain.

It's versatility that makes spunlaced nonwovens the fastest growing segment. High-pressure water jets efficiently entangle single fibers – giving the web exactly the strength, thickness, structure and surface asked for by the application. Products range from single-layer, light-weight materials to heavy-weight, multi-layer composites.

Our focus is on complete line concepts with the AquaJet as the central unit for entangling and our drum dryers for energy-efficient drying.

## Typical end products

The most common end-use for spunlaced nonwovens is wipes. Dry wipes, wet wipes, baby wipes, personal care or household wipes – all of these products benefit from the flexibility of the spunlacing process.

Hygiene and medical markets ask for several other single-use products. Examples are spunlaced cosmetic pads, beauty masks, baby diapers and femcare top-sheets or wound dressings.

Also durable products often are made from hydroentangled nonwovens. The smooth surface given by the water jets makes for an ideal coating substrate. Technical end uses are light-weight geotextiles and filter hoses in hot-gas filtration systems that require especially homogeneous, high-strength materials.



# Machinery for hydroentangled nonwovens

## T-BLEND

### Fiber preparation – T-BLEND

To ensure a top-quality end product, it is essential to maintain a continuous, uniform material flow from bale opener to the web former. Our modular T-BLEND system allows for high line throughput. A choice of bale and fine openers, weighing and blending systems as well as accessories for reliable fiber transport opens up the door to individual installations that exactly meet requirements.

## T-WEB

### Web forming – T-WEB

We provide roller cards for efficiently processing a variety of natural and man-made fibers. Our multi-purpose TWF-NC card is accompanied by the random card TWF-NCR, the air-lay solution TWF-NCA and the high-speed variant TWF-NCT. They all offer excellent carding and blending for single-layer, multi-layer, parallel, random or condensed webs. Our program also comprises different cross-lappers for forming webs that are particularly wide, thick or virtually isotropic.

## T-BOND

### Web bonding with AquaJet – T-BOND

The AquaJet is well-known and proven in 200 installations world-wide. Its modular design with spunlace drums, compacting and dewatering sections allows for a bonding process exactly matching the fiber blend and the final product.

## T-DRY

### Web drying – T-DRY

Drum dryers combine a high evaporation capacity with a small footprint. In 1929 we developed the first drum dryer based on the through-air principle – and since then we are constantly optimizing the energy-intensive drying process. Our modular multi-drum dryers (TWD-MDD) and the new vertical dryer TWD-MPD with intermediate chamber are tailor-made to the specific requirements of the line.

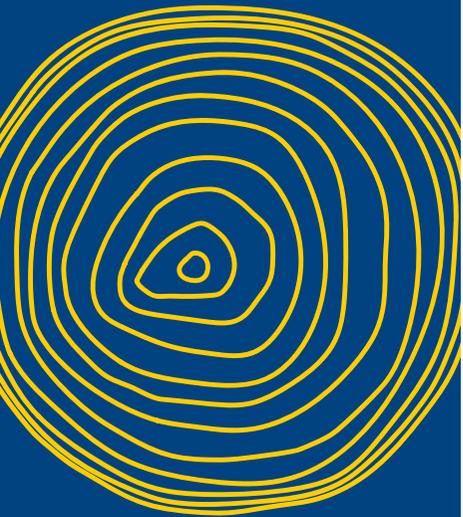
## T-WIND

### Web winding – T-WIND

Nonwoven production lines differ greatly – accordingly, we offer various winding technologies. Examples are the TWW-SD master roll winder for offline processes or the fully-automatic TWW-TD turret disc winder with inline slitting capability to produce ready-for-sale nonwoven rolls.

**SPUNLACED**

NONWOVEN LINES

VISCOSE  
LYOCELLPET  
PP

## The classic solution: lines for polyester/viscose fiber blends

The largest segment of spunlaced nonwovens is the wipes market. A blend of viscose and polyester (PET) fibers turned out to be the most convincing raw material. Cost-effective polyester fibers give softness while viscose delivers the absorbency needed for high-quality wipes.

Single-use wet and dry wipes contain petroleum-based PET or PP fibers. They pose a threat to the environment if they are carelessly thrown away as they disintegrate into micro-plastics that stay in the environment for many years.

## Sustainable nonwovens from 100% re-generated cellulose fibers

Both viscose and Lyocell fibers are man-made fibers derived from cellulose. Plantation hardwood is first chemically processed into dissolved wood pulp and then spun into staple fibers or filament yarns.

Re-generated cellulose fibers come from renewable resources, most often from beechwood, spruce or gum wood. They are 100% biodegradable which qualifies both viscose and lyocell fibers for the production of sustainable nonwovens.

Carded/spunlaced nonwovens from 100% viscose or lyocell fibers are strong yet soft and absorb liquids quickly – a good choice for baby, personal care or medical wipes.

# Solutions for spunlaced nonwovens from man-made fibers

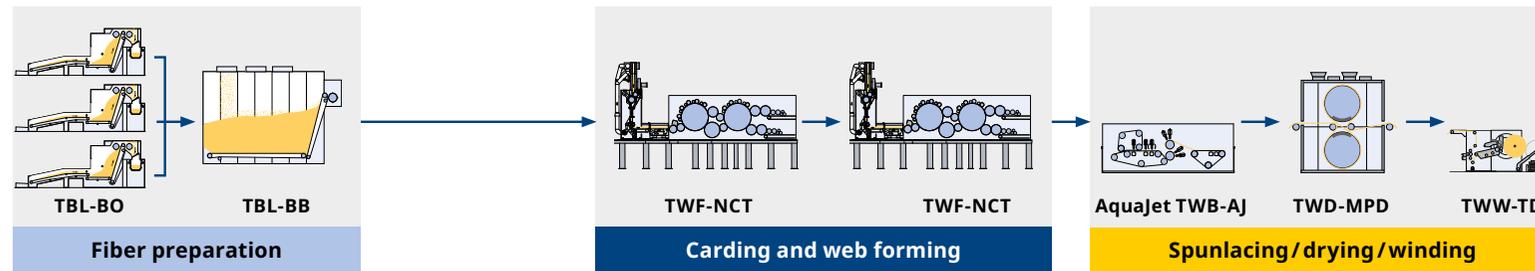
## High-speed line for hydroentangled nonwovens

Raw materials: viscose, lyocell, PET and/or PP fibers

Web weight: 30 – 100 gsm

Output: more than 20,000 tons/year (depending on fiber type, web weight and working width)

End products: dry and wet baby and body wipes; medical textiles



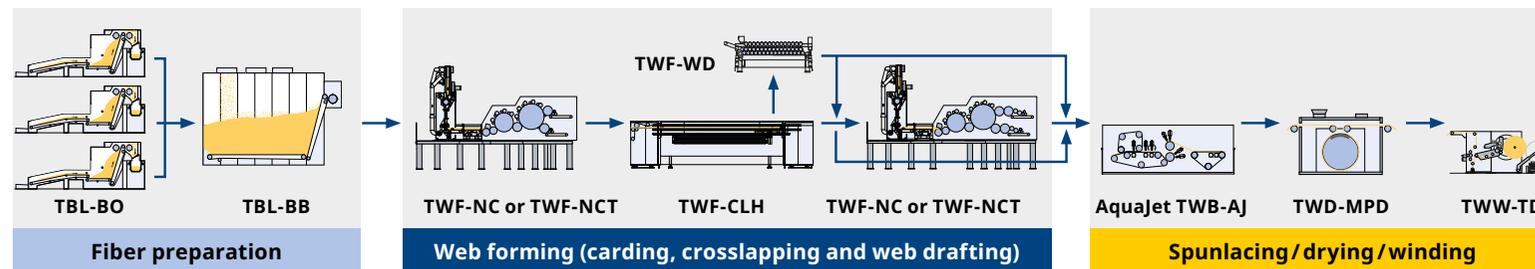
## Crosslapping line with NC cards

Raw materials: viscose, lyocell, PET and/or PP fibers

Web weight: 30 – 100 gsm

Output: more than 8,000 tons/year (depending on fiber type, web weight and working width)

End products: dry and moist baby and body wipes; medical textiles, cosmetic beauty masks.



## SPUNLACED

NONWOVENS LINES  
FROM COTTON  
AND NATURAL FIBERS



## Lines for cotton nonwovens

Consumers love cotton fibers and their soft, luxurious touch. Not only the skin-friendly characteristic of cotton fibers is an advantage. Due to their irregular shape, they also pick up dirt very well. Moreover, the fibers absorb liquids quickly due to their swelling behavior.

All these properties make cotton an excellent choice for hygiene single-use products such as wet and dry wipes, femcare products, cosmetic pads and wound dressings.

Cotton fiber quality, end product and process requirements differ significantly. For this reason, Trützschler Nonwovens offers various machines and line configurations for efficiently processing

- virgin cotton,
- bleached and unbleached qualities,
- blends from virgin material and comber noils and even
- 100% noils

## Solutions for hemp, flax and natural fibers

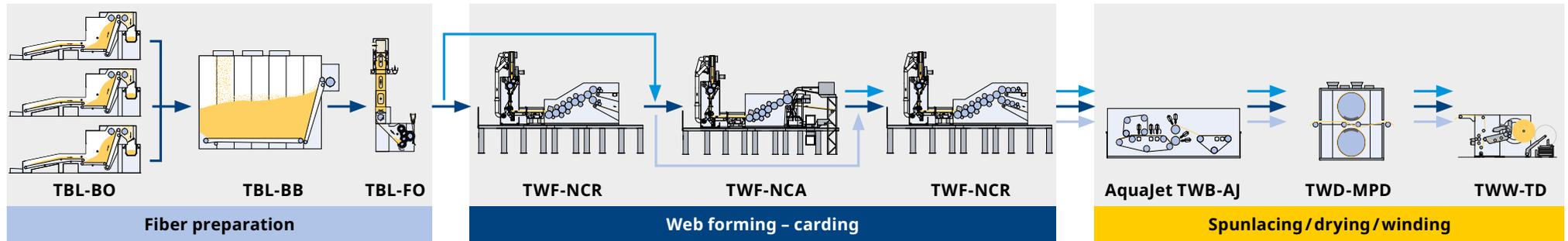
Thousands of years ago, natural fibers from plants and animals were the first materials used for manual felting. Today, hemp, jute, nettle, pineapple and other fibers are turned into environmentally friendly solutions for durable or single use nonwovens.

Both hydroentangling and the flexible needle-punching process deliver innovative, biodegradable products. These provide a performance as good as or even better than conventional nonwovens containing synthetic fibers.

# Cotton lines I

## Flexible production lines for cotton nonwovens

End products: cotton wipes and cosmetic pads



### → Inline configuration with two NCR random cards:

Web weight: 35 – 120 gsm  
Line speed: 60 – 180 m/min



### → Inline configuration with one airlay and one random card:

Web weight: 35 – 120 gsm  
Line speed: 60 – 120 m/min



### → Inline configuration with two random cards and one airlay card:

Web weight: 130 – 400 gsm  
Line speed: 15 – 60 m/min



**SPUNLACED**  
NONWOVENS LINES  
FROM COTTON



## Cotton lines II

### Crosslapper lines for isotropic nonwovens

Nearly isotropic webs with a high random layer are formed by a combination of NCR card and crosslapper.

Web weight: 35 – 50 gsm

Line speed: 20 – 40 m/min

End products: cotton wipes and outer layers of cosmetic pads



### Small capacity lines with Trützschler flat top cards

Flat top cards are known for their ability to reduce the nep content in cotton fiber tufts. Gentle carding and web forming results in spotless, homogeneous webs.

#### Cosmetic pads:

Web weight: 130 – 300 gsm

Line speed: up to 35 m/min



### High capacity lines with flat top and roller cards

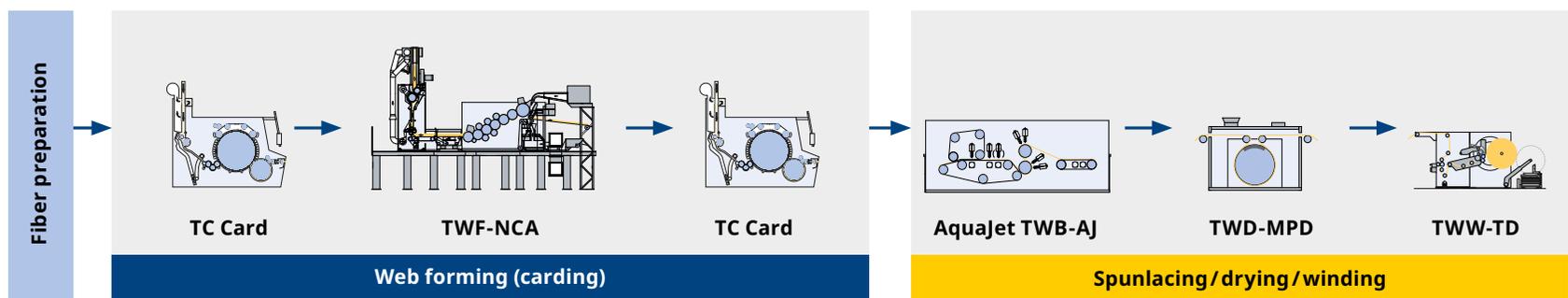
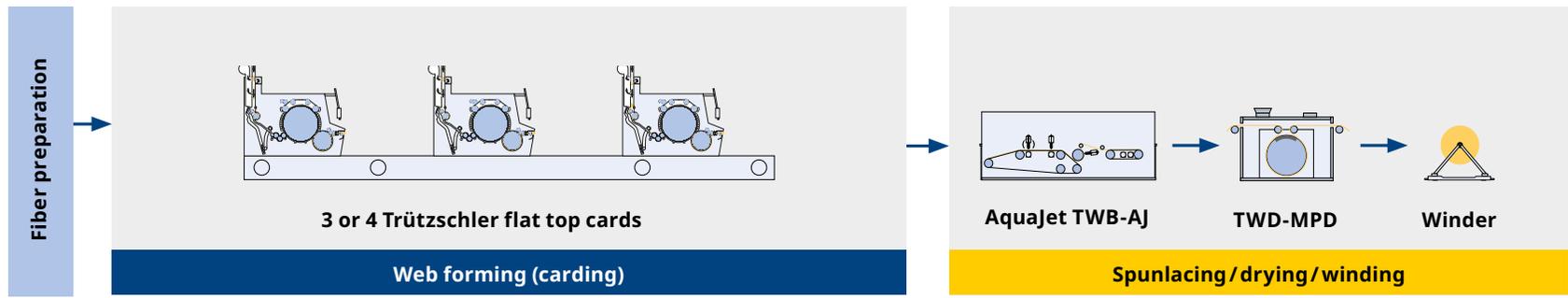
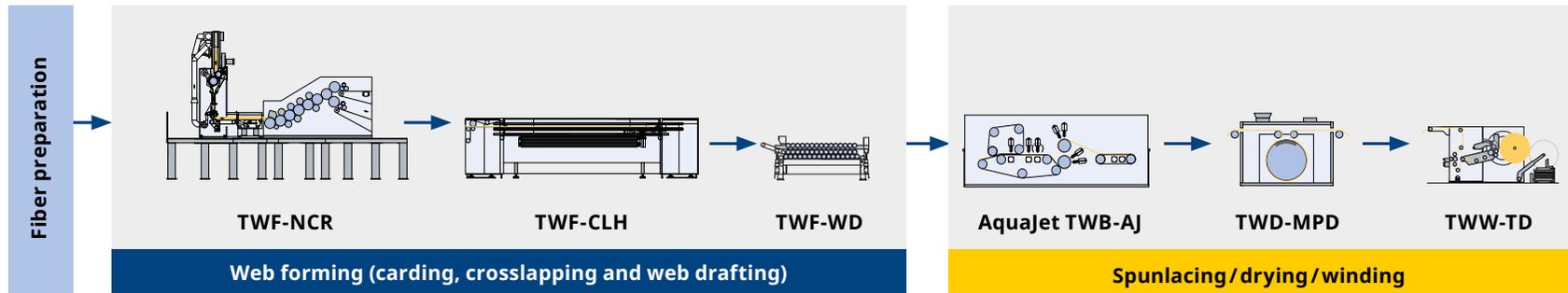
The combination of flat top and roller cards increases throughput and guarantees a high web quality.

#### Cosmetic pads:

Web weight: 130 – 300 gsm

Line speed: up to 50 m/min





## SPUNLACED

NONWOVENS LINES  
FROM WOOD PULP  
(WLS AND CP)



## Nonwovens with paper-grade wood pulp

Paper-grade pulp – for instance NBSK (Northern Bleached Softwood Kraft) – is a cost-effective material for highly functional, sustainable nonwovens. The basis is a wet-laid web. In the WLS (Wet-Laid/Spunlaced) process, a blend of pulp and short viscose, lyocell or PET fibers is dispersed in water and laid down on a wire belt. A highly randomly oriented web is formed.

The CP (Carded/Pulp) technology combines the wet-laid ply from 100% pulp with a carded web from standard viscose or lyocell fibers. These layers are hydroentangled by high-pressure water jets to produce plain, structured or perforated nonwovens. Both WLS and CP are high-productivity processes reaching production speeds of 300 m/min at the winder.

## Typical end products

**WLS** is already the technology of choice for producing moist toilet tissue (MTT). Higher-strength nonwovens can also be produced by changing the line settings.

**CP** products give excellent baby and body wipes. They combine the advantages of pulp (cost-effective, voluminous and absorbent) with those of lyocell or viscose fibers (sufficient strength and softness).

## Teaming up with Voith, leading partner to the paper industry

When an end product requires wet-laying, Trützschler Nonwovens closely cooperates with Voith. The company is a specialist for wet-laying machinery including the entire water treatment system.

A cooperation between

**TRÜTZSCHLER**  
NONWOVENS

**VOITH**

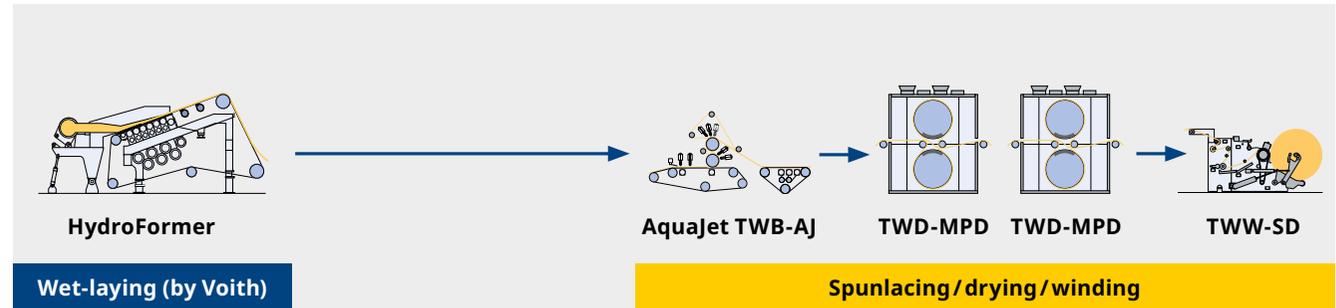
### WLS: lines for flushable wipes or baby/body wipes

Raw materials: paper-grade wood pulp, re-generated cellulose fibers (viscose, lyocell)

Web weight: some 50 gsm

Line speed: up to 300 m/min

End products: flushable wipes (MTT);  
baby and body wipes



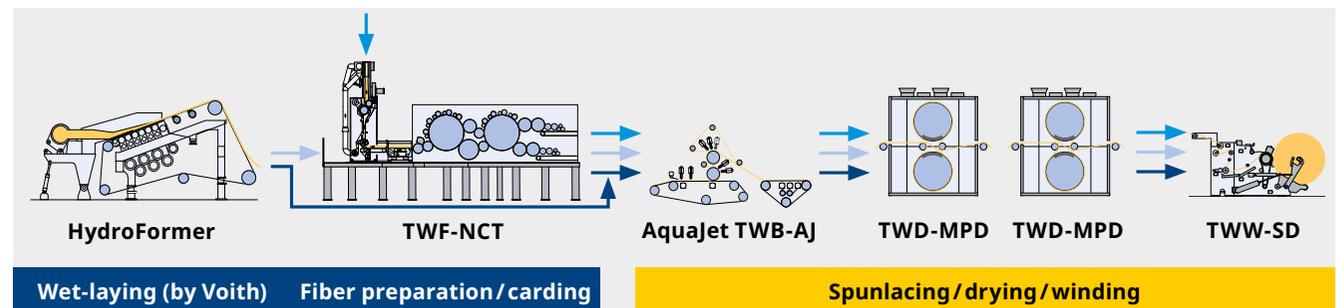
### CP: lines for carded/pulp wipes, flexible lines for WLS nonwovens, carded/spunlaced nonwovens and CP products

Raw materials: paper-grade wood pulp, re-generated cellulose fibers (viscose, lyocell), PET fibers

Web weight: some 50 gsm with a pulp ply  
of more than 25 gsm

Line speed: up to 300 m/min

End products: baby and body wipes;  
flushable wipes (MTT)  
without card



## SPUNLACED TECHNICAL NONWOVENS

PET  
PP  
PA  
PPS  
PTFE  
etc.

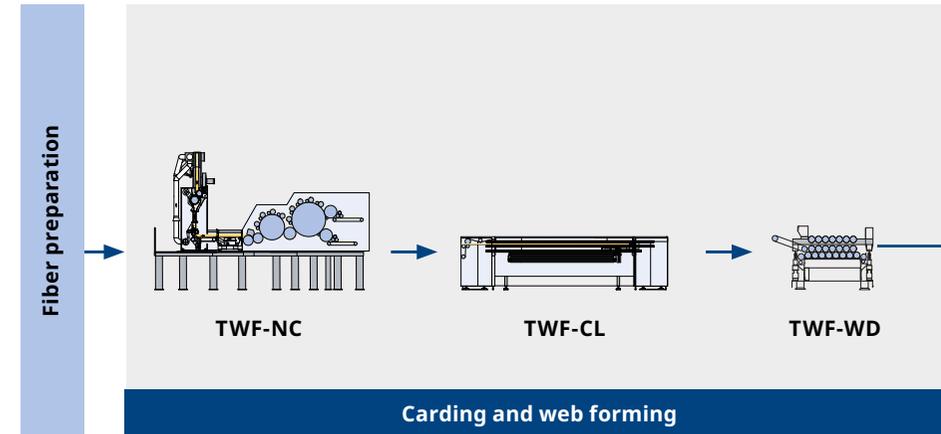
## Spunlacing lines for technical applications



### Durable end uses of hydroentangled nonwovens

In contrast to disposable nonwoven products, industrial applications ask for high performance during the entire long lifetime.

Besides high tenacity, the (surface) homogeneity of the nonwovens becomes a crucial requirement to prevent early performance losses. Hydroentangled nonwovens are excellent for coating substrates, automotive interior textiles or hot-gas filter hoses.



### For coating substrates:

Web weight: 100 – 150 gsm

Fibers used: PET

### For light/medium weight filtration media:

Web weight: up to more than 1,000 gsm

Fibers used: PET, PP, aramide, PPS, PTFE, glass, ceramic fibers

### For visible automotive textiles:

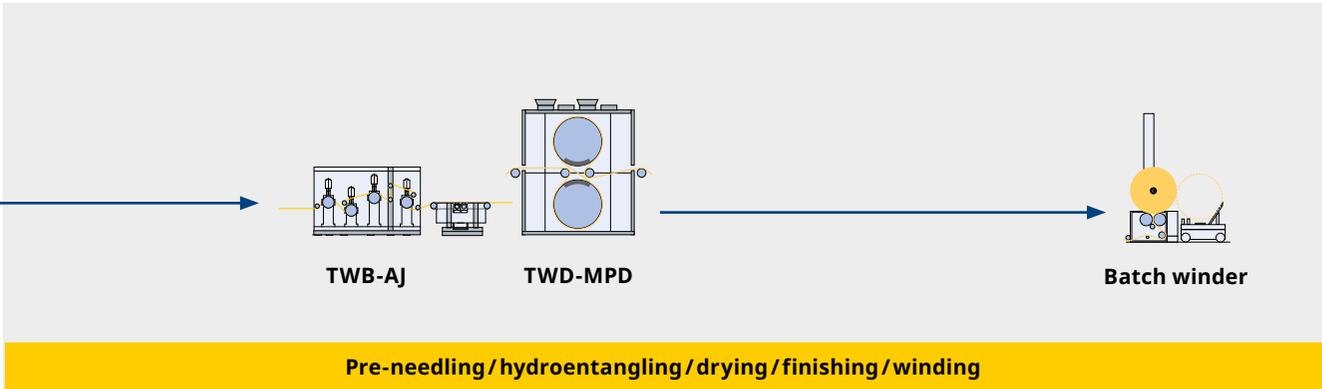
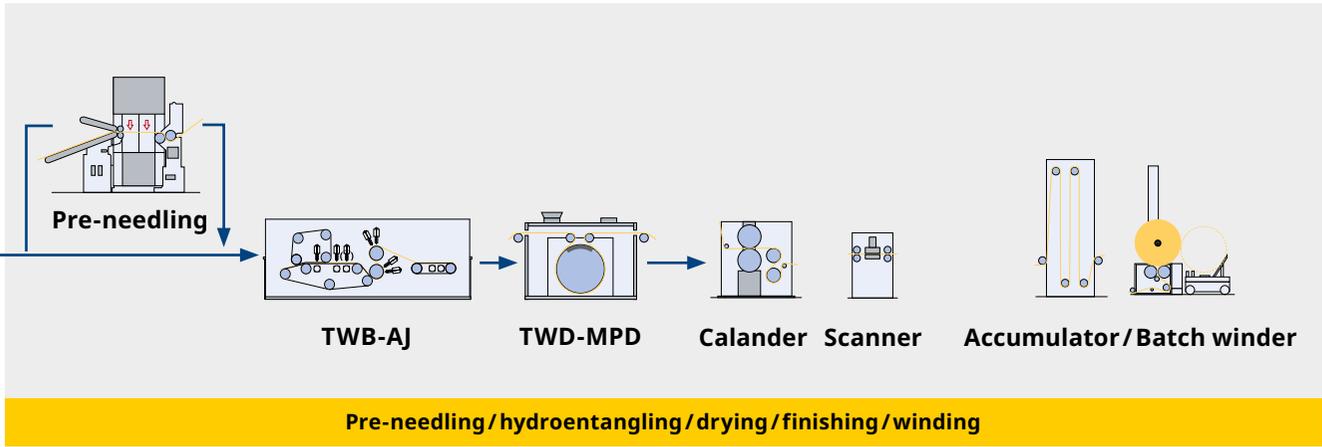
Web weight: from below 100 up to 1,500 gsm

Fibers used: PP, PA, PET

### For heavy weight filter media (hot-gas filtration):

Web weight: several 100 to more than 1,000 gsm

Fibers used: PET, PP, aramide, PPS, PTFE, glass, ceramic fibers



PRODUCTION LINES FOR  
**NEEDLE-PUNCHED  
 NONWOVENS  
 T-SUPREMA**

## Needle-punched nonwovens

The largest fiber-based nonwovens segment is needle-punched nonwovens. Growth is fueled by innovative technical applications and new fiber materials.

A wide variety of fibers can be processed. Thousands of steel needles in a needleloom entangle man-made fibers such as polyester and polypropylene, high performance fibers (aramide fibers, PPS...), natural fibers (cotton, wool, hemp, flax, etc.) and even recycled, glass or metal fibers.

## Typical end products

Needle-punched nonwovens are optimally suited for many industrial applications. High strength and low elongation in both the longitudinal and transverse directions provide high durability for geotextiles, filter media, automotive textiles and industrial felts.

## Partnering up with Texnology s.r.l.

Trützschler Nonwovens and Texnology joined their respective strengths to offer the needle-punching line that you are looking for. Our target: to make the operations easier than ever before.

A cooperation between



## About Texnology s.r.l.

The core business is the manufacturing of crosslappers, drafting systems and needlelooms. The product portfolio is rounded off by accessories, tools and spare parts.

Nevertheless, Texnology is also able to supply complete nonwoven lines. Today about 180 plants for needling, thermobonding, hydroentangling and chemical bonding are counted all over the world.

The history of Texnology dates back to 1950s when Vani Olivo started a nonwoven business. With a 40-year background in nonwovens production, Texnology successfully began constructing nonwoven machinery in the 90's.

## Machinery for needle-punched nonwovens

### T-BLEND and T-WEB

To ensure a top-quality end product, it is essential to maintain a continuous, uniform material flow from bale opener to the web former. Trützschler Nonwovens' bale and fine openers, weighing and blending systems ensure reliable fiber transport even in high throughput lines.

The various roller cards – the multi-purpose card TWF-NC, the random card TWF-NCR and the high-speed variant TWF-NCT – efficiently process natural, man-made and performance fibers.

Crosslapping, web turning and web drafting determine the required web weight, working width and fiber orientation. These components are provided on a case-by-case basis by either Texnology s.r.l. or by Trützschler Nonwovens.

### Texnology's needlelooms

Texnology's machinery is designed for three major goals: minimized downtime, a high product quality and ease-of-use.

Smart designs minimize stress on components, reducing or even preventing vibrations, noise, leakage, wear and tear. The modular built allows for easy accessibility and effortless maintenance. Optional features such as suction units for the needling zone further help to keep uptime high.

The six single and double board needleloom types come in working widths up to 12 meters. Needlelooms with a revolutionary elliptical needling movement are available as well. In addition to the comprehensive product portfolio, different needle densities, stroke amplitudes and stroke frequencies etc. ensure perfect adaptability to customer requirements.

### Finishing and winding

To ensure efficient further processing, we team up with trusted partners to supply exactly those components needed for manufacturing top-quality needle-punched end products. Whether it is a calender, stenter or batch winder, we have the best partners at hand to discuss and implement your requirements.

PRODUCTION LINES FOR  
**NEEDLE-PUNCHED  
 NONWOVENS  
 T-SUPREMA**

## Geotextiles by T-SUPREMA lines

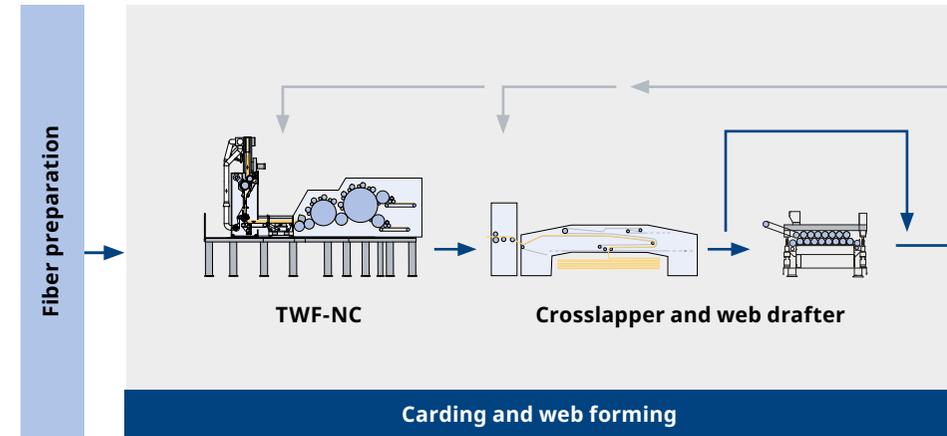


### Needle-punched geotextiles

Geotextiles serve many purposes. When it is about long-term drainage or soil layer separation in dikes, landfills or tunnel constructions, needle-punched nonwovens from synthetic fibers come into play. Elongation, shear and puncture resistance, hydraulic performance as well as resistance to chemical and biological degradation become crucial properties.

Other applications, for instance temporary road construction, bank and coastal protection or gardening, ask for needle-punched materials from natural fibers. When they biodegrade over time, no microplastics are released into the environment.

Web weight: below 100 and up to 3,000 gsm  
 Fibers used: PP, PET, PA, recycled fibers, shoddy (CO) and natural fibers (e.g. jute, coconut fibers)



### T-SUPREMA line for light weight geotextiles:

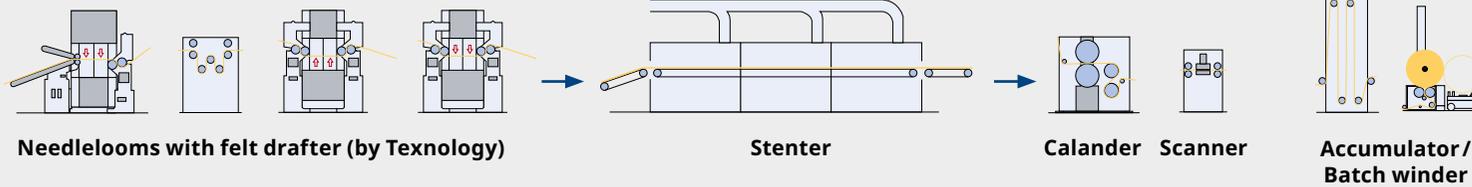
Web weight: 90 to 300 gsm

Product width: up to 6,500 mm

Fibers: mainly PP

Fiber length: up to 100 mm

#### Automatic regulation of web weight



Needle-punching / finishing / winding

### T-SUPREMA line for heavy weight geotextiles:

Web weights: 300 to 1,500 gsm

Product width: up to 7,000 mm

Fibers: PET, recycling fibers

Fiber length: up to 100-120 mm



Needle-punching / finishing / winding

PRODUCTION LINES FOR  
**NEEDLE-PUNCHED  
 NONWOVENS  
 T-SUPREMA**

## Filter media by T-SUPREMA lines

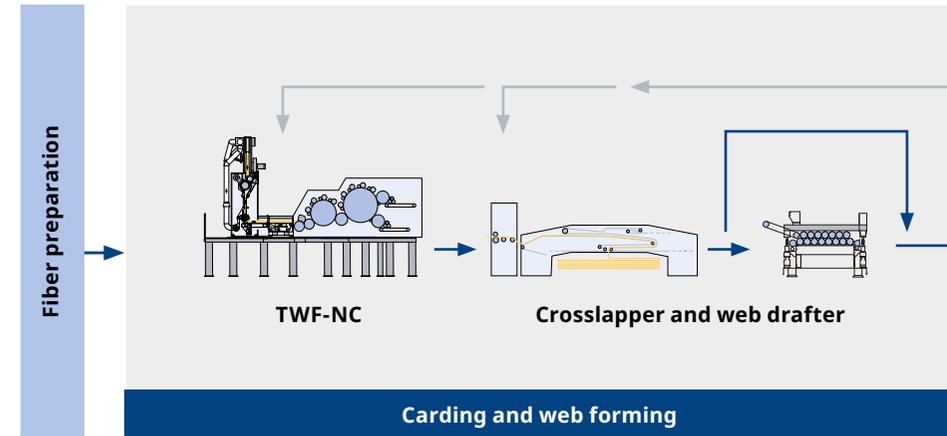


### Needle-punched nonwovens in filtration

Needle-punched materials filtration media are essential to protect against pollution. They play a major role in both air and liquid filtration.

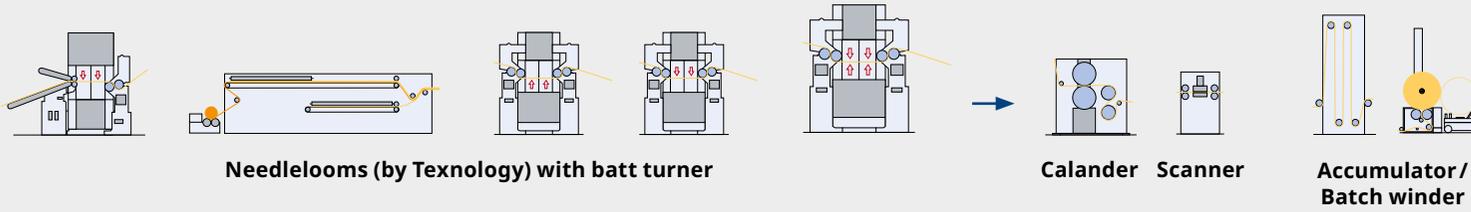
Everyday products are air purifiers, automotive cabin air filters and HVAC (Heating, Ventilation and Air Conditioning) systems. Hot gas filtration in cement kilns and waste incineration plants is a prominent industrial application.

Needle-punched felts also offer a high separation efficiency of dirt particles in liquids. A typical end use is belt filtration of cooling lubricants in mechanical treatment processes such as grinding.

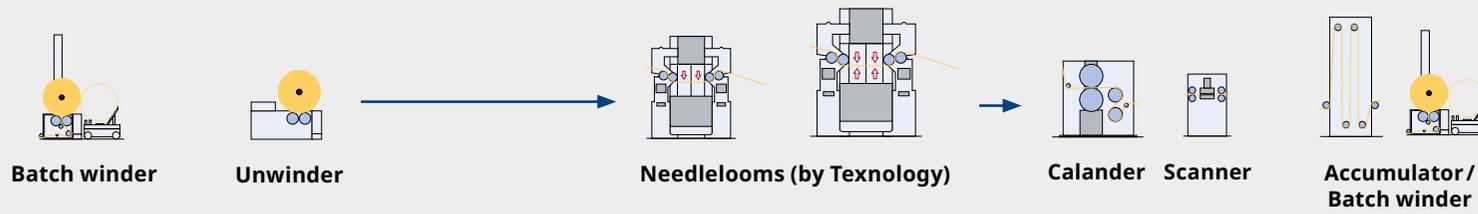


Typical web weight:	below 100 and up to more than 1,000 gsm
Fibers used:	PET, PP, Aramid, PPS, PTFE, glass, ceramic fibers

**Automatic regulation of web weight**



**Needle-punching / finishing / winding**



**Winding**

**Unwindung / needle-punching / finishing / winding**

PRODUCTION LINES FOR  
**NEEDLE-PUNCHED  
 NONWOVENS  
 T-SUPREMA**

## Automotive, technical felts and specialities

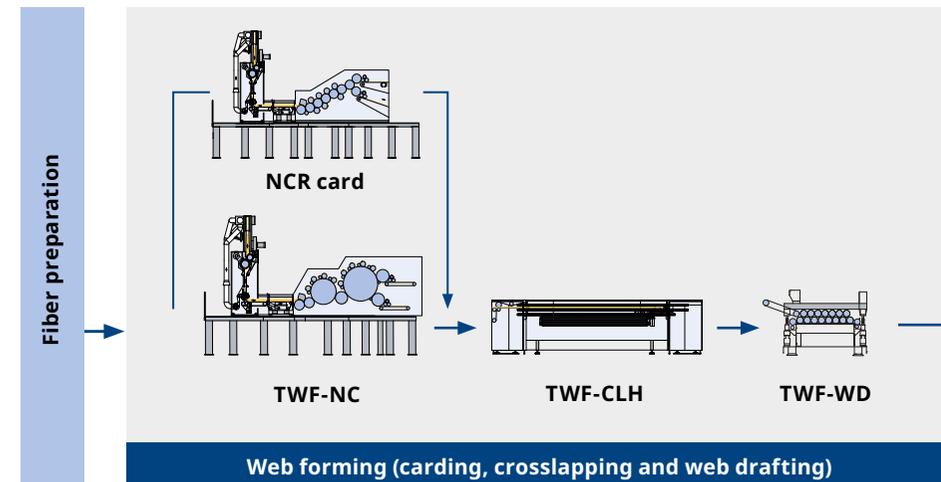
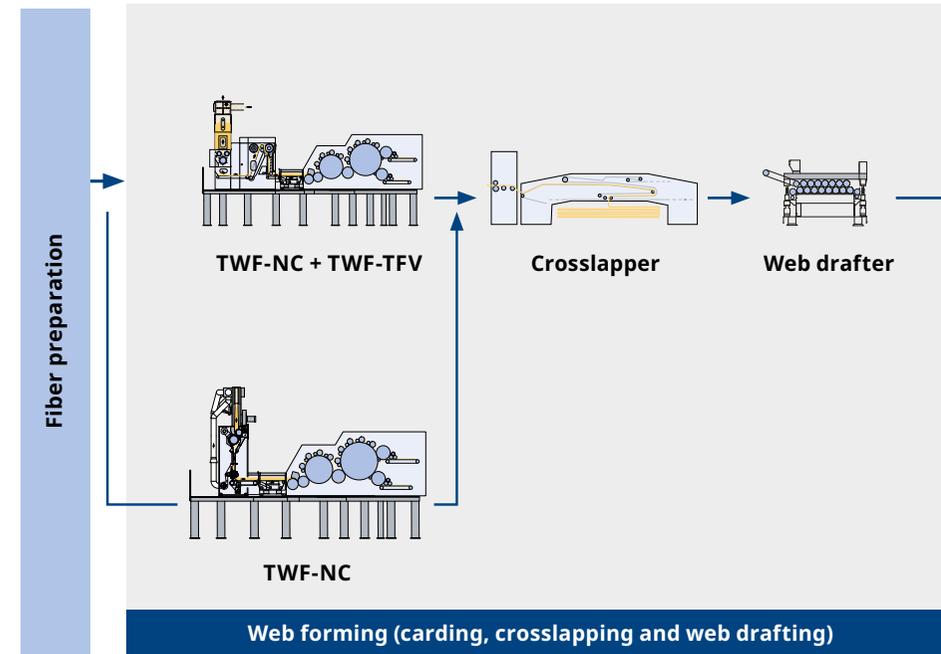


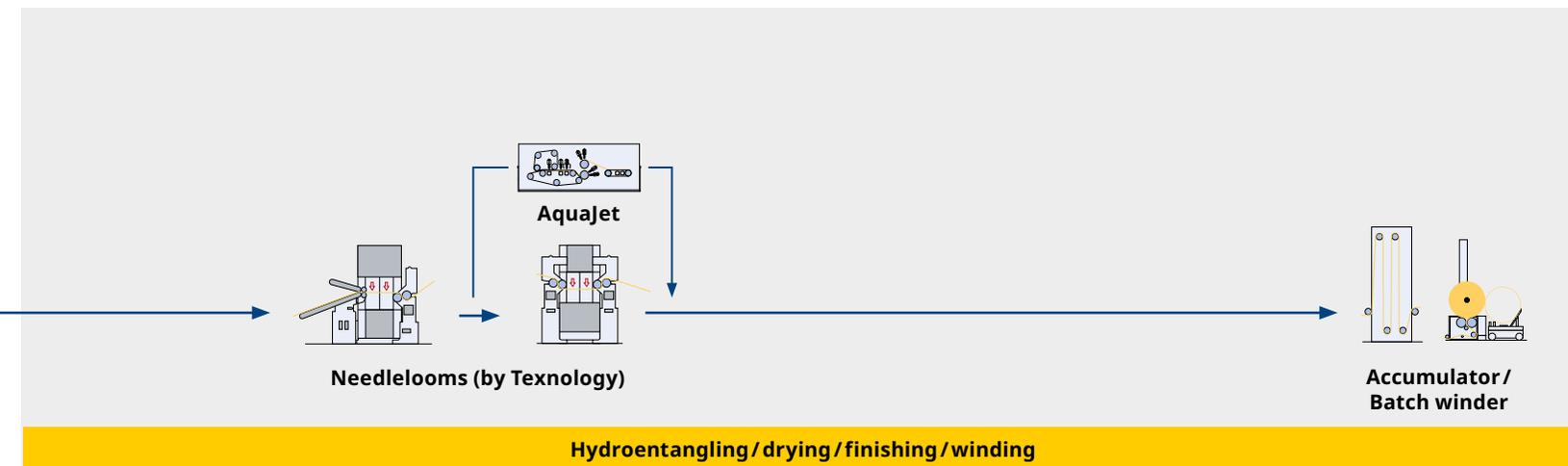
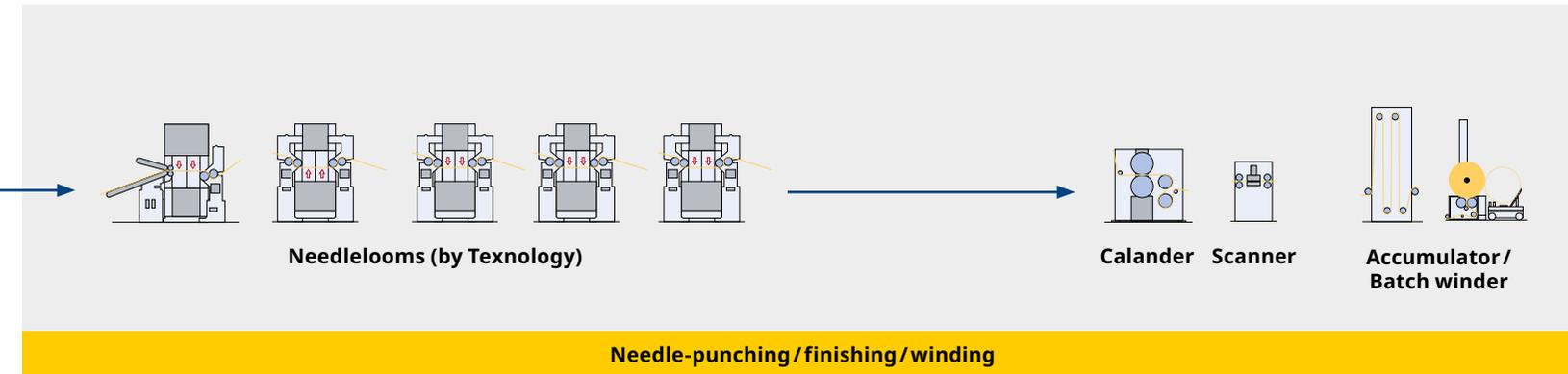
### Needle-punched automotive textiles

Applications range from decorative elements (headliner, trim etc.) to acoustic insulation and structural foam alternatives.

Web weight: below 100 and up to 1,500 gsm for visible and up to 2,000 gsm for non-visible components

Fibers used: PP, PA, PET for visible components  
 hemp, jute, flax, PP, PA, PET, glass fibers and recycled material for non-visible components





### Special applications

Often needle-punched nonwovens serve specific requirements in niche applications. We love to find the perfect solutions for your product ideas.

LINES FOR SPECIAL  
APPLICATIONS  
**NEEDLE-PUNCHING**

## Solutions for recycled fibers



More than 60 million tons of man-made and natural fibers are produced each year. And several million tons of used textiles are sent to landfills every year.

Textile recycling is the next big thing to come. Today, a handful of industrial-scale recycling technologies are mature enough to give used textiles a new life.

### **Our approach**

In a first step, Trützschler Nonwovens concentrates on re-using post-industrial waste, so-

called soft waste. T-SUPREMA lines for recycled materials are fed by recycled fiber bales manufactured by our partner's tearing line.

### **The first step: a tearing line**

Post-industrial waste contains neither buttons, zippers or seams. It is just fabric that needs to be cut into small pieces, mixed and fed to the tearing machine. Up to 6 opening sections with powerful filters pre-open the fabric pieces, extract dust and smallest chunks and feed the bale press with high-quality reclaimed fibers.

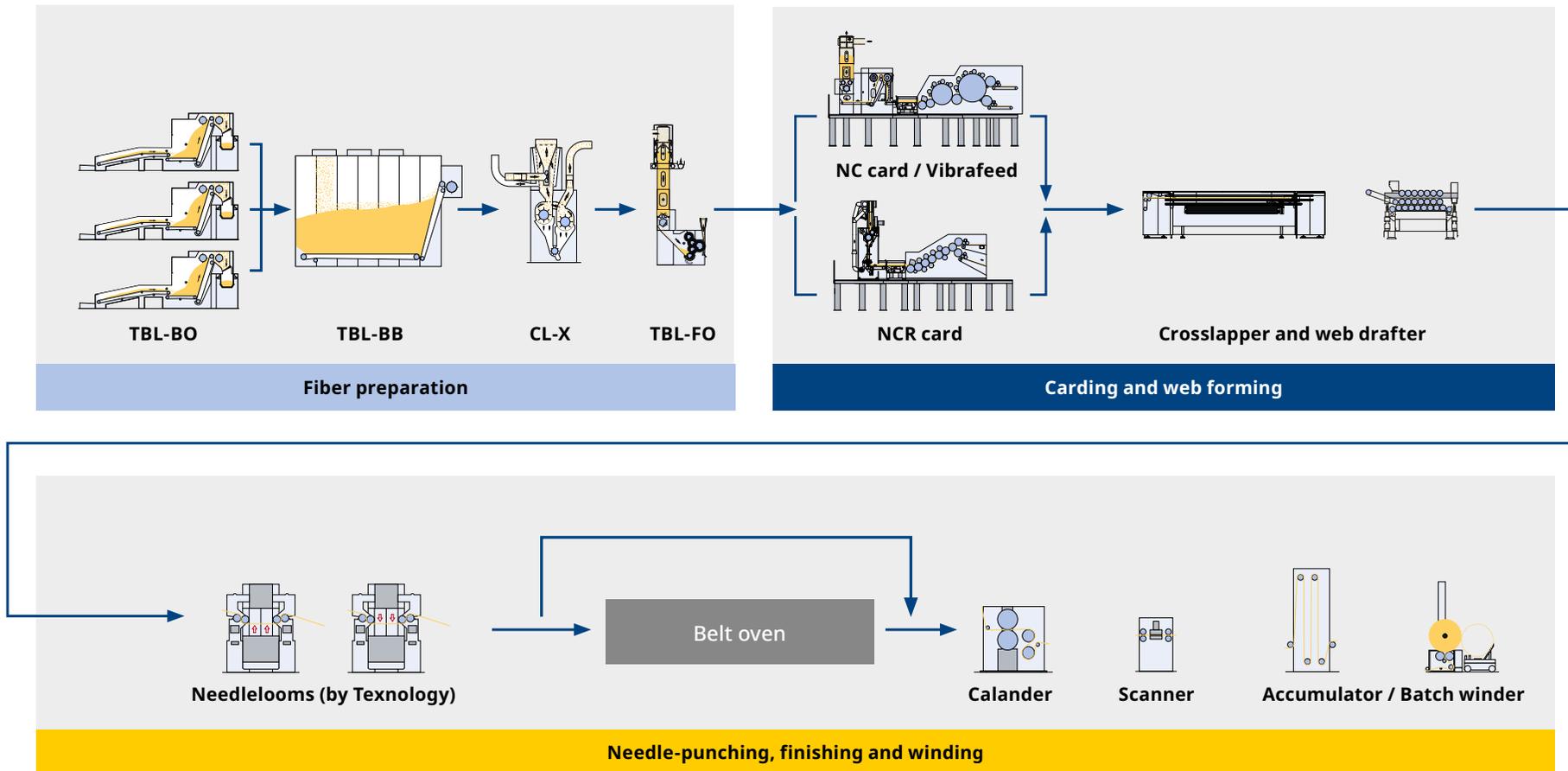


### T-SUPREMA line for reclaimed fibers:

Web weight: up to 1.500 gsm

Product width: up to 6.000 mm

Applications: construction, home interior (insulation, protection)



PRODUCTION LINES FOR  
**THROUGH-AIR AND  
 CHEMICAL BONDING  
 NONWOVENS**

## Through-air and chemically bonded nonwovens

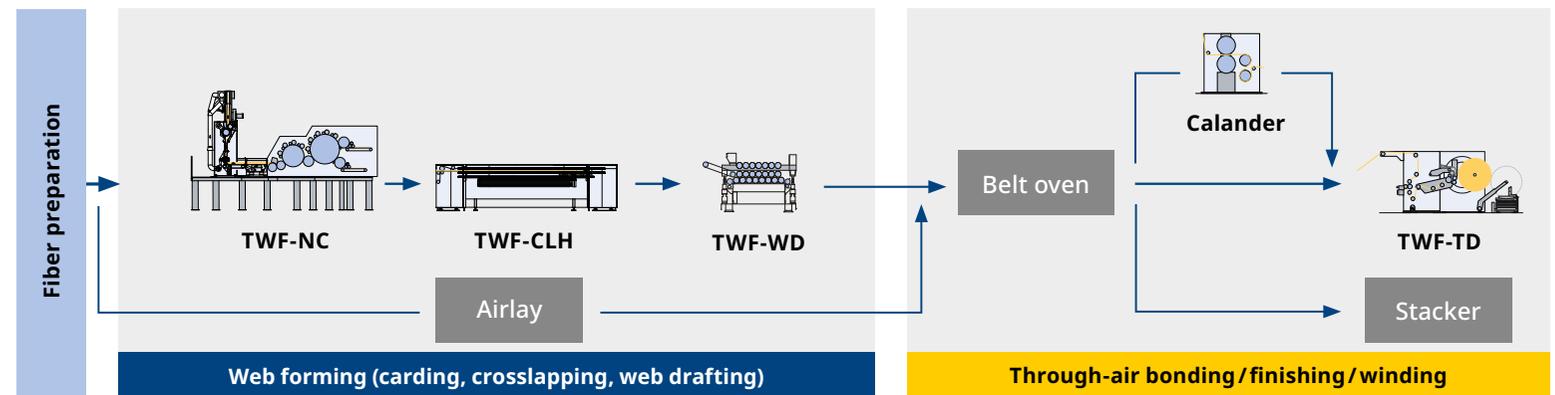
Thermo- and chemical bonding processes “glue” the loose fibers in the web. Fibers used are either bi-component qualities or blends of polymer-based fibers with different melting points.

In through-air bonding, the hot air in the thermobonder or belt oven surpasses the web, melting some fibers and glueing the fiber junctions. In chemical bonding processes, liquid or foam-based binders impregnate the web. In the oven the chemical binder also glues single fibers. Hygiene end uses are the top sheet and ADL (Acquisition and Distribution) layers in diapers. Industrial applications of through-air bonded nonwovens are insulations and filter media.

### Through-air bonding line for HVAC filter applications



### Through-air bonding line for high-loft nonwovens



# Machinery for through-air and chemically bonded nonwovens

## Fiber preparation and web forming – T-BLEND and T-WEB

The T-BLEND components maintain a continuous, uniform material flow from the bale opener to the web former. Efficient processing of the bi-component and man-made fibers used is ensured by the TWF-NC multi-purpose card.

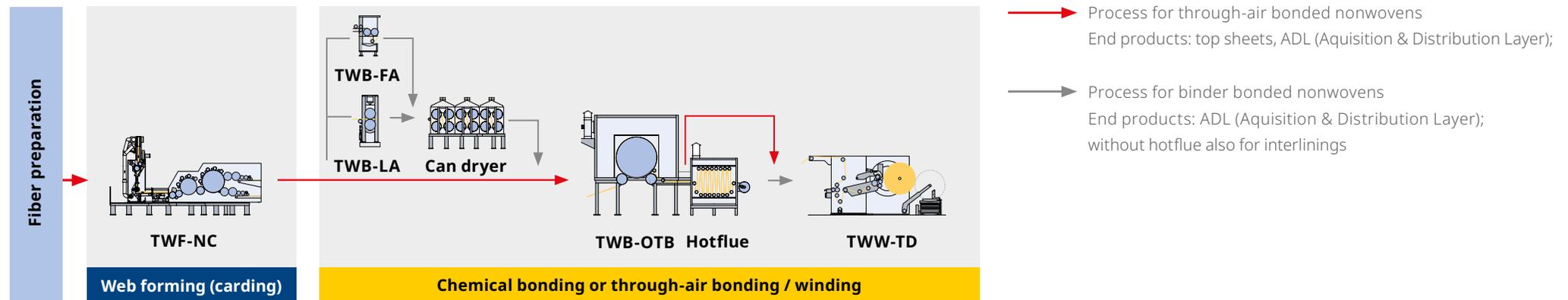
## Web bonding with a thermobonder – T-BOND

Trützschler Nonwovens' Omega-shaped thermobonder for through-air bonding offers excellent temperature uniformity for homogeneous web bonding and energy efficiency for low conversion costs.

## Web bonding with foulards and ovens – T-BOND

Trützschler Nonwovens offers both liquid and foam foulards. While foam-based processes reduce the amount of binders needed, liquid foulards are especially suitable for high-speed installations. The foulard is followed by a can dryer, a drum oven and a hot flue to ensure complete drying.

## Flexible line for the production of hygiene nonwovens



# T-ONE – increasing production performance

T-ONE delivers direct benefits to line operators, quality engineers, product developers and the management.

## A digital working environment for the entire production

Various software modules not only digitalize work routines but also collect and file all relevant production data (specifications, roll measurements, recipes and changes, line performance KPIs, sensor data etc.).

Moreover, T-ONE implements powerful AI-based algorithms for simulation and optimization.

## An open client-server system

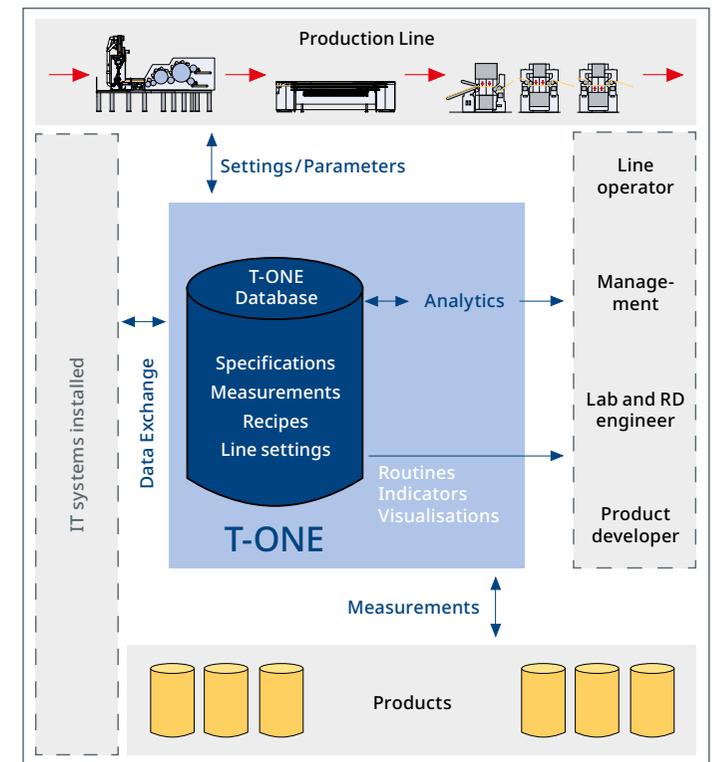
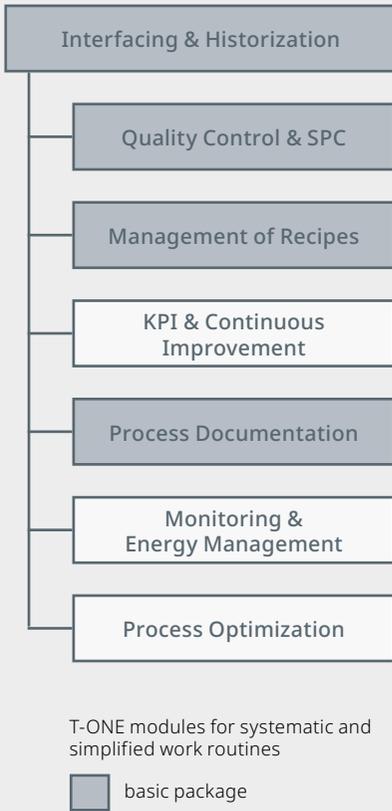
T-ONE's architecture and its refined user management give 100% control over all data. The core is a data-base installed on one of your (virtual) servers. The clients are windows-based computers. As an open system, T-ONE not only neatly fits into your existing IT environment, but is also able to communicate with every open machine in the production line.

## Setting up a T-ONE project

The software will be customized to your production line and your specific requirements, to IT systems already installed and even to the ERP system, if desired.

## Benefits of working with T-ONE

- Save money – by systematically reducing energy consumption
- Save resources – support routine tasks (e.g. quality control) and save up to 40% time by the digitalized recipe management
- Focus on important things – continuously monitor line efficiency, take action and keep track of improvement work
- Stay informed – visualize product quality and detect rising issues in advance
- Accelerate complex work – analyze line settings, simulate line behavior and get advice on better machine settings
- Access all production related actual and historic data





## Welcome to NCTC! (Nonwovens Customer and Technology Center)

In Egelsbach, Germany, your ideas become reality. Fast and reliable. Just 15 kilometers away from Frankfurt/Main Airport, more than 20 multi-functional line configurations await you.

### Fully equipped playground

NCTC – the largest nonwovens trial center of its kind – is equipped with laboratory and testing capabilities. It also features a showroom with hundreds of nonwoven materials.

### On the playground

More than 5,000 square meters are dedicated to two independent nonwoven lines for:

- Carded/spunlaced
- Wet-laid/spunlaced
- Through-air bonded products
- Crosslapped/needle-punched nonwovens

Both lines feature the full range of Trützschler Nonwovens equipment.

## Opportunities galore!

### Running to full capacity?

Bring your own raw material, process and product ideas to NCTC. Together, we'll make the most out of them.

### Doubtful about promised performance?

Visit NCTC and put our machines through their paces.

### Pressed for optimized processes?

Discuss with experienced experts and develop the optimum manufacturing process.

### No time to train new employees?

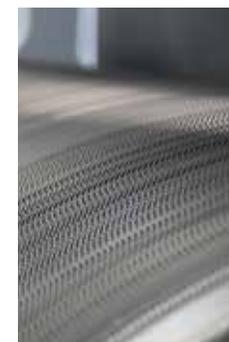
Send them to NCTC for thorough qualification and focused hands-on training.

### In search for future-fit products?

Take advantage of our profound knowledge and partnerships.

### In need for test material?

If you are considering entering new markets, Trützschler Nonwovens can provide you with roll goods for testing.



## We are always by your side

Your equipment has a high utilization and sometimes operates under tough operating conditions; therefore, we recommend regular inspection, maintenance, and repair to keep its performance high.

Trützschler service offers specialized solutions to help maintain your operations. The provision of original parts, repair and maintenance maximizes uptime and performance. Engineers in the worldwide Trützschler service network have the specialized skills and expertise to save you time and resources.

Moreover, let us give you peace of mind. With Trützschler service contracts maintenance and maintenance costs become predictable. We will take care of your service schedule to keep your equipment running at peak efficiency.

**Contact us directly at [spareparts-tnw@truetschler.de](mailto:spareparts-tnw@truetschler.de)**

or contact your local Trützschler service organisation

### After Sales Service

Choose our individual and specialized services:

- Inspections and assessments
- Plant efficiency consulting
- Service agreements
- Smart remote services
- Upgrades and modernizations
- Original spare and wear parts
- Trainings on-the-job and in-house



## It's your choice

### **Inspections, audits and repair services**

To reduce future unplanned downtime, we recommend regular mechanical and operational inspections. Our engineers work in accordance to original supplier manuals and help debottleneck the line. Our global service network is happy to support your plant manager.

### **Service contracts**

Setting up a regular scheduled service, including remote support, not only guarantees an efficient and reliable production. Service contracts also make maintenance costs transparent and predictable.

### **Modifications**

Our nonwoven lines are designed to last for decades. But technology advances open up new opportunities. To keep your system up-to-date, we offer various upgrades.

### **Trainings**

Our NCTC Technical Center in Egelsbach allows for training your staff even before your new line has been started up. We offer comprehensive on-the-job training before the line is handed over – and at any time thereafter.

### **Original parts**

We believe in original parts to keep line performance high. Let's talk about your individual needs. Our high-quality parts packages ensure the machines retain their value over time.



**TRÜTZSCHLER**  
S P I N N I N G

Fiber preparation installations: Tearing line · Bale openers · Mixers  
Cleaners / Openers · Foreign part separators · Dust separators · Tuft blenders  
Waste cleaners | Cards | Draw frames | Combing machines |  
Digital Solutions

**TRÜTZSCHLER**  
N O N W O V E N S

Bale openers · Mixers | Card feeders | Cards · Crosslappers |  
Hydroentangling · Needle-punching · Through-air- and  
chemical bonding lines | Wet-laying lines | Finishing · Drying ·  
Winding machinery | Digital Solutions

**TRÜTZSCHLER**  
M A N - M A D E F I B E R S

Carpet yarn systems (BCF) · Industrial yarn systems |  
Digital Solutions

**TRÜTZSCHLER**  
C A R D C L O T H I N G

Metallic wires: Cards · Cards long staple · Cards Nonwovens  
Rotor spinning | Flat tops | Fillets | Carding segments  
Service machines | Digital Solutions | Service 24/7