TRÜTZSCHLER SPINNING

cards

CONTENT

The new intelligent Trützschler Card TC 19^{i}

The new Trützschler card generation TC 19^{i} is a quantum leap in spinning preparation: It fulfills the dream of the self-optimizing card. The TC 19^{i} realizes unprecedented productivity and quality potentials, requiring only a few clicks on the display.

Up to 40 % less yarn imperfections (IPI) and up to 40% more production*

with Gap Optimizer T-GO for a constant, ideal carding gap even under changing production conditions

*Benchmark comparison

Up to 2 % raw material savings

with the intelligent waste optimization WASTECONTROL

Immediate quality control

with NEPCONTROL and digital Mill Monitoring My Mill

Simple operation

SMART TOUCH with RFID sensor and T-LED remote display

Paper thickness 4/1000" (0.1 mm)

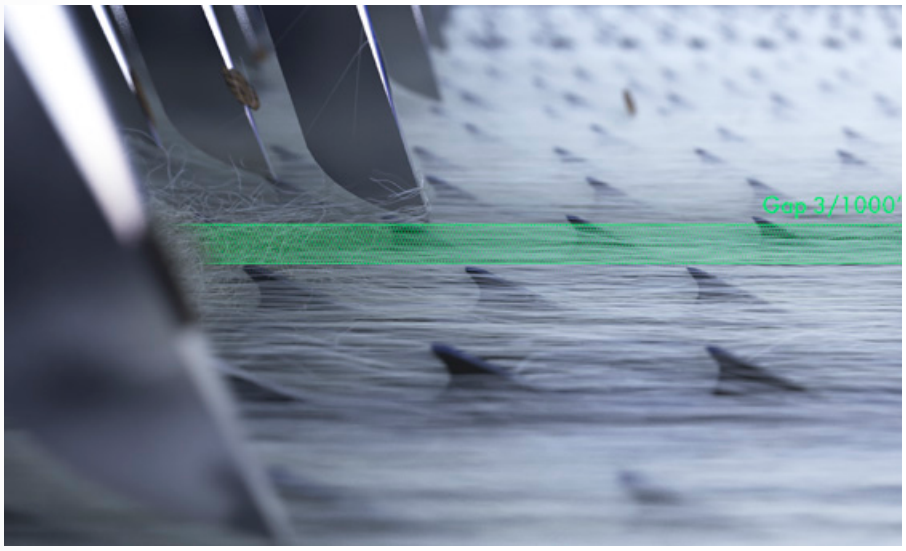
The size of the optimal carding cap of Card TC 19^{i} is 3/1000". Not even a sheet of paper would fit through.

3/1000" in self-optimizing precision

When the cotton fibers work their way from the bale to the yarn, the key point for yarn quality lies between the cylinder clothing and flats clothing.

This is where the quality originates - and the smaller the carding gap in cotton carding, the higher the quality. A constant minimum carding gap of 3/1000", for instance, is now automatically set even under changing production conditions.

This way it is possible to continuously and reliably realize the full quality potential.



T-GO ensures a constant minimum carding gap of 3/1000" even under changing production conditions.

More information:

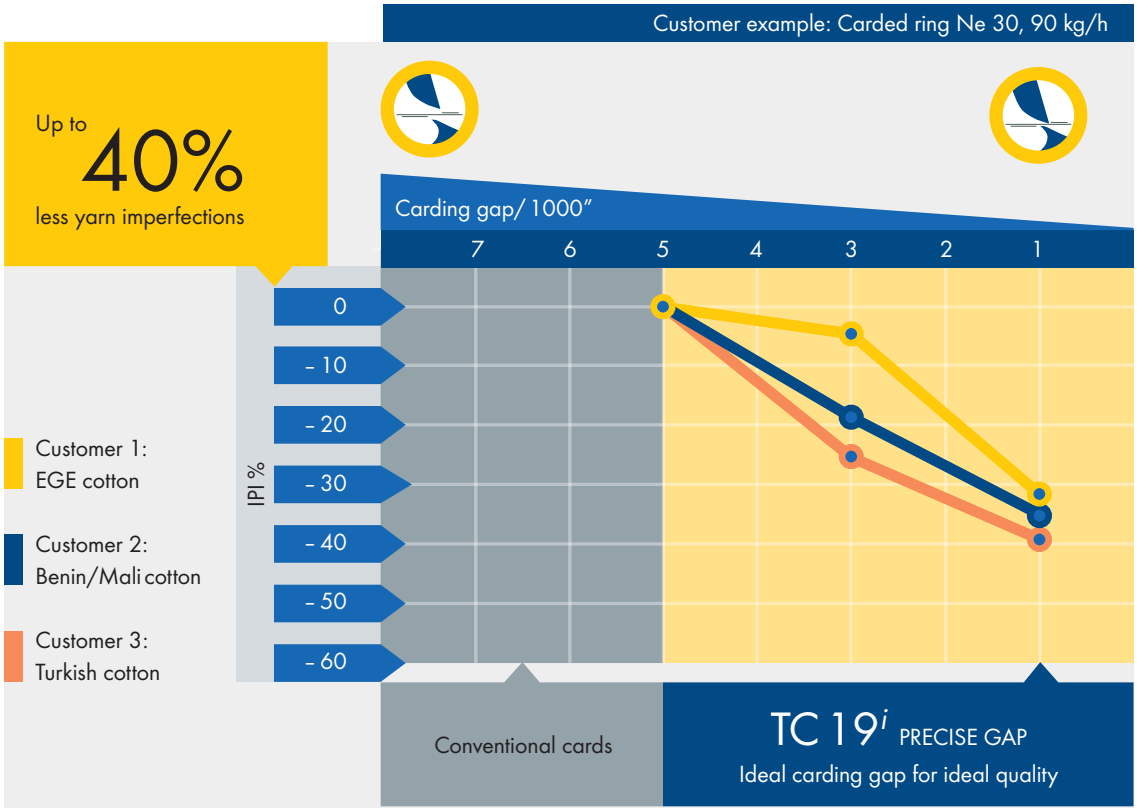
or click here:

Trützschler Gap Optimizer T-GO

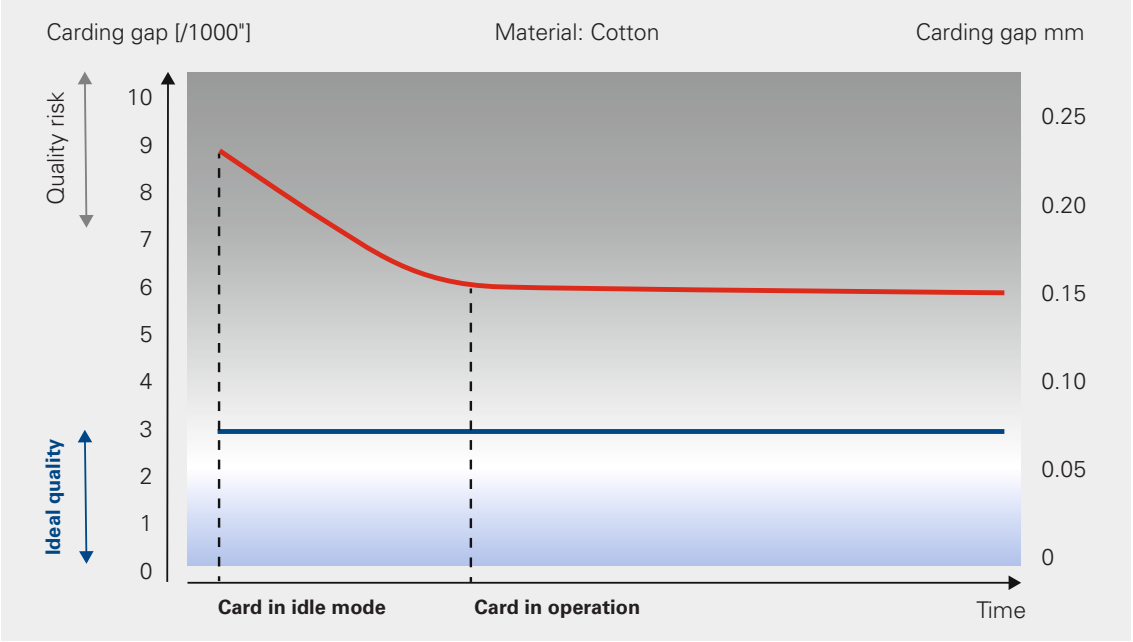
Up to 40 % less yarn imperfections (IPI) and up to 40% more production

Carding gap optimization with unprecedented precision with Gap Optimizer T-GO

Even an experienced technologist cannot carry out extremely narrow target settings of e.g. 3/1000" with the “cold” card at standstill, because centrifugal forces and expansions due to the temperate increase have a considerable influence on this setting. In addition, a carding gap set once without T-GO results in a "blind flight" in terms of quality in the downstream production process. With the automatic, constant setting of the ideal carding gap by T-GO, yarn manufacturers can realize unprecedented quality and productivity potentials.



Ideal carding gap setting with T-GO



T-GO function sequence

- Before the cylinder starts up, a functional check is carried out
- After the nominal cylinder speed is reached, a reference measurement is carried out
- After the material transport is switched on, T-GO carries out a reference measurement
- After the machine is heated up, T-GO carries out another reference measurement
- Now a permanent leveling according to T-CON data takes place

After switching off and restarting, the steps are repeated.

The result: The card runs constantly with the ideal carding gap setting under all operating conditions - fully automatically without any manual intervention.
Only active leveling opens up the full potential of the card: The best is permanently brought out of cotton.
Even after maintenance work, such as grinding the flats clothings, T-GO finds the correct setting again via fully automatic self-optimization.

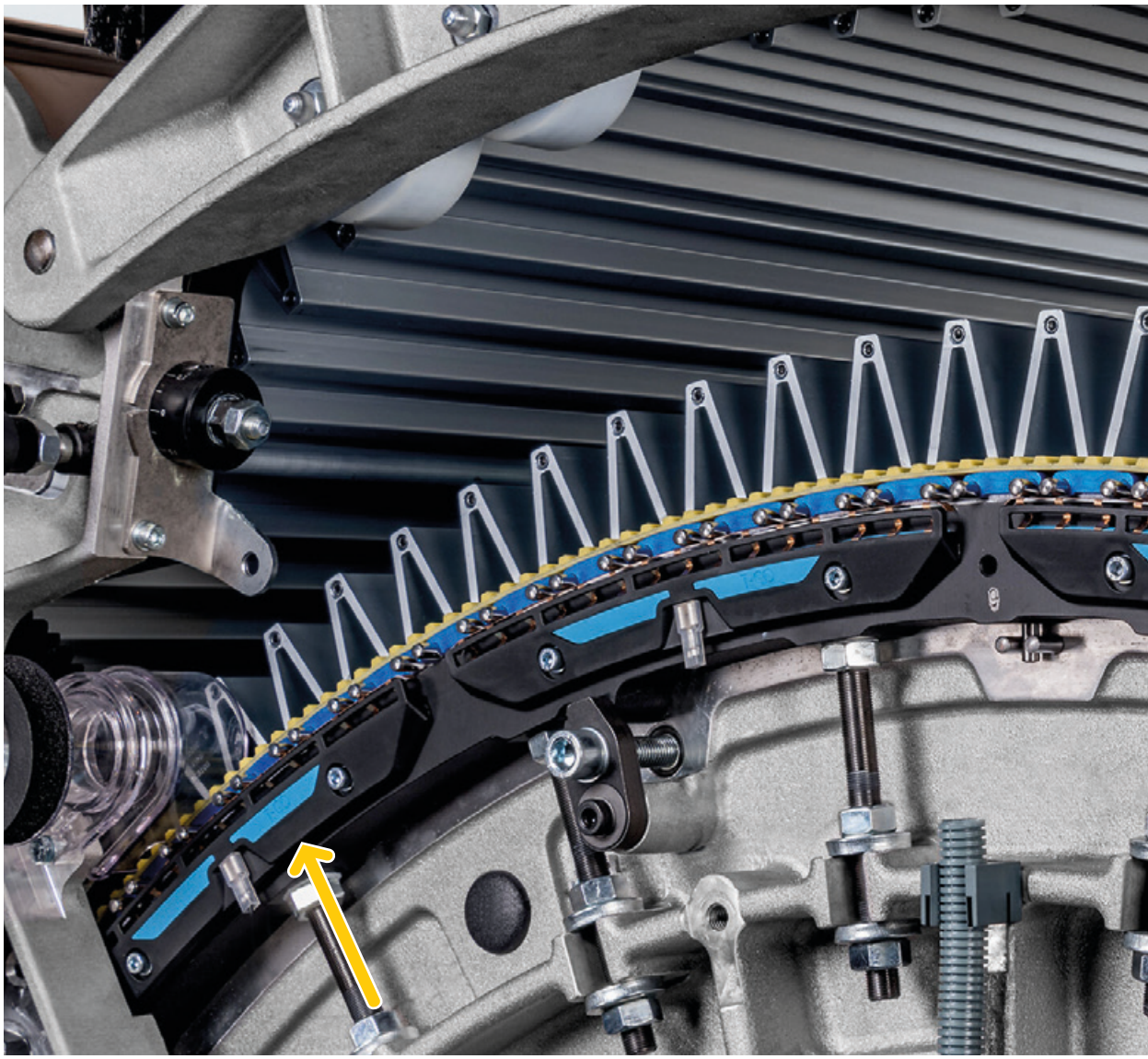
This line is 3/1000" wide →

$^{3}/_{1000}$" carding gap

kept constant under all operating conditions with the new Gap Optimizer T-GO

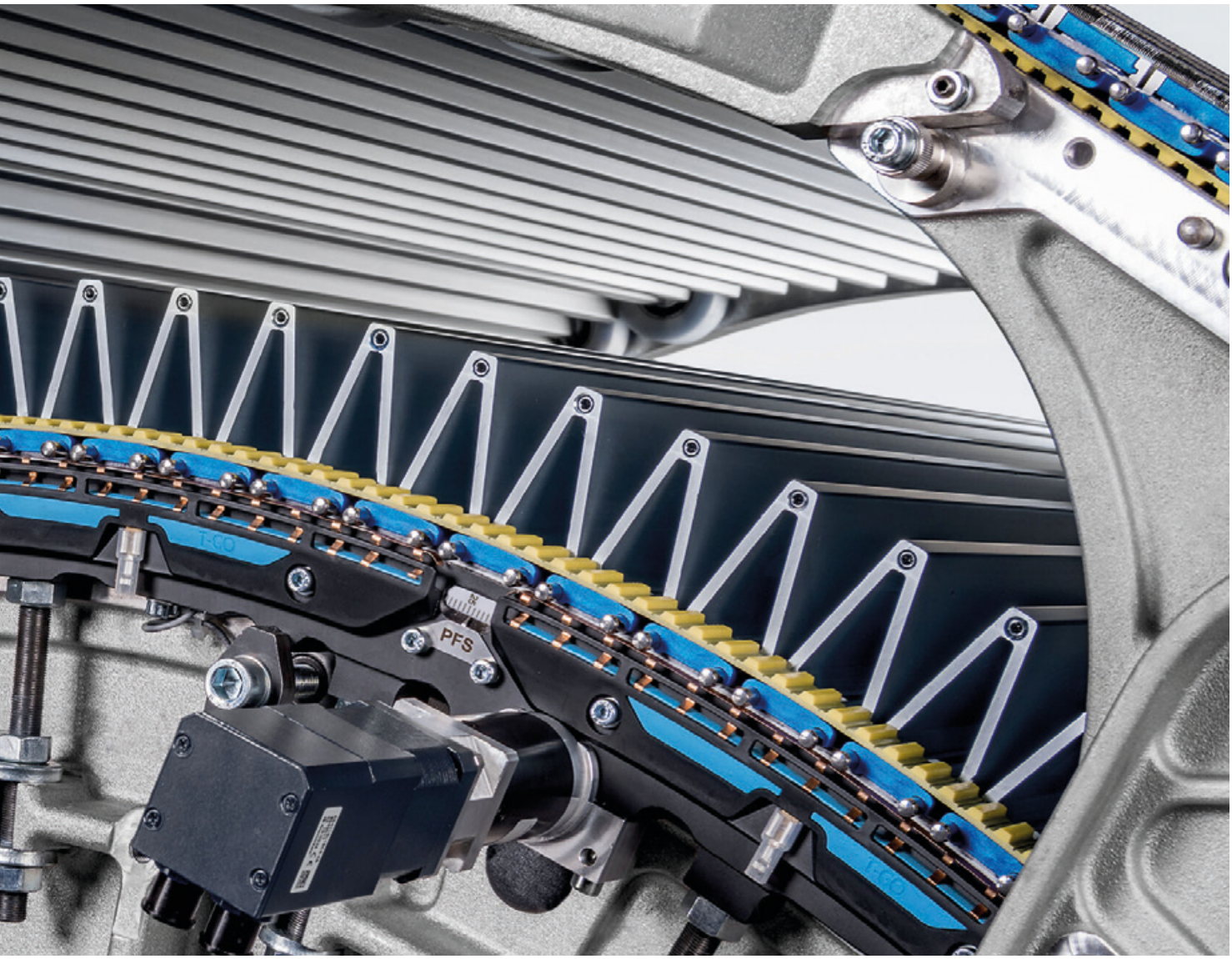
Gap Optimizer T-GO

The four T-GO sensor elements transmit the data to the card control.



The qualitative and economic benefit of the intelligent self-optimization "made by Trützschler" becomes apparent in a direct comparison to a manual setting:

- *What happens if a technician adjusts the carding gap too wide?*
  The potential quality is not realized.
- *What happens if a technician adjusts the carding gap too narrow?*
  There is a risk of damage to the clothing or the card.



The self-optimization responds automatically to changes in important parameters:

- Material properties
- Production level
- Cylinder speed
- Environmental influences such as room temperature

T-GO and T-CON 3 provide the essential information for the intelligent self-optimization of the TC 19^{i} via bus system to the card control.

Valid data for an optimized carding gap

Adapted T-CON 3

T-CON 3 makes an important contribution to the intelligence of the TC 19^{i}. The proven functions have been harmonized with T-GO for this purpose. T-CON 3 continues to inform the technicians about possible improved settings around the cylinder. And the safety functions of T-CON 3 also continue to provide protection against potential hazards. If any element touches the cylinder clothing, the machine is switched off before damage can occur.

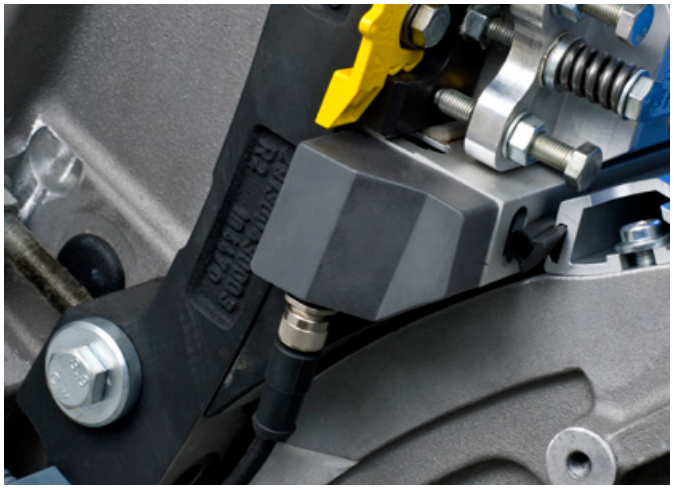
T-CON 3 gives distance recommendations for different materials at the touch of a button.

The T-CON 3 spacers are available in different thicknesses.

The T-CON 3 spacers can easily be replaced in just a few simple steps and thus allow a reproducible setting of the carding segments.

Trützschler Spacer – the quick setting aid

T-GO takes over the flat setting. But Trützschler cards also allow quick and precise settings of the fixed carding segments in the pre-carding and post-carding section. Small gages, so-called spacers, ensure the correct setting. To change the settings, only spacers with a different thickness need to be used. Measuring tools or dismantling of segments are not necessary. The color-coded spacers are available in increments of 2/1000" or 0.05 mm.



This sensor performs contact-less measurement of the cylinder temperature.

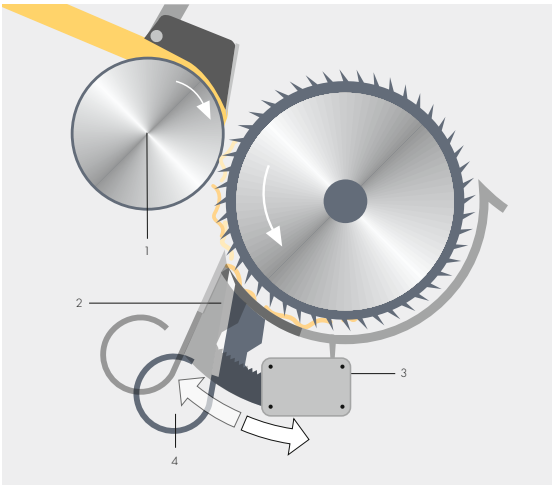
Up to 2 % raw material savings

Intelligent waste optimization with WASTECONTROL

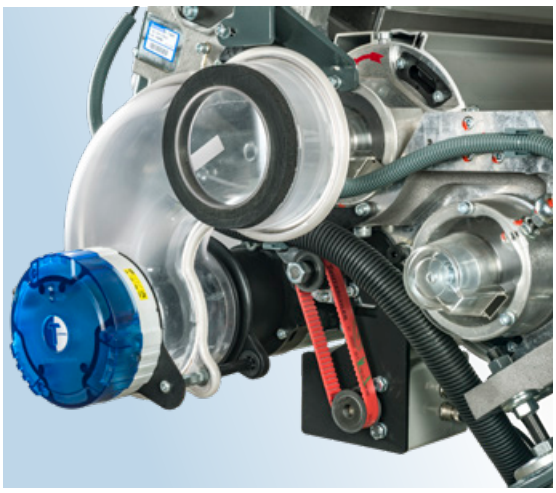
Trützschler cleaners with WASTECONTROL have ensured the best raw material utilization and minimum waste for years. From now on, WASTECONTROL is also part of the intelligent carding with the TC 19^{i}.

The optical sensor of WASTECONTROL permanently monitors the waste quality at the most important cleaning point, the licker-in. If too many good fibers are registered in the waste, the system optimizes the mote knife adjusting system via the servo motor.

The influence of WASTECONTROL on the cost-effectiveness of carding is tremendous. Savings as small as a few tenth of a percent result already in enormous raw material savings. Whereas on other cards the waste separation is not measurable and cannot be influenced during production, the TC 19^{i} always works at optimum efficiency thanks to the permanently measured data.

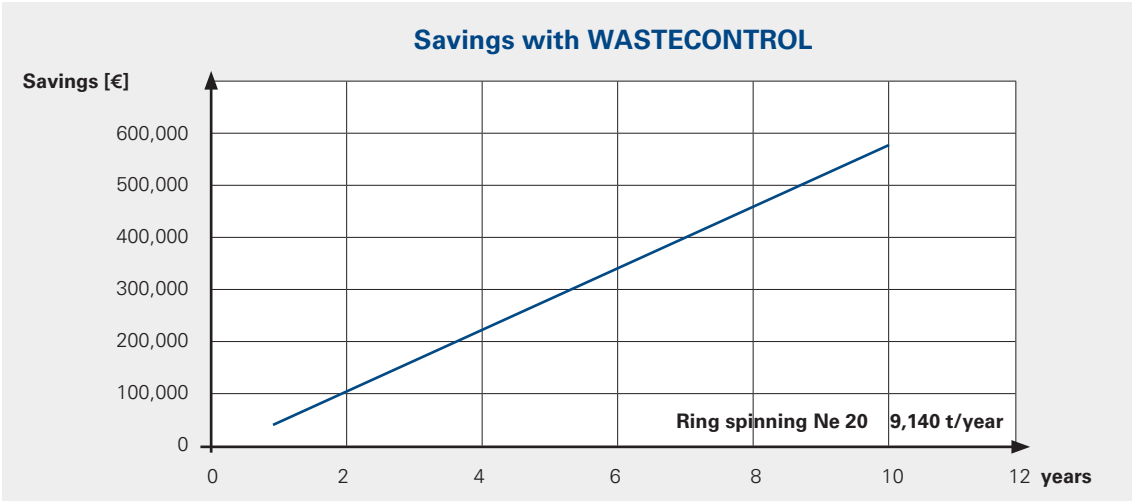


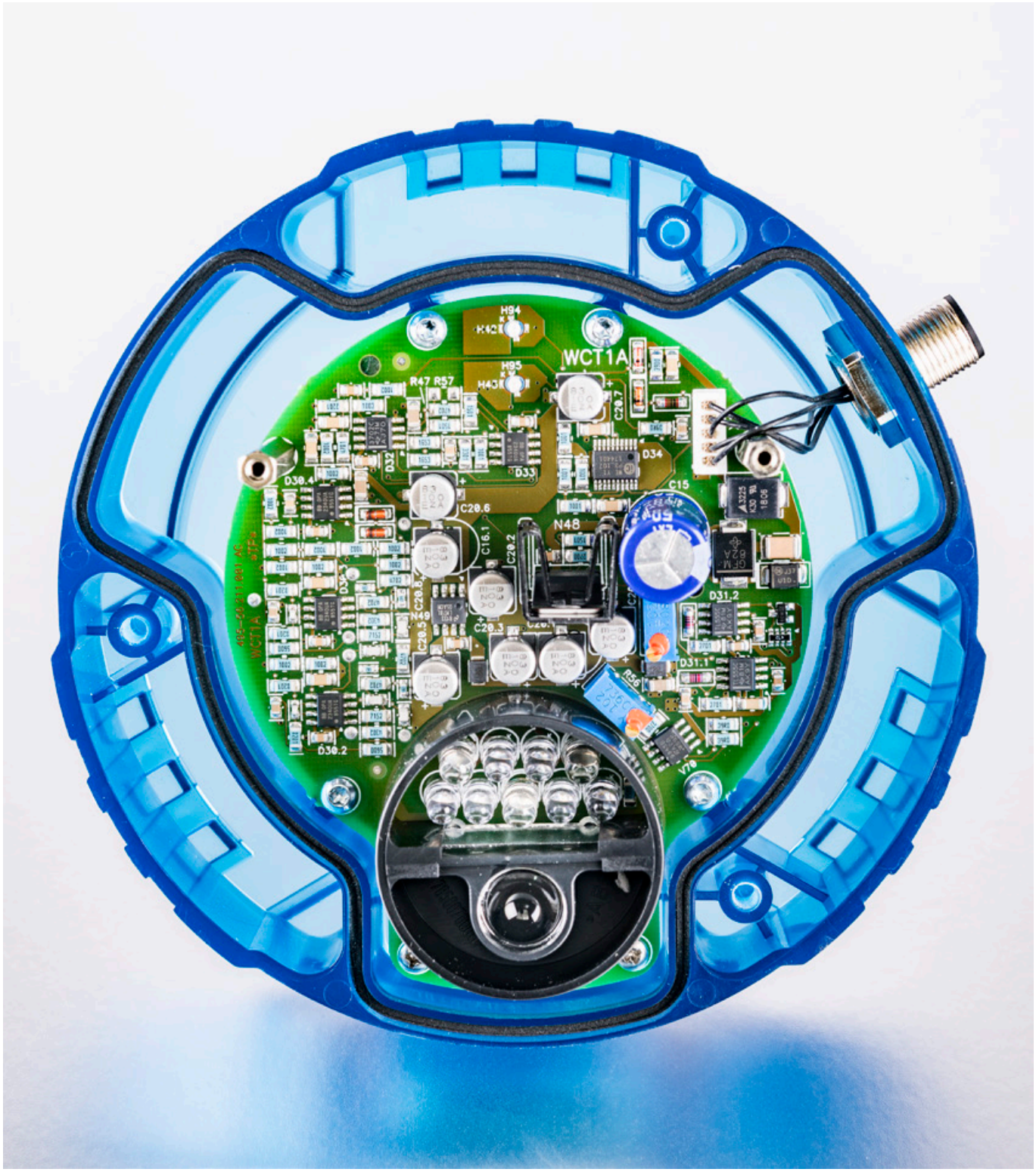
1 Feed roller
2 The adjusting slide moves with the knife in a circular path around the center of the needle roller.
3 The motor regulates the amount of waste.
4 The permanent suction keeps the card clean in this area as well.



The blue sensor monitors the waste quality and the precision motor adjusts the mote knife if necessary.

With WASTECONTROL, the best is permanently brought out of cotton.





WASTECONTROL sensor

Economic efficiency calculation
When using 20,000 t/a of cotton, the WASTECONTROL saves approx. 320 bales of cotton per year, for instance due to an additional 0.4 % yield in good fibers. At a cotton price of 63 cents/lb this corresponds to savings in the amount of 110,900 US$.

110,900 US$ savings in raw material purchase

Immediate quality control

NEPCONTROL and the digital Mill Monitoring System “My Mill“

Prompt identification of quality deviations

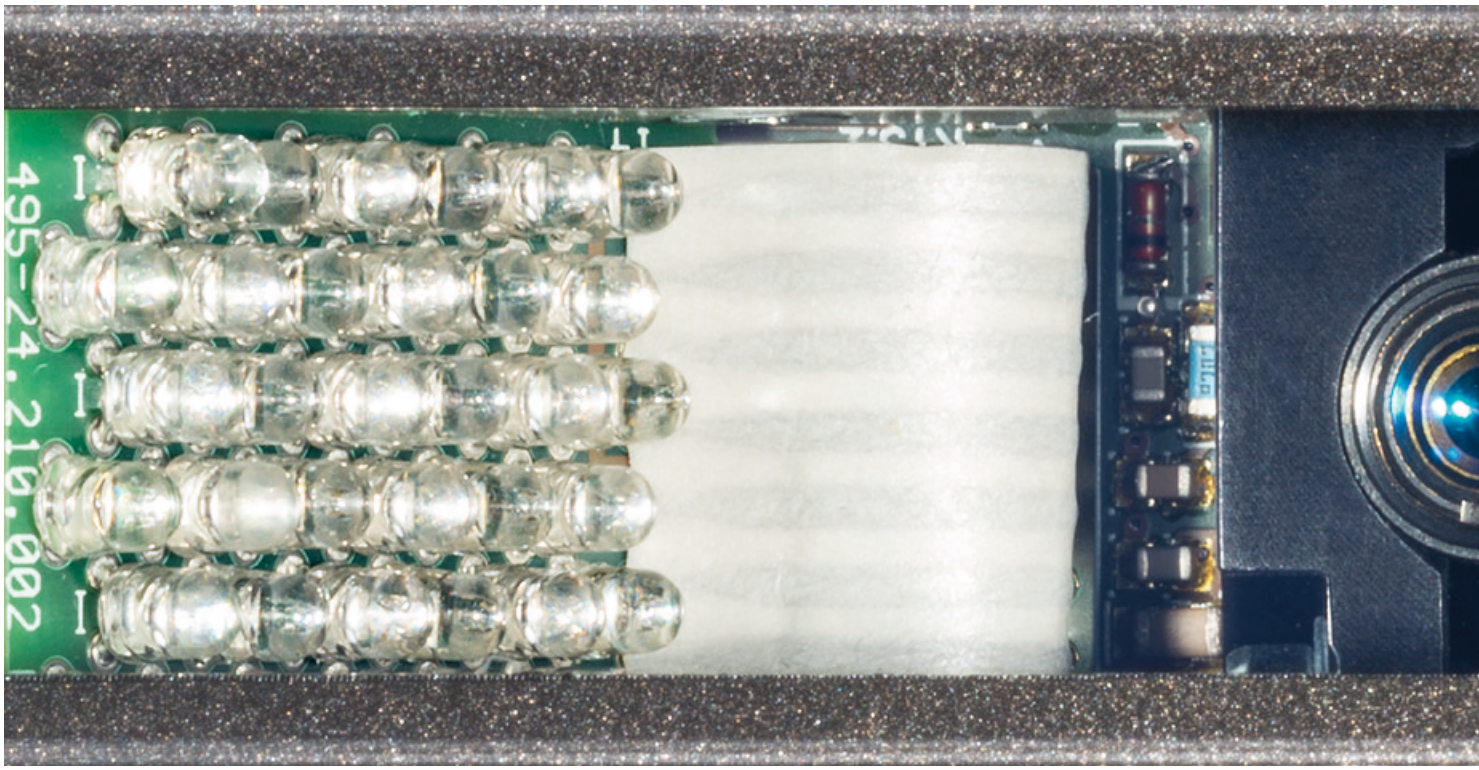
Nep reduction is the most important quality criterion during carding. For this reason, the nep level in the card sliver should be permanently monitored. Deviations from quality are detected immediately, not hours or days later during laboratory tests.

NEPCONTROL monitors each single meter of card web during production and provides concrete insights into quality.

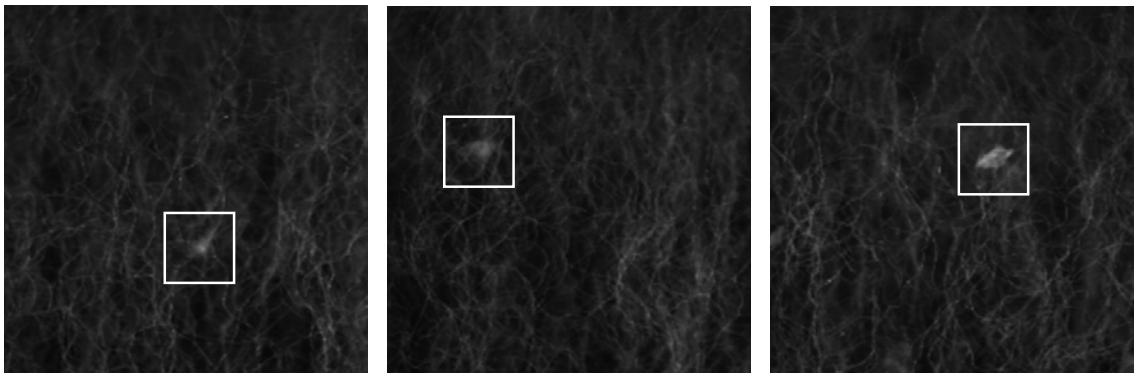
Focus on nep level

Under the take-off roller, a camera takes approx. 20 pictures per second of the passing web. In doing so, the camera moves about the whole working width of the card in a special, fully closed profile. This optical principle copies the visual perception of a person, and is thus superior to indirect measuring methods. A high-performance computer directly attached to the profile evaluates the pictures with a special software, distinguishing between neps, seed coat fragments and trash parts.

With NEPCONTROL it is also possible to establish a distribution profile of the nep and particle level over the working width. Possible clothing damage or incorrect settings become immediately visible this way.



Camera and flash of the Nep Sensor NEPCONTROL



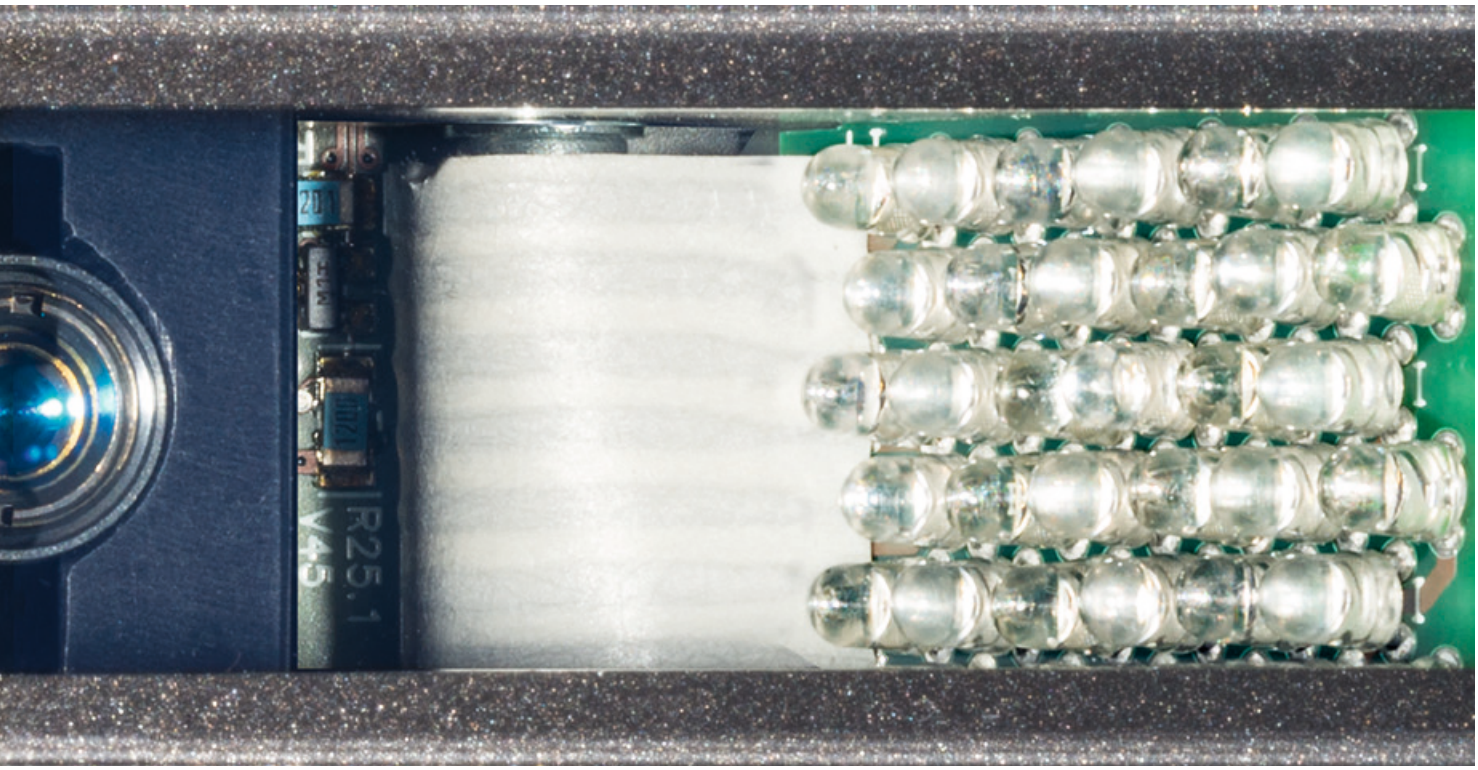
The camera's view of the web with trash particles (neps, seed-coat fragments, trash parts).

NEPCONTROL and Mill Monitoring System "My Mill"

The NEPCONTROL data is transmitted to the higher-level production and quality information system My Mill. The intelligent evaluation and display of the results immediately indicates:

- Are any of the values outside the desired quality range?
- Is there any clothing damage?
- Has there been a change to raw material data?
- Is clothing maintenance required?

The quality manager can respond without delay, even while on the road.



Operation – as simple as with a Smartphone

SMART TOUCH, RFID sensor for identification and T-LED remote display

SMART TOUCH

The monitor forms the interface between the operator and the machine. For the first time, it is designed in multi-touch technology. Operation is just as intuitive as using a Smartphone or tablet.

Identification via personal chips

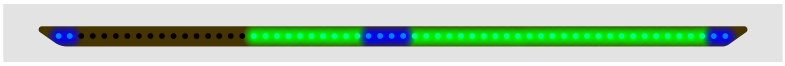
The control recognizes the person and the authorization by the chip. In this way, the operator only receives the information required for the fulfillment of his role.

Trützschler remote display T-LED

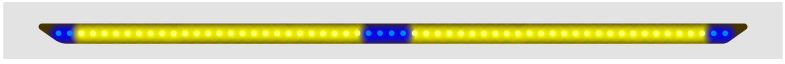
More overview in the card room with T-LED

The operator can read the operating status of the machines or quality parameters at a glance from the T-LED remote display over large distances.

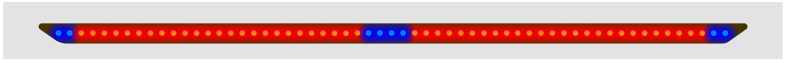
The remote display T-LED brings more overview to the card room.



During normal operation, the T-LED shows for instance the can filling level.



A can change is imminent.



A malfunction is indicated.

Automatic mode: Green

During normal operation of the card, the Trützschler T-LED display optionally visualizes various operating states and quality parameters. The main color in automatic mode is green:

- Can filling level: How long is it before the can change?
- CV values of the card slivers: Is sliver evenness correct?
- Lower trunk pressure: Is card feeding uniform?

Warning mode: Orange

In warning mode, the card still produces normally, but, for instance, an empty can is missing for a pending can change. T-LED draws the operator's attention to this with orange light.
A can change is announced to the operator by a flashing yellow light. In addition, the T-LED acts as a warning light with a yellow flash before the can changer starts moving.

Faults: Red

Malfunctions, i.e. machine downtimes and interruptions in production, are clearly visualized with the code color red.

More information:

or click here:

Trützschler Remote Display T-LED

High performance, low maintenance: MAGNOTOP 3

This is how simple optimal clothings for flats can be

Maintaining a consistently high quality requires regular change of flats clothings. For this purpose, Trützschler has developed the new MAGNOTOP 3 system together with Trützschler Card Clothing. MAGNOTOP 3 eliminates the need for a flats workshop and prolongs the service life by one grinding cycle. [1)]

With the new MAGNOTOP 3 flat bar, the precision of the MAGNOTOP system has been further improved. The new flat bars with the new profile cut the already narrow tolerances of the system in half.
The clothing strips fit perfectly from the beginning since super strong neodymium magnets attach the clothing strips to the flat bar, thus reducing tolerances.

More information:

or click here:

Trützschler Magnotop

Each simplified clothing change increases the economic advantage

The MAGNOTOP 3 system allows easy and quick change of the clothing strips without tools. Depending on labor costs, savings of 300 – 1,100 US$ per card re-clothing can be realized.

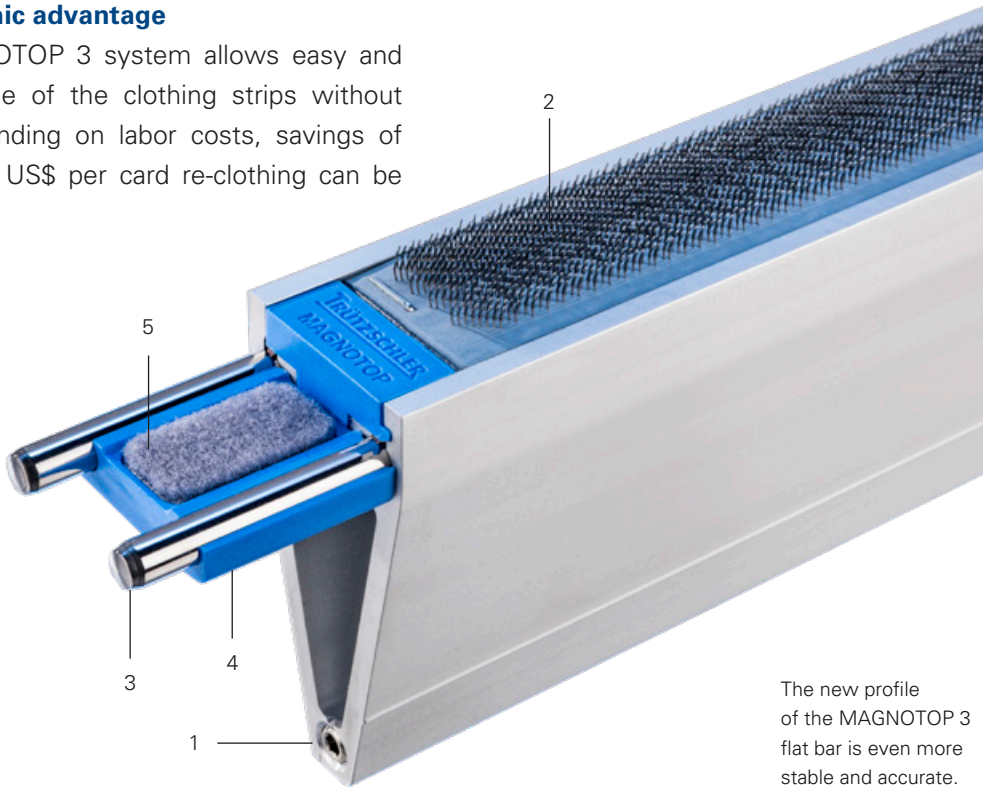
Investments of 170,000 - 210,000 US$ in a flats workshop are completely eliminated

Use of the MAGNOTOP 3 system also eliminates the otherwise unavoidable extra costs:

- No spare flat sets required
- No service costs for re-clothing
- No transport costs

➔

[1)] Corresponds to approx. 80,000 kg card sliver



The new profile of the MAGNOTOP 3 flat bar is even more stable and accurate.

The Trützschler flat bar – proven millions of times

1 Optimized, light-weight aluminum profile
2 Flats clothing
3 Wear-resistant hard metal sliding pins
4 Plastic support
5 The cleaning felt keeps the sliding plastic clean

MAGNOTOP 3

The clothing strips can be replaced without any effort and without any tools.

The flat bars can be inserted into the cams of the toothed belt easily without tools.

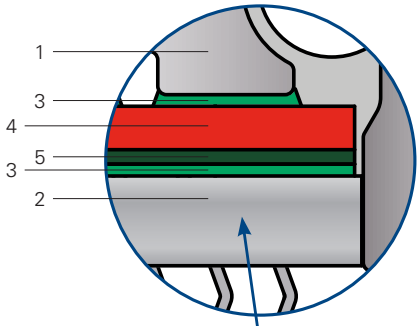
Extended service life

With MAGNOTOP 3, the usual leveling that compensates deformations caused by clip assembly can be eliminated since MAGNOTOP 3 clothing strips automatically ensure a perfect fit.

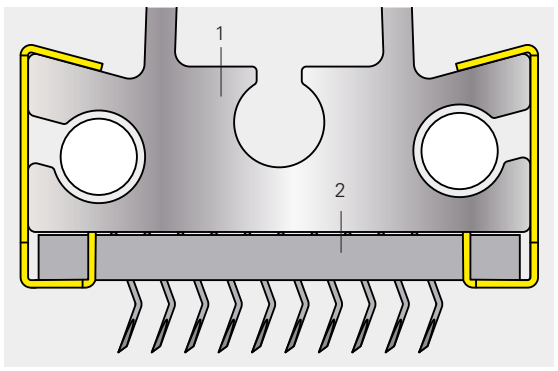
Overview of MAGNOTOP 3 advantages:

- No investments in a flats workshop, no operating costs, etc.
- No service costs for external service providers
- No investment in one or several spare flat bar sets
- No inventory of spare flat bar sets
- No grinding of flats clothing after re-clothing
- No transport costs, simplified logistics

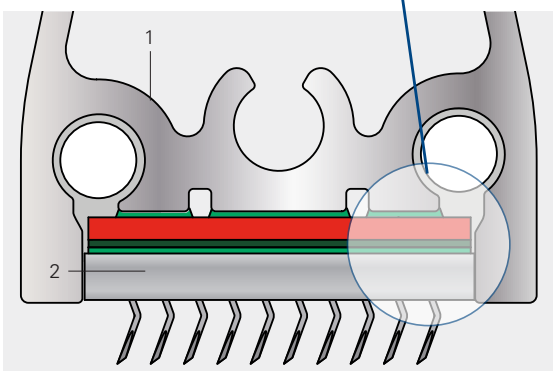
The adhesive layers (3) compensate even the smallest tolerances.



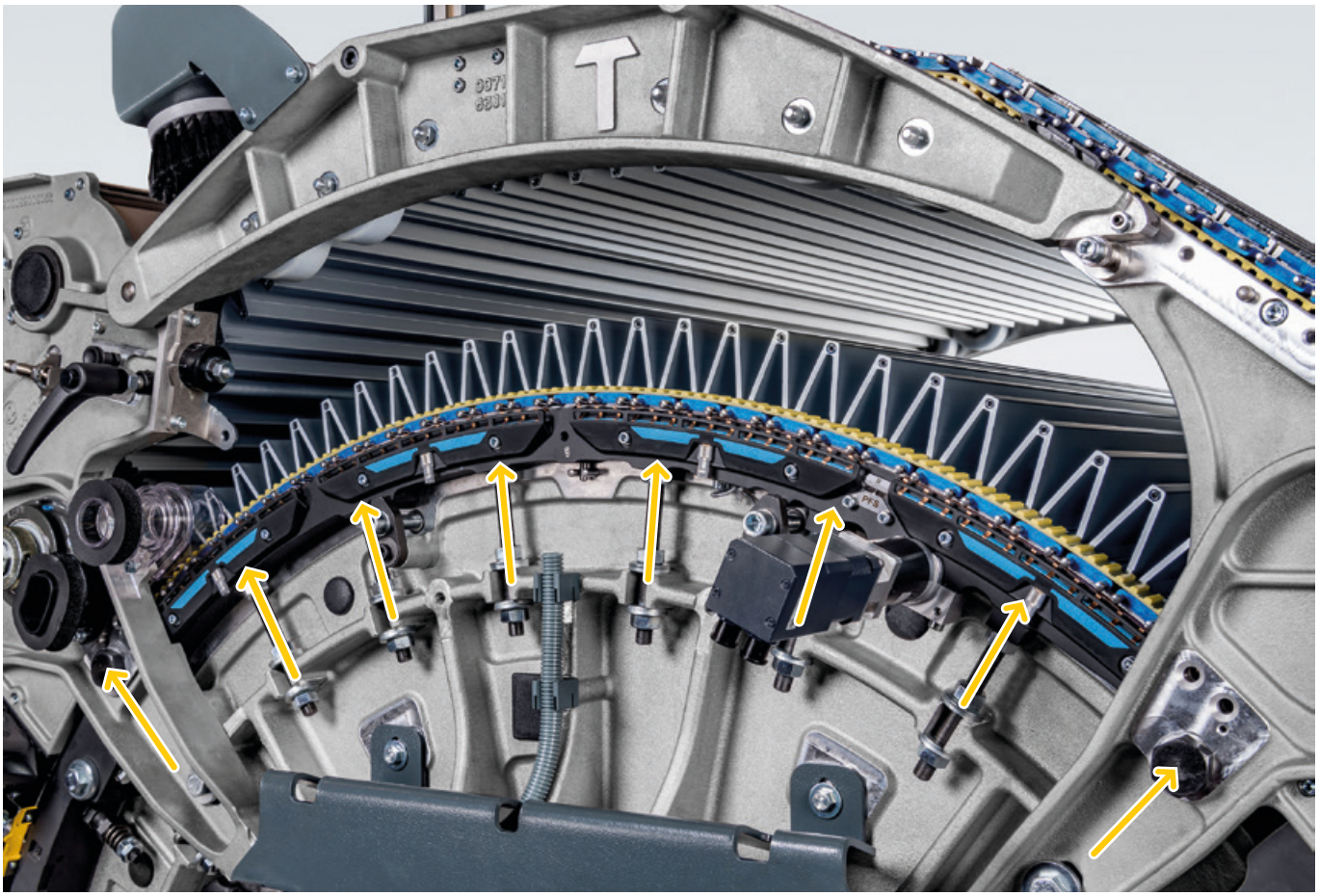
1 Aluminum flat bar
2 Clothing strip
3 Adhesive and compensation layer
4 Neodymium magnet
5 Thin metal support



Conventional system with clips



MAGNOTOP 3 system



In addition to MAGNOTOP 3, a contribution is also made by the new setting system of the carding bow. Eight spindles instead of six allow an even more precise basic setting.

This basic setting is carried out by Trützschler specialists during assembly and never requires readjustment afterwards. The large setting range of 40/1000" is also sufficient for regrinding or clothing change.

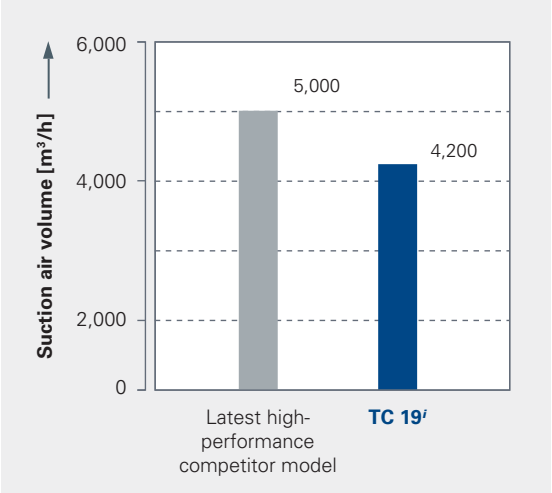
Better yarn quality due to higher precision

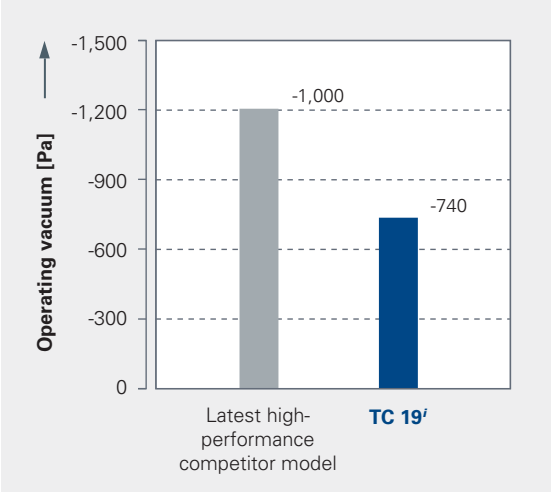
The TC 19^{i} saves energy and operating costs

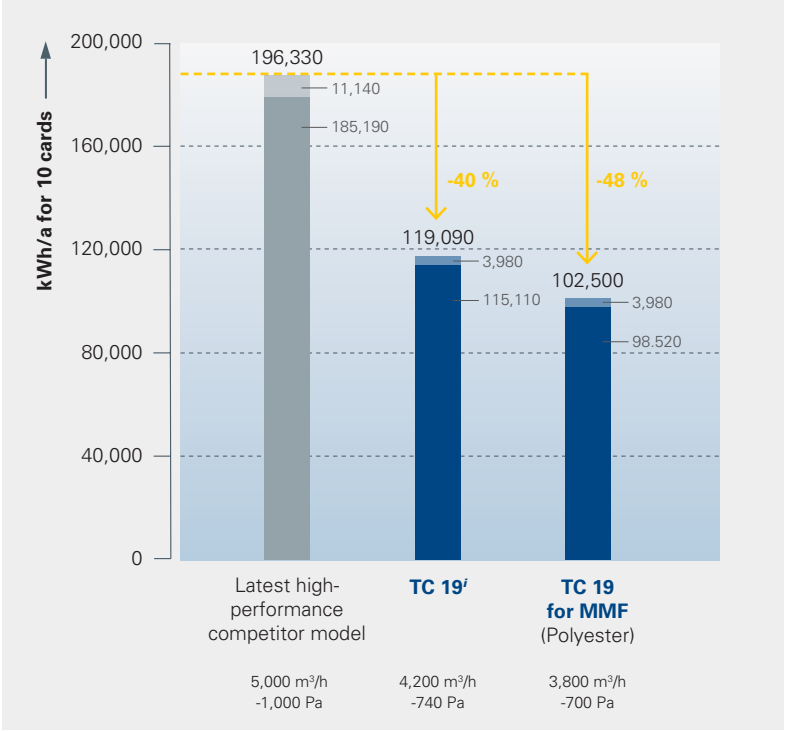
The main reason for the energy efficiency of the TC 19^{i} is the low suction pressure of -740 Pa and the low air requirement of only 4,200 m³/h. At the same time the need for compressed air has been reduced to a minimum.

In the processing of polyester the suction pressure and air requirement of TC 19^{i} could even be further reduced to -700 Pa and 3,800 m³/h respectively. These values are valid for all production rates up to the maximum of 300kg/h.

The low air requirement and thus the required, small-scale filter capacity can only be achieved because each individual duct element is flow-optimized. The impact becomes strikingly obvious in the transparent duct parts of the suction hood while card is in operation.







Example:

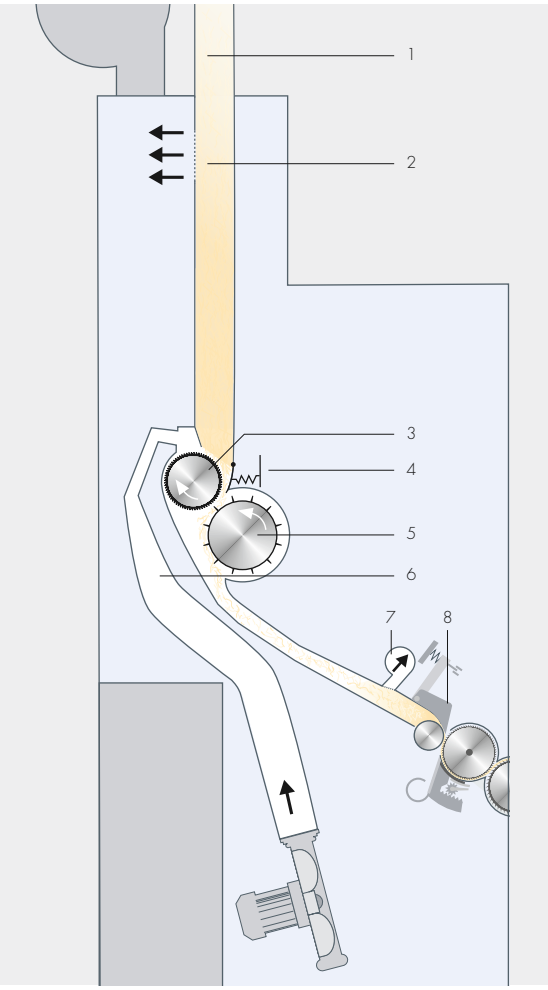
10 cards, 8,000 h/year, Cost of energy: 0,09 EUR/kWh
Air consumption values valid for all production rates up to 300 kg/h

40% energy savings

for waste suction and compressed air compared to the competition

Quality right from the start

DIRECTFEED and SENSOFEED+, the unique Trützschler direct feeding system



Tuft Feeder DIRECTFEED

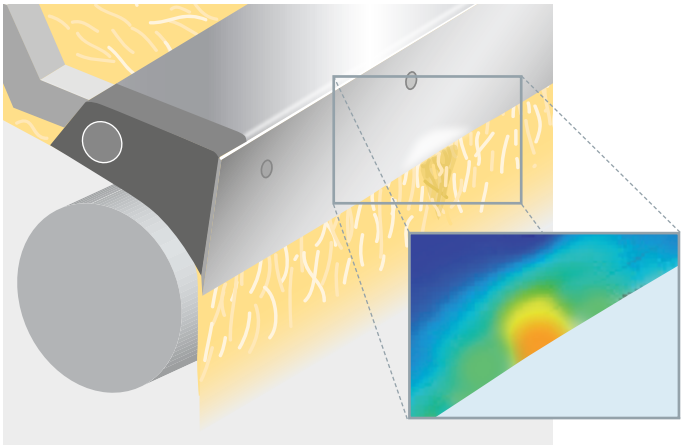
1 New high-volume upper trunk
2 Integrated air-volume separator
3 Electric feed roller, coupled to the feed roller of the card
4 Segmented tray for secure clamping
5 Opening roller with gentle needling
6 Closed air circuit with integrated fan
7 Self cleaning air outlet comb
8 Flexible Feed Tray SENSOFEED+

The carding quality begins with the feeding of the card

On conventional cards, faulty drafts can occur already during feeding due to wrong or suboptimal settings. The Tuft Feeder DIRECTFEED is an integral part of the TC 19^{i}. Its delivery roller and the feed roller of the card are identical. There is no sensitive web transmission.

SENSOFEED+

The web is fed to the pre-opening unit WEBFEED via the flexible Integral Feed Tray SENSOFEED+. From there the compacted tuft web is guided to the knife-shaped feed tray tip. The material at this top allows a partial elastic deformation during the feeding of material slubs. This deformation is only a few hundredth of a millimeter and has hardly any influence on the overall deflection of the feed tray. Accurate actual values allow efficient short-wave leveling.



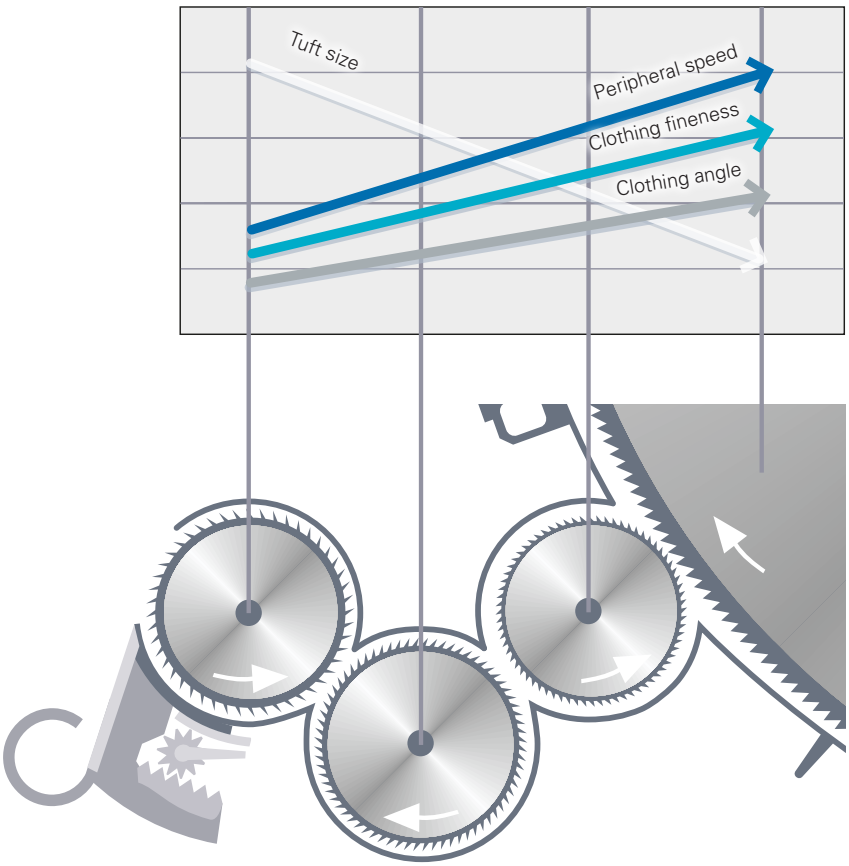
The feeding of material slubs leads to a minimal deformation at this point of the tray edge. In the simulation the effective forces are highlighted in color.

Gentle and efficient tuft opening: WEBFEED

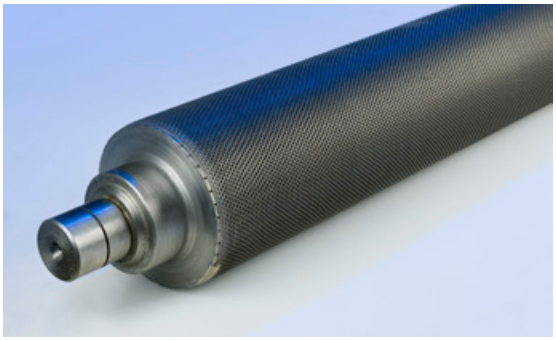
Compared to conventional licker-ins, the WEBFEED system with one large or three smaller opening rollers connected in series ensures gentle tuft opening, resulting in an even and fine web. This fiber pre-opening is of decisive importance to the carding process.

Various arrangements are available:

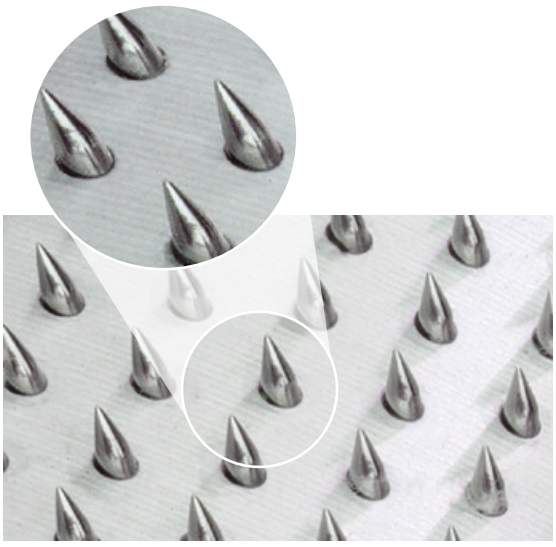
- **3 rollers – first roller:**
  Needle clothing or metallic wires
  e.g. for cotton or mixed fiber applications
- **1 large roller:**
  Needle clothing or metallic wires
  e.g. for man-made fiber applications



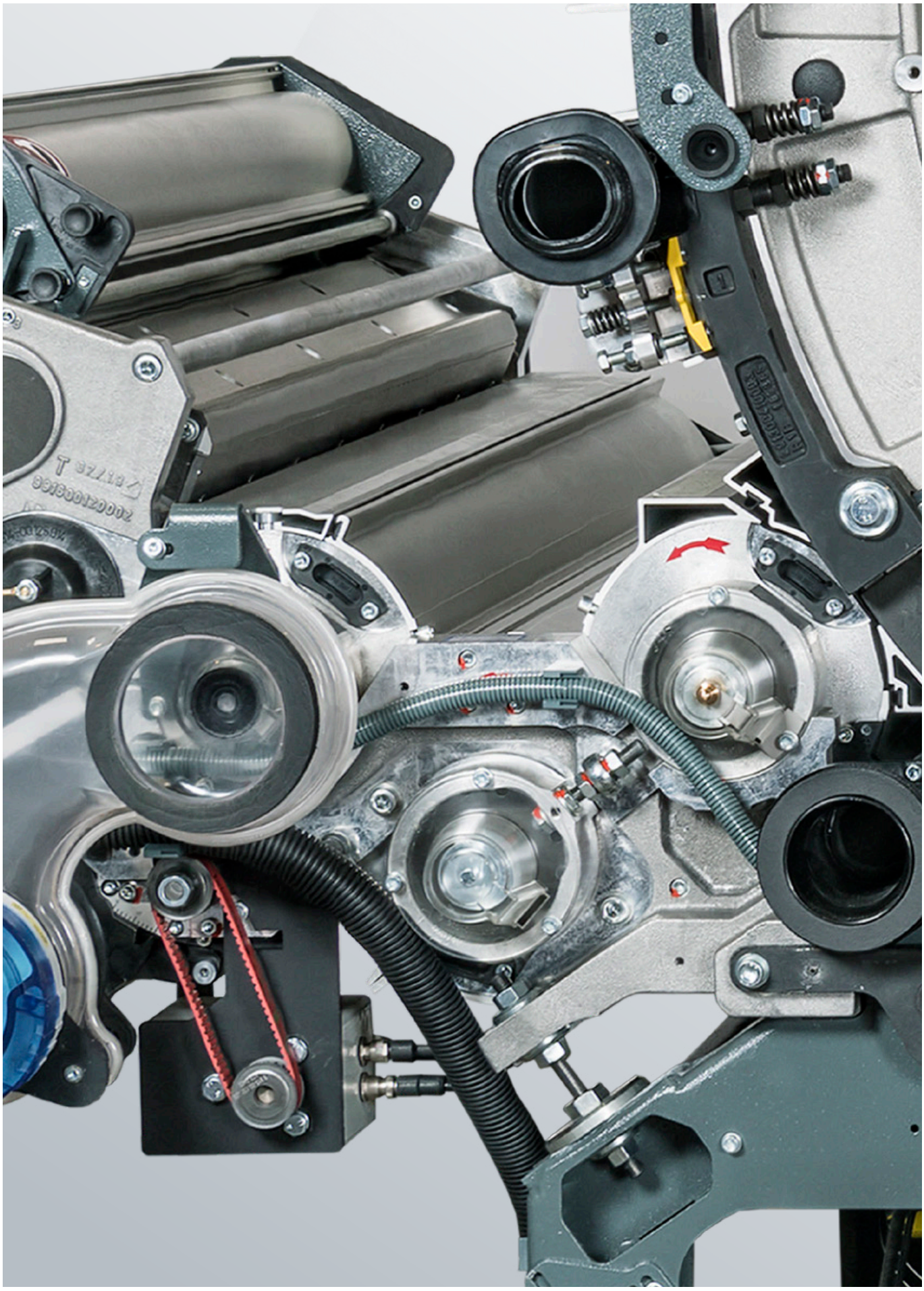
Gradual opening for maximum fiber protection (3-roller WEBFEED)



Metallic wires offer high flexibility for different applications as they can be easily exchanged



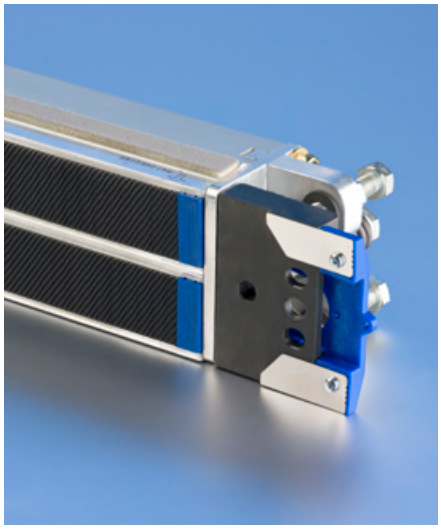
Needle licker-ins offer a long service life and are virtually maintenance-free



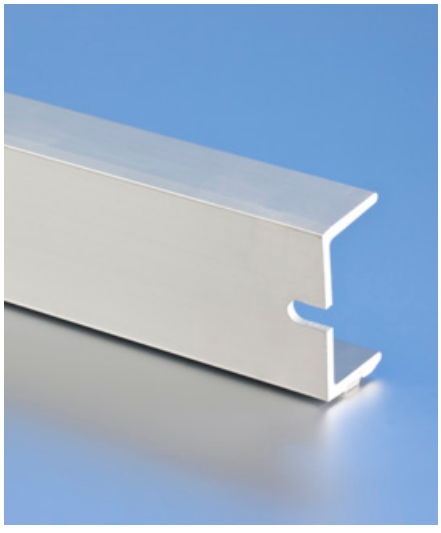
Flexible adjustment of carding conditions: MULTI WEBCLEAN

The three elements of the MULTI WEBCLEAN systems:

Cleaning element
A mote knife with a hood under permanent suction ensures the separation of small dirt particles, seed coat fragments, dust particles and fiber fragments.

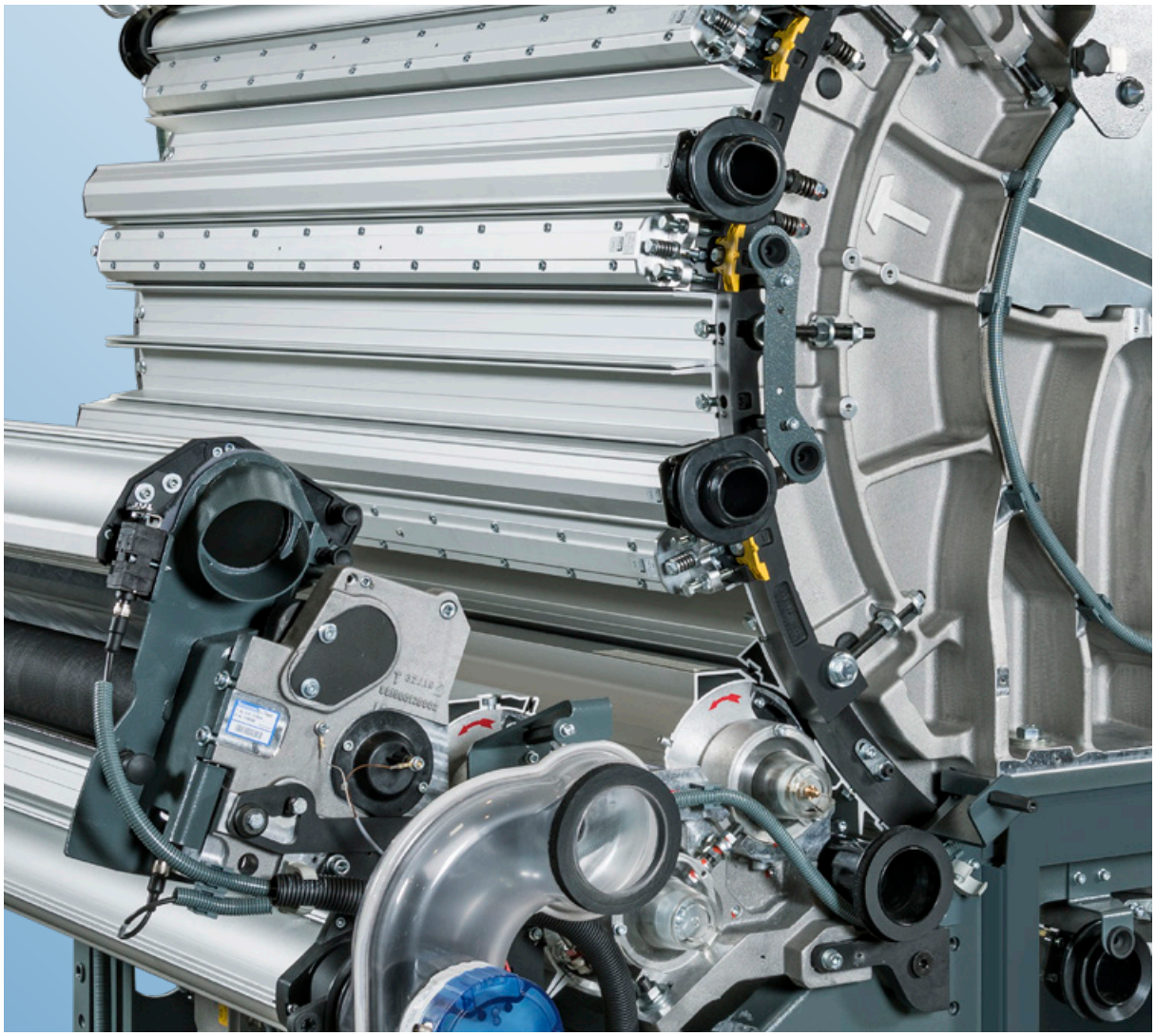


Carding element
The carding element consists of two clothing strips in a support (TWIN TOP), which can be equipped with a number of different clothing types and finenesses, depending on position and fibers.



Cover element
If one of the eight variable positions in the pre-carding and post-carding area is not in use, a cover element is mounted.

The carding conditions must be adjusted depending on fiber, production level and quality desired. To get simple and quick results, the MULTI WEBCLEAN system allows individual attachment of ten special elements each in the pre-carding and post-carding area of the cylinder. Only the first and last element are specified; the remaining eight elements are configured according to the required application.



Depending on application, the MULTI WEBCLEAN consists of the cleaning, carding and cover elements.

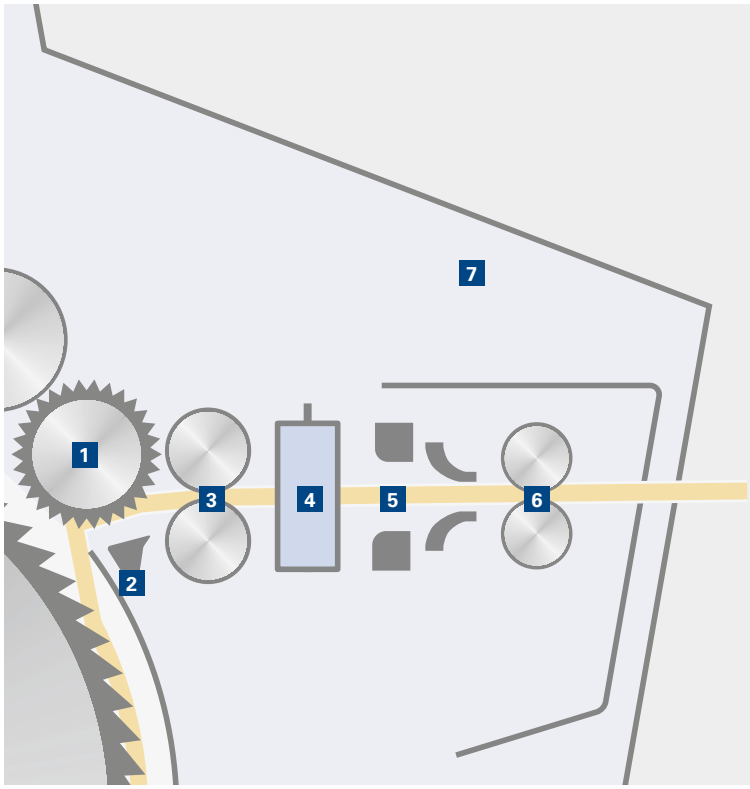
Replacement within minutes

Once the elements are precisely adjusted, they can be immediately put into operation again even after removal, without the need for readjustment. Specially developed fixing elements secure the original setting. In principle, any element can be mounted to each of the 16 positions. The card is delivered in a configuration that has been individually specified in advance.

Reproducible quality, meter by meter

Web doffing for the TC 19^{i}

An integrated pneumatic piecing aid makes the web doffing operation very simple.



Web doffing for TC 19^{i}

1 Take-off roller
2 Profile for NEPCONTROL
3 Squeezing rollers
4 Transverse belt
5 Pneumatic piecing aid
6 Quality Sensor DISC MONITOR
7 Large hood for good accessibility

The Trützschler web doffing is characterized by trouble-free running behavior at high delivery speeds of well over 400 m / min. It combines simple operation with high quality standards.

The tried and tested sliver sensor DISC MONITOR, known from the Trützschler autoleveler draw frames, is integrated into web doffing. It measures every meter of card sliver in a reproducible and precise manner before it is coiled into the can.

The suction ducts are fastened entirely without tools. Pulling off and putting on takes place via a quick-change system.

Ideal width for your yarn quality and productivity

Working width and cylinder diameter of the new TC 19^{i} ensure the perfect balance between productivity and precision.

Optimal carding width = higher productivity and quality

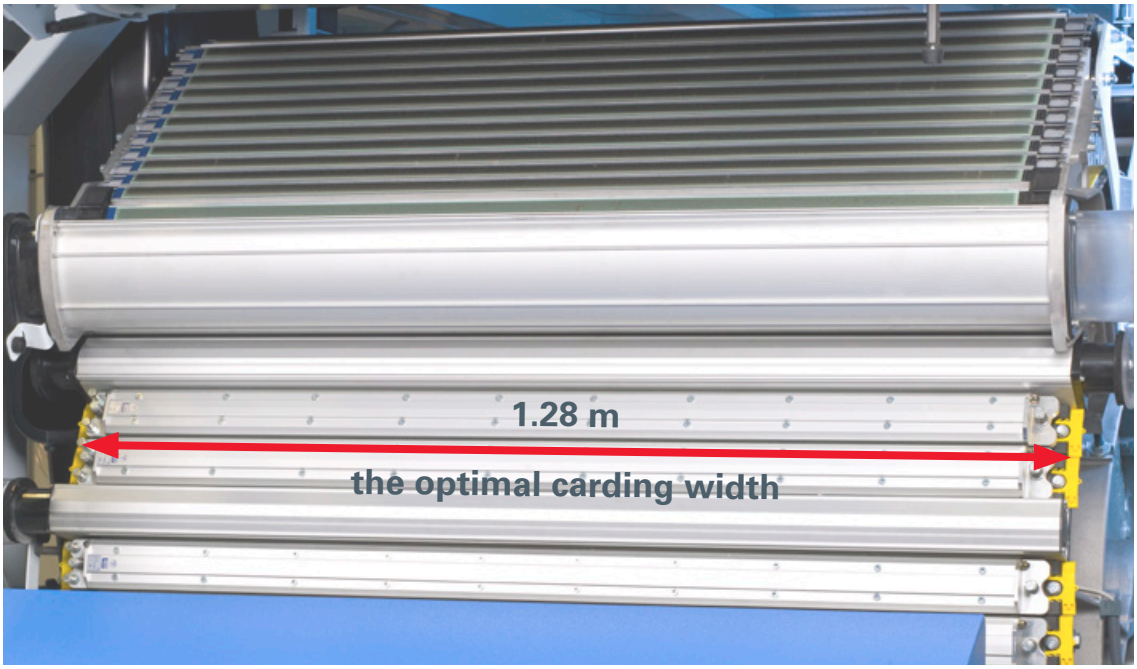
Experiences gained from practice confirm: The working width of 1.28 m represents the perfect balance between productivity and efficiency. The request for even more width is limited by requirements on precision and the control of the rotating masses for economical production costs.

Economically convincing

The new intelligent Trützschler card convinces not only technologically, but also economically:

- **Low investment costs**
  The advantages from the ratio of carding width of 1.28 m to the cylinder circumference of 4.10 m become apparent when considering the investment costs in relation to the globally recognized long service life of Trützschler cards. Based on 1 kg of card sliver produced, the TC 19^{i} requires the least investment:
  – less cards are needed
  – a smaller building size is possible

- **Lowest operating costs**
  The life cycle costs of the TC 19^{i} allow an incomparably fast return of investment. Considerable savings per year can be achieved in the areas of energy, filter and maintenance costs.

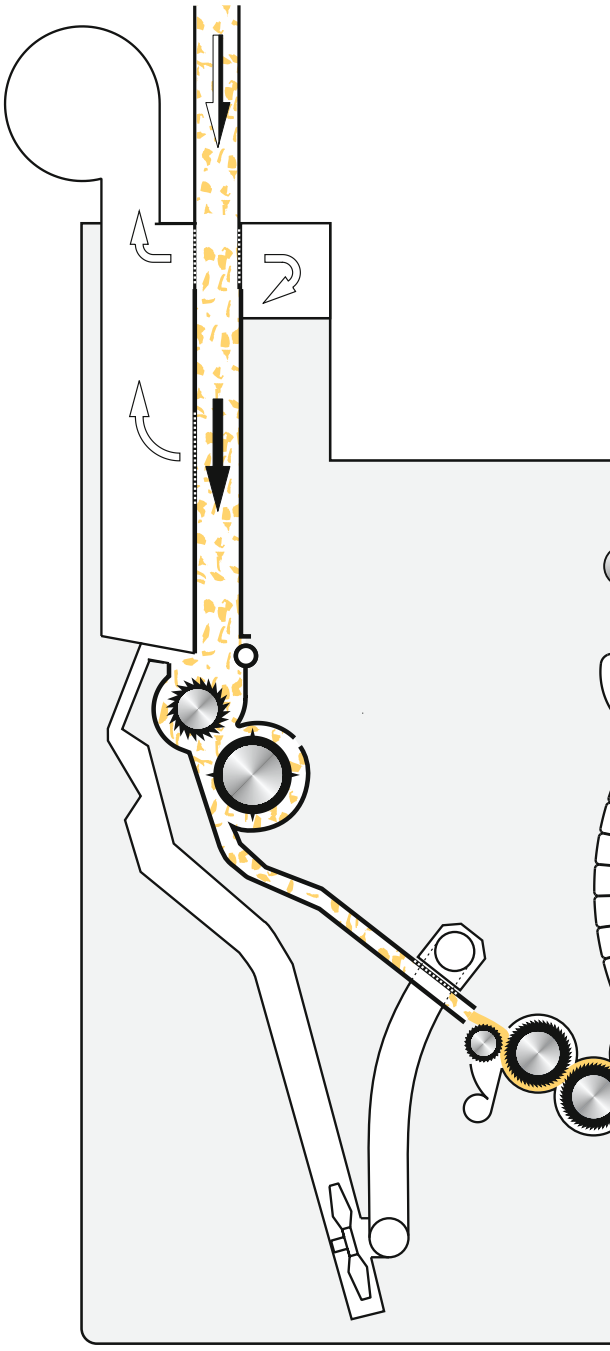


An intelligent control system for an intelligent card

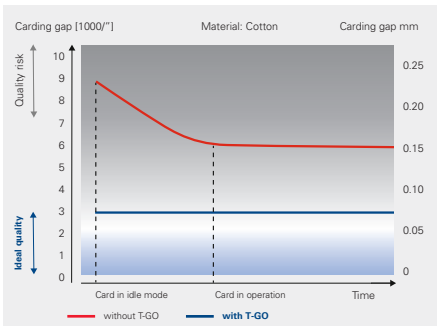
In-house production of the complete hardware - from the circuit boards through the Computing Unit and sensors to the Trützschler software

The intelligent Computing Unit of the TC 19*i* performs a number of tasks in conjunction with higher-level data systems such as the Mill Monitoring System "My Mill":

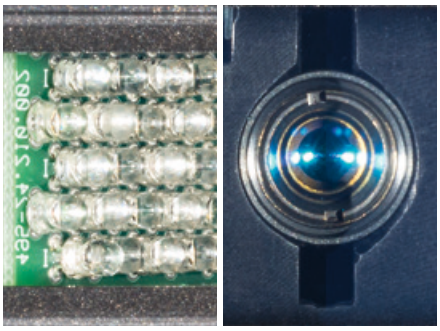
- General control of the card and the Tuft Feeder DIRECTFEED
- Control of the sliver coiling systems such as T-MOVE 2 or the Integrated Draw Frame IDF 2
- Communication with the blowroom, especially with CONTIFEED 2
- Control, monitoring and coordination of leveling systems
- Monitoring of the vacuum in the suction system, the compressed air system etc.
- Control of the Gap Optimizer T-GO
- Evaluation of all relevant sensor signals for setting optimization with T-CON 3
- Control of the self-optimization function of WASTECONTROL
- Seamless quality monitoring with special sensors
- Thick spot and metal monitoring in feeding
- Monitoring of the defined quality limits
- Evaluation of information from the Nep Sensor NEPCONTROL
- Permanent monitoring of energy consumption
- Communication with higher-level data systems such as My Mill
- Log book functions
- Maintenance and clothing management
- Monitoring of the safety system
- Fault identification and display



Always keep the overview with the My Mill all-in-one platform for the spinning mill - the new real-time monitoring system from Trützschler.

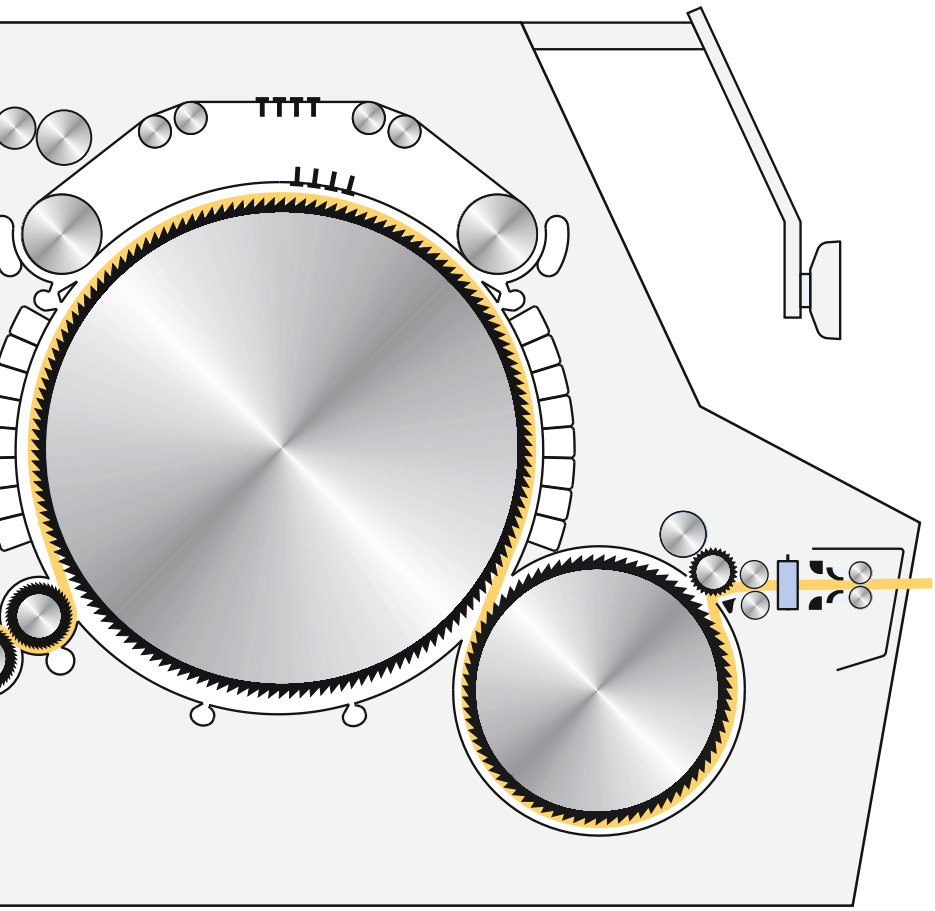


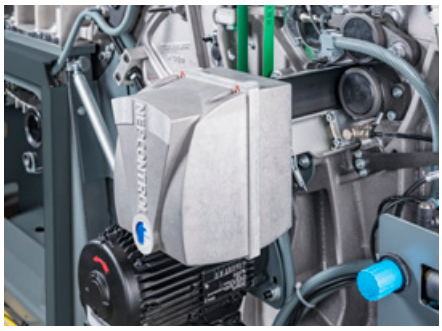
Ideal carding gap setting with the Gap Optimizer T-GO



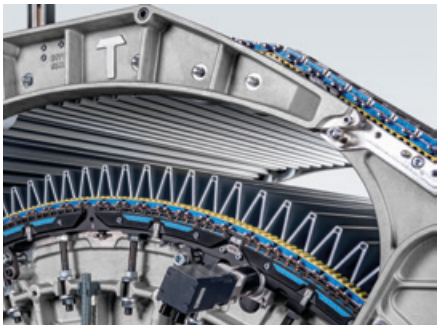
Flash and camera of the Nep Sensor NEPCONTROL

T-CON 3 gives the technician concrete setting recommendations.





Nep sensor NEPCONTROL



Management of maintenance and card clothing

Seamless quality control

Safety for production

Before it is deposited into the can, the quality of each individual meter of card sliver is permanently controlled by the integrated sensors.

The data for all relevant criteria are determined and combined:

- Sliver count
- Sliver evenness
- Spectrogram
- Frequency of thick places
- Optional: Number of neps, dirt particles, seed coat fragments

The Computing Unit of the card evaluates this data and displays the results graphically on the multi-touchscreen SMART TOUCH. The TC 19^{i} stops automatically as soon as the predefined limits are exceeded. This type of production control of every meter of card sliver is clearly superior to random laboratory checks because it is performed permanently and online.

Optionally, quality management can be supported by other systems: Thus, for instance, the online nep sensor NEPCONTROL permanently records the number of neps, dirt particles as well as the seed coat fragments (option).

Overview of the quality data

Control system

The heart of the control system is the robust Trützschler Computing Unit. This industrial computer is built in-house by Trützschler. It is designed for the harsh environmental conditions in the spinning mills.

Control of sliver coiling system

The sliver coiling systems such as the Integrated Draw Frame IDF 2, the T-MOVE 2 or the various can changers do not require their own control system. This is always handled by the card control.

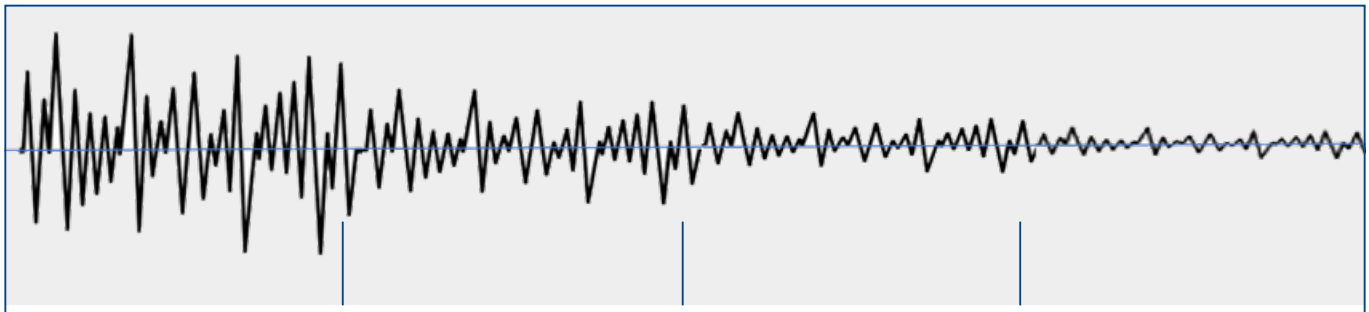
Communication with CONTIFEED

The cards of a line permanently report their material requirements for tufts to the CONTIFEED control system. If a card is not producing in the meantime, the production in the blowroom is adjusted immediately.

Leveling systems

In the TC 19^{i} there is a perfect interaction of four coordinated leveling systems. For the production of an even card sliver, a number of measures must interact perfectly:

Coordinated leveling system of the TC 19^{i}



CONTIFEED-card feeding
The material flow to the card is already continuously controlled by the CONTIFEED 2 system. Furthermore, the production requirements of all cards of a line influence the production of the last machine in the blowroom. This connection contributes to a continuous card feeding, and thus to sliver evenness.

DIRECTFEED leveling
Additional homogenization is made possible by the double trunk principle of the Tuft Feeder DIRECTFEED. Its continuous, pressure-controlled feeding of the upper and lower trunk prevents unevenness of the card sliver, which for instance can occur during start up and shutdown of the card.

Long-wave leveling
In addition to the sliver mass measured by the DISC MONITOR, the feed roller speed is also measured and controlled via a single sensor. It covers the entire spectrum of the regular card sliver counts.

Short-wave leveling
The Card TC 19^{i} is also equipped with a short-wave sliver count leveling. This system, which is already effective for a sliver length of less than 1 m, considerably improves card sliver evenness. For this purpose, the thickness of the tuft web is continuously scanned by SENSOFEED+ and converted into an optimized feed roller speed by the card control.

Efficient maintenance

Quick access from all sides

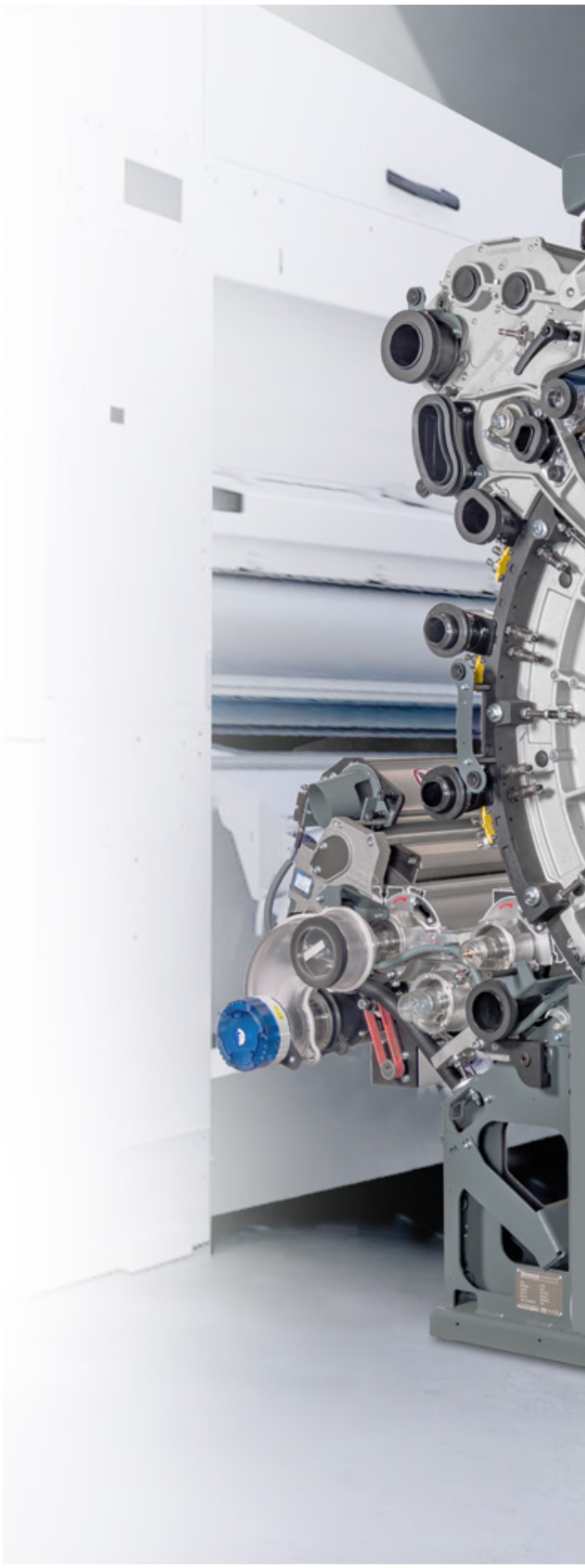
The Card TC 19^{i} also sets standards for maintenance friendliness:

- Doors can be removed without tools in just a few minutes.
- The drives are concentrated on the right side of the machine.
- The operators are protected by a central safety locking system.
- Flats clothing change in two hours thanks to MAGNOTOP 3 flat bars.
- Very simple replacement of the pre-opening unit WEBFEED because it can be changed in one piece.
- The same applies to the Integral Tray SENSOFEED+.
- The complete flat cleaning device and the web doffing can be disassembled within shortest time.
- Since the sliver coiling system has no mechanical connection to the card, cleaning work is simplified in addition to operation.

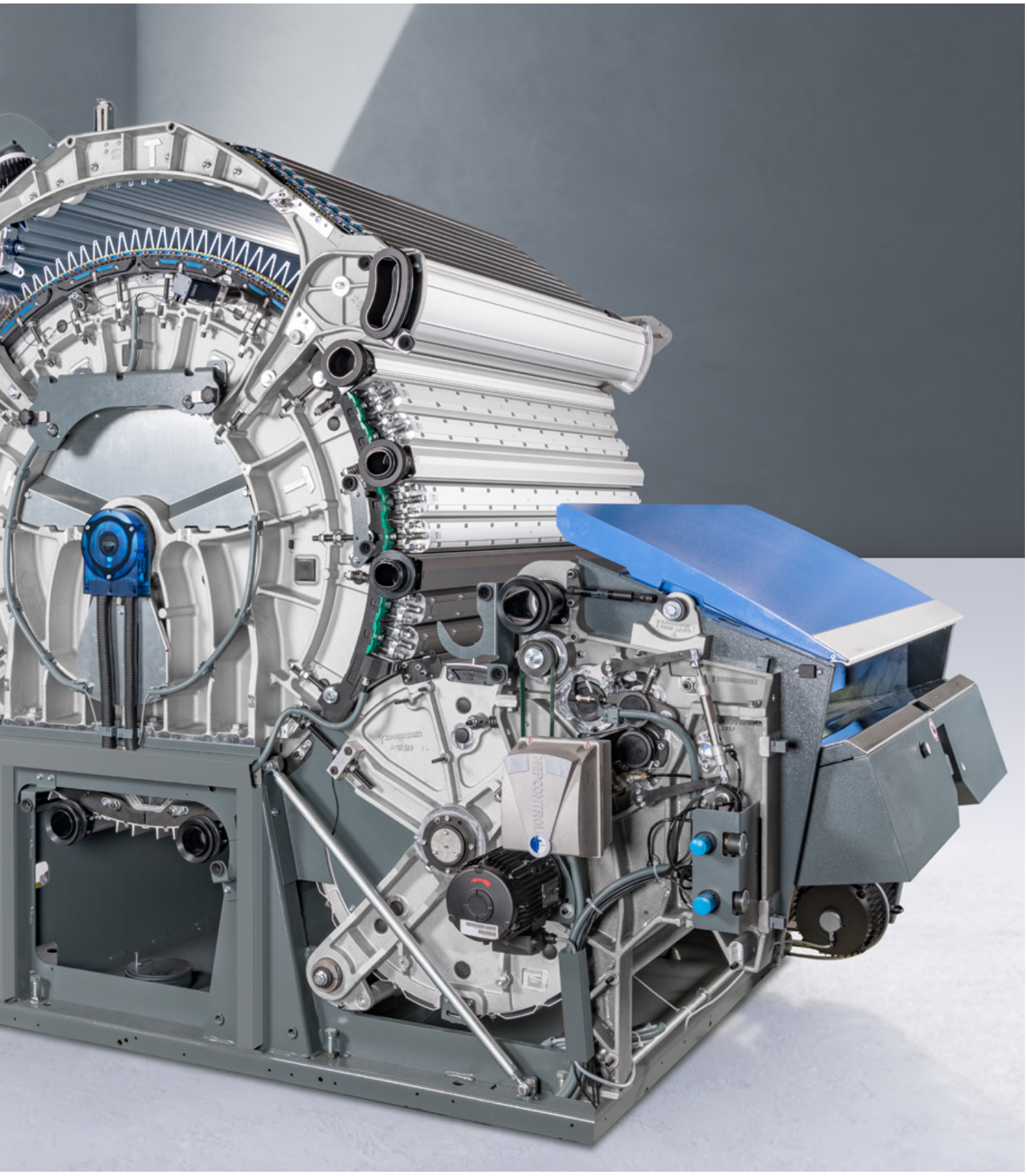
Targeted maintenance management

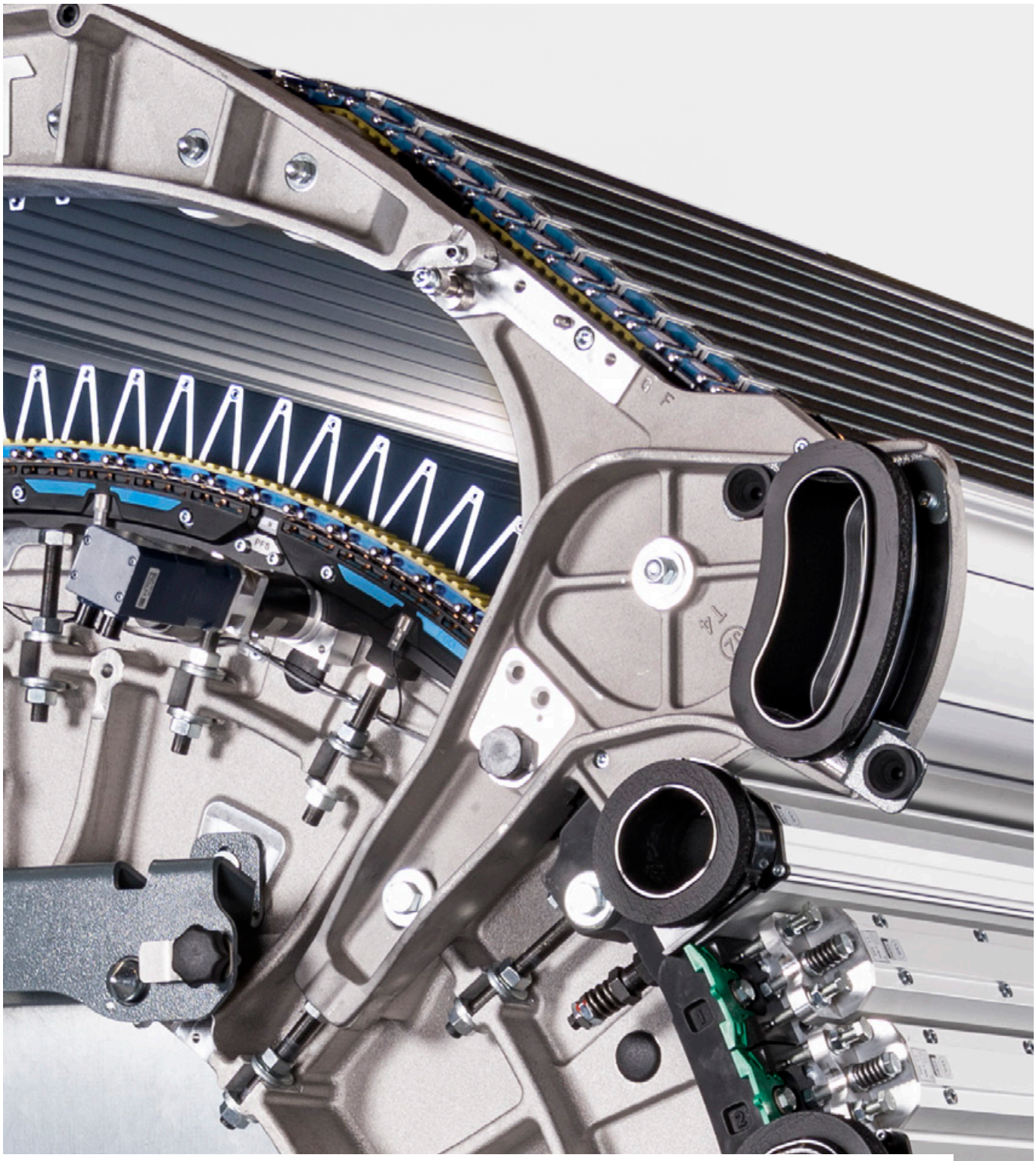
The card control is a valuable tool for the service technician during maintenance tasks, like clothing care.

- Example clothing change:
  The card control indicates this early enough on the screen. In addition to the card control, the My Wires app supports you in optimal and simple clothing management.
- Example error detection and recovery: The control offers special tools for this as well.
- Example operating conditions:
  In addition to the data from T-GO and T-CON 3, speeds, velocities or vacuums are also displayed.



Like all Trützschler cards, the TC 19^{i} also excels with excellent accessibility.





The right clothing for every application: The extensive Trützschler Card Clothing (TCC) portfolio

Unbeatable together: Trützschler cards and clothings

The combination for top performance in every application

The versatile clothing portfolio from Trützschler Card Clothing (TCC) is specially developed and coordinated for Trützschler machines and applications. The high performance of the Card TC 19^{i} cannot be achieved without Trützschler clothings. Depending on the material to be processed, different requirements are of primary importance with regard to the clothing. Years of experience, continuous development and close cooperation with our customers ensure the right clothing selection for individual customer requirements.

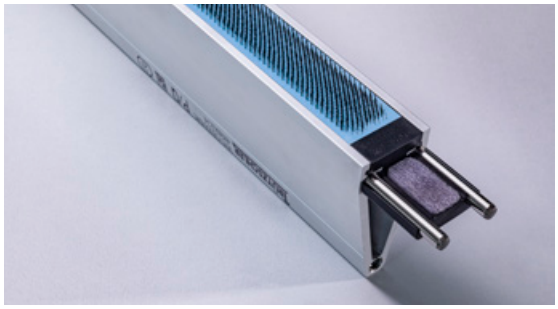
PRECISETOP: The flats clothing for the intelligent Card TC 19^{i}

The revolving flat specially developed for the TC 19^{i} guarantees the optimum and precise carding gap, which automatically and continuously adjusts itself according to the production rate, the cylinder speed and the processed material properties. PRECISETOP ensures a high, constant carding performance with high stability and long service life.

Durable innovation: SUPERTIP clothings for lower maintenance

The use of high-strength steels as well as continuously developed manufacturing processes ensure a long service life of the clothings, meeting the constantly increasing production output of our cards.

The name SUPERTIP stands for a new generation of this durability. Thanks to their stability, the metallic wires for licker-in, cylinder and doffer require less maintenance, prevent downtimes and production losses, and thus substantially contribute to profitability.



PRECISETOP is available in the following versions: PT 30, PT 33S, PT 40, PT 40S, PT 45, PT 52, PT 58

Continuous further development of the manufacturing process ensures a long service life of the clothings

TC 19^{i} for man-made fibers

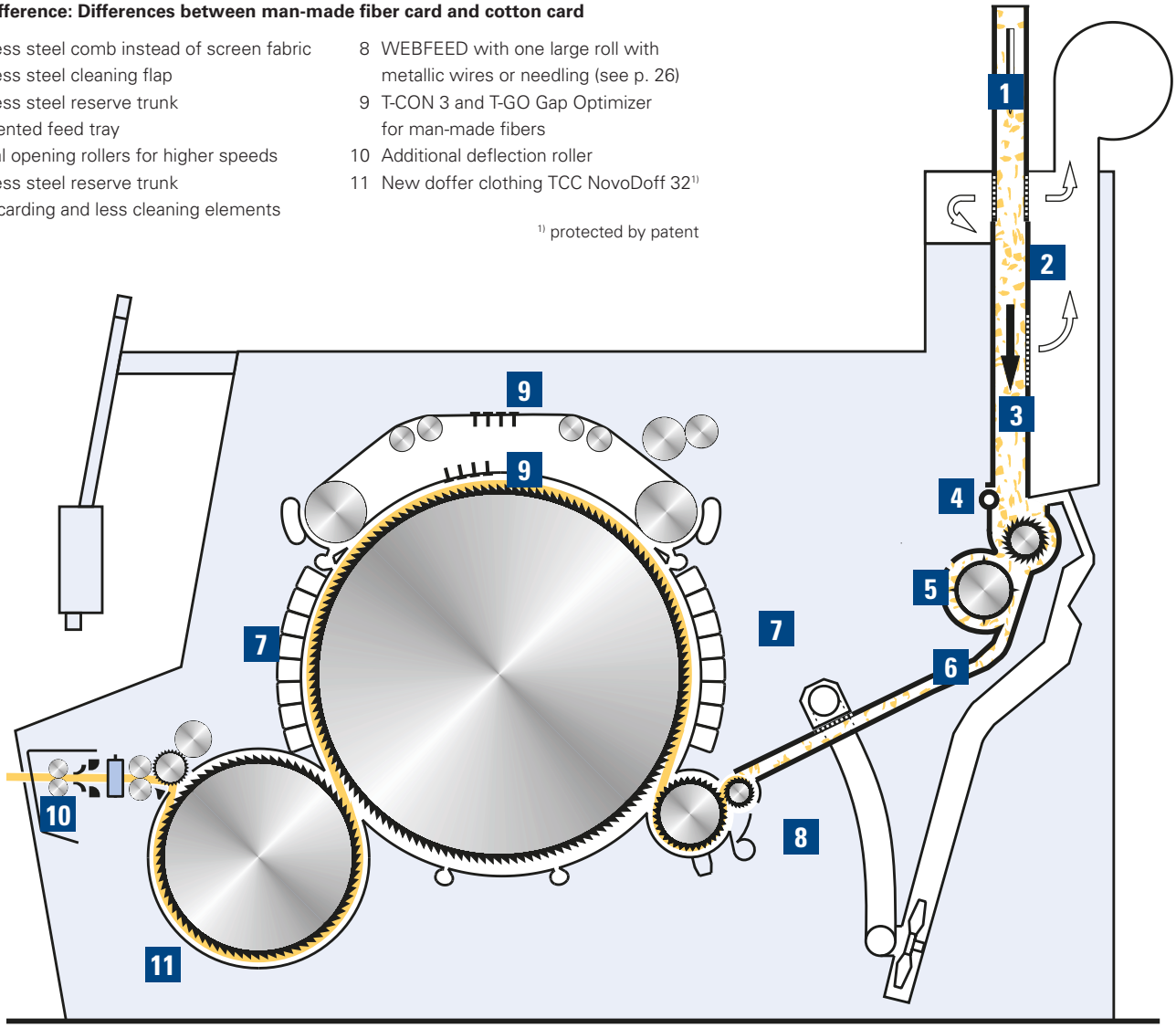
Highly specialized for more quality, performance and durability

The card for man-made fibers differs in essential features from a cotton card. The T-GO Gap Optimizer, which has been specially developed for man-made fibers, ensures an ideal flat setting at all times. The modified WEBFEED system has a single large roll for perfect fiber opening. To ensure an optimal fiber flow, all fiber guiding elements are made of stainless steel, which withstands the reviving agent of numerous man-made fibers.

11-fold difference: Differences between man-made fiber card and cotton card

1 Stainless steel comb instead of screen fabric
2 Stainless steel cleaning flap
3 Stainless steel reserve trunk
4 Segmented feed tray
5 Special opening rollers for higher speeds
6 Stainless steel reserve trunk
7 More carding and less cleaning elements
8 WEBFEED with one large roll with metallic wires or needling (see p. 26)
9 T-CON 3 and T-GO Gap Optimizer for man-made fibers
10 Additional deflection roller
11 New doffer clothing TCC NovoDoff 32[1)]

[1)] protected by patent



T-GO Gap Optimizer and T-CON 3

Maintaining the ideal carding gap for man-made fibers

Thermal influences affect the carding of man-made fibers completely different than processing of cotton.

For instance, the rule "the tighter the flat setting, the better the result", does not apply to man-made fibers. On the contrary; here it is essential to maintain a certain minimum distance. It prevents electrostatic charges that have a negative impact on the carding quality, and subsequently also on the yarn quality.

The intelligent Card TC 19^{i} for man-made fibers with T-GO Gap Optimizer ensures that an ideal, constant carding gap is automatically and permanently maintained for your individual man-made fiber application. This process is completely independent of environmental conditions. It uses T-CON 3 algorithms that have been specially developed and tested for man-made fibers. Results from customer trials prove that maintaining a precise, constant carding gap leads to considerable quality and production increases in the double-digit percentage range, depending on the process and application. Only a few clicks on the display are required to achieve the desired results. At the same time, the complex flat adjustment that has to be carried out by a specialist after every maintenance or re-clothing is no longer necessary.

Optimization Set TC-MMF

For cotton and man-made fiber blends

On the Trützschler Card TC 19^{i} for man-made fibers with the Optional Set TC-MMF, cotton blends can be processed with polyester, viscose or polyacrylic. The TC-MMF features stainless steel surfaces that take the particular fiber-metal friction values into account. Its clothings are specifically designed for cotton/man-made fiber blends, thus eliminating the settling of finishing. An important distinguishing feature is also the number and type of carding segments of the Multi Webclean system. Because the carding of a blend containing polyacrylic fibers requires another configuration than the carding of cotton/viscose.

Trützschler Card TC 19^{i} for man-made fibers

The Optional Set TC-MMF:

- The fiber-guiding elements in the tuft feeder are made of stainless steel
- Additional carding elements from 90 to 640 points/inch^{2}
- Special clothings for cylinder, doffer and flat


TRÜTZSCHLER
TC 19i
TC 19i

TC 19^{i} for recycling

Utilizing textile waste intelligently

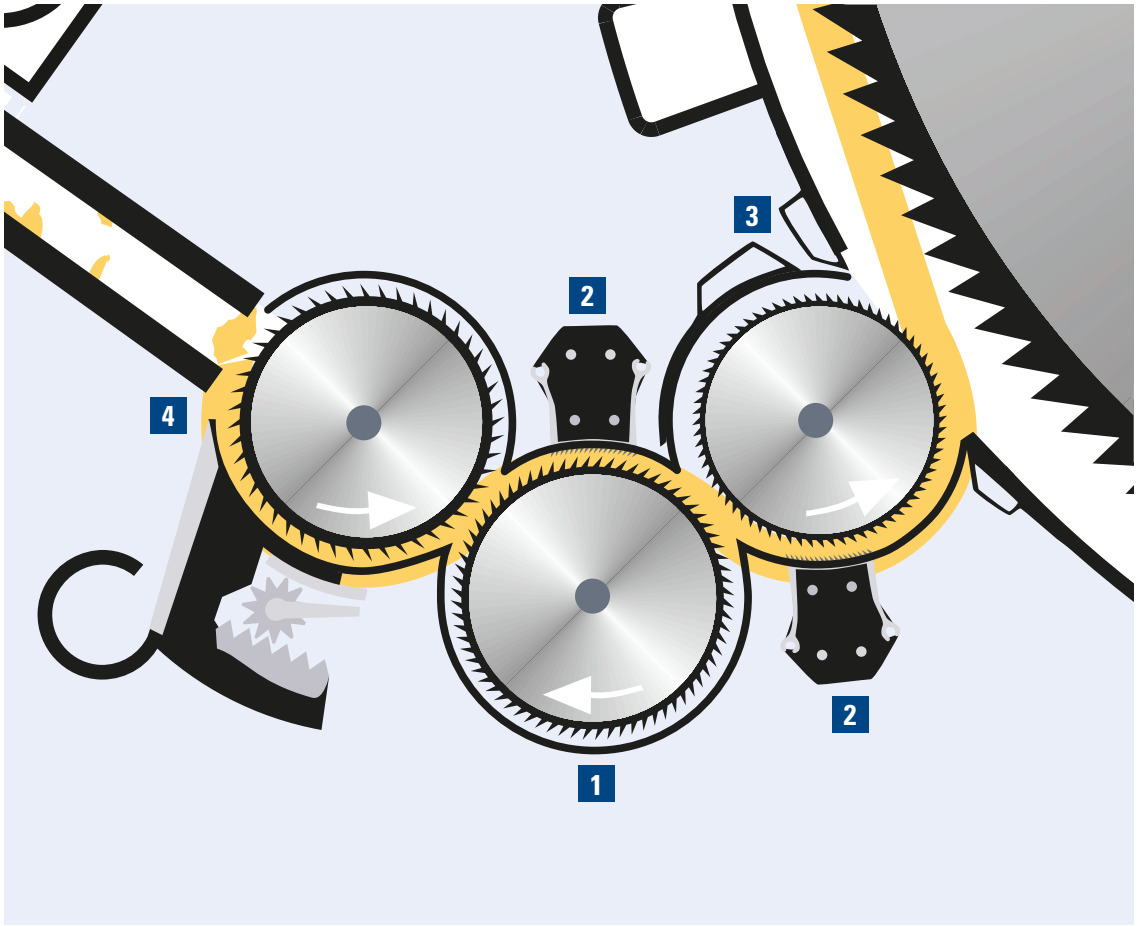
Spinning straw into gold? That's only possible in fairy tales. Using textile waste to create new values is now reality: The intelligent card TC 19^{i} for recycling converts shredded waste from textile surfaces into high-quality fiber slivers for new yarns.

Gentle and effective tuft opening

The licker-in unit WEBFEED, with clothing licker-ins specifically developed for recycling, fixed carding segments and profile geometries, makes for optimum opening and cleaning of tufts from secondary fibers. The recycling blade improves the separation of foreign bodies and minimizes the loss of fibers suitable for spinning.

Simply different: Differences between recycling card and cotton card

1 Three licker-ins with special clothings for recycling
2 Carding segments
3 Coated profiles with special geometry for recycling
4 Special mote knife for recycling



The TC 19^{i} for recycling was developed specifically for the recycling of secondary fibers.

TC 19^{i} for recycling

Benchmark in textiles recycling

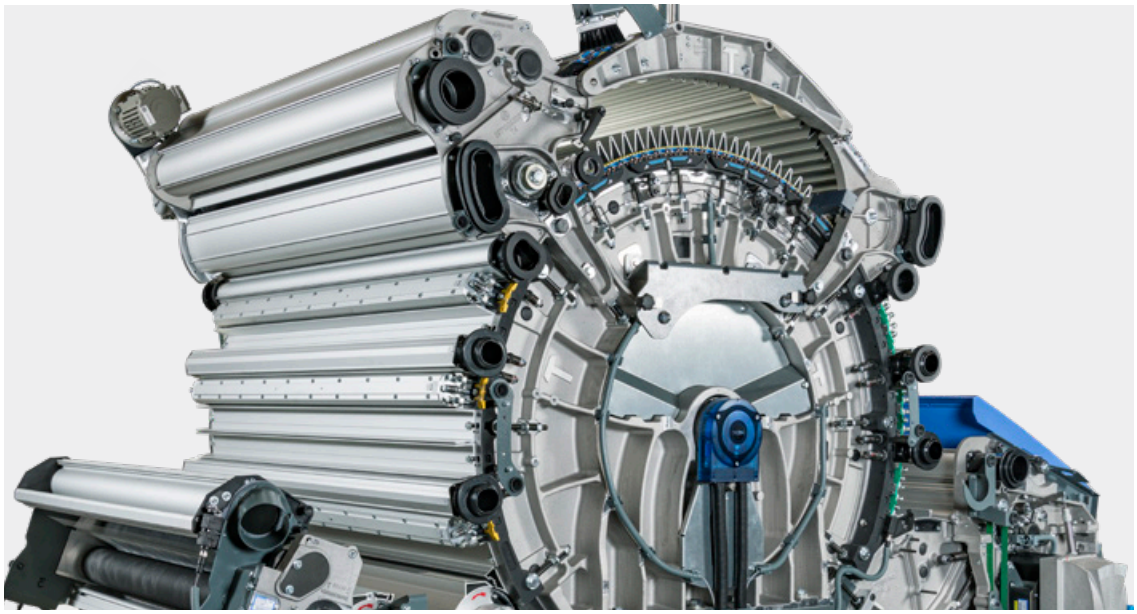
The Gap Optimizer T-GO permanently monitors and adjusts the carding gap between the cylinder the main cylinder and the flat.

More quality and productivity

The intelligent card TC 19^{i} with the Gap Optimizer T-GO for recycling automatically, continuously and precisely sets the carding gap that is ideal for the respective production conditions. The results achieved by our customers show that this leads to quality and productivity increases in the double-digit range.

Individual and flexible

The MULTI WEBCLEAN system facilitates, quick, flexible and individual adjustment to different recycling applications. In the pre-carding and re-carding zones of the main cylinder eight elements can be configured variably as carding strip, cover section or cleaning element with suction hood.



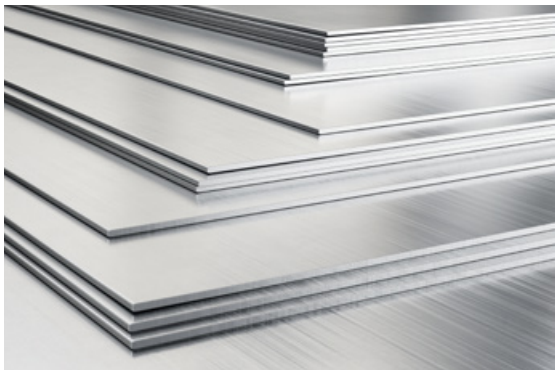
The Trützschler MULTI WEBCLEAN system provides the highest degree of flexibility when it comes to configuration.

Rugged and reliable in every application

Broken waste can affect material-carrying components and lead to fiber adhesions and blockages. On the TC 19^{i} for recycling this cannot happen: All material-carrying components are made of stainless steel. At the same time, the rugged construction guarantees reliable performance in demanding applications.

Well advised and perfectly set

Trützschler has years of experience in textiles recycling. Our installations are characterized by particularly variable setting options. We support our customers with recommendations for ideal configurations and clothings that have been developed by Trützschler Card Clothing specifically for recycling and, in combination with the TC 19^{i} for recycling, provide the best possible result.



Stainless steel equipment for reduced adhesion of reviving agent

Trützschler service technologies provide support when making the ideal setting on your machines.

Secondary fibers

Carded sliver

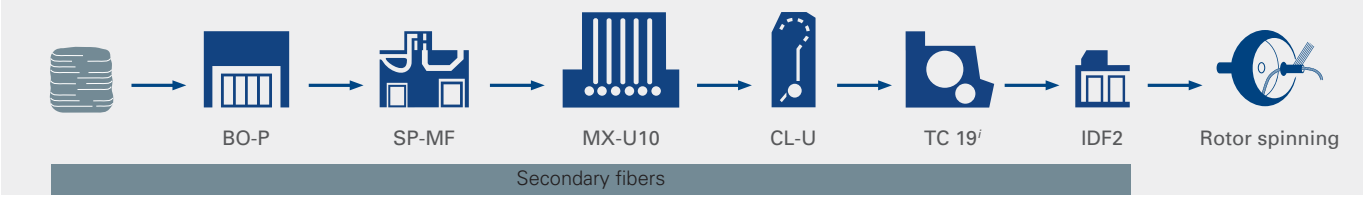
TC 19^{i} for recycling: Example installation for processing secondary fibers from shredded waste (100% shredded fibers)

The processing of materials with 100% shredded fibers is possible. High yarn counts can be achieved by adding substrates.

More information:

or click here:

Recycling brochure



Key: Portal Bale Opener BO-P | Multi Functional Separator SP-MF | Universal Mixer MX-U | Universal Cleaner CL-U in stainless steel design | Card TC 19^{i} for recycling | Integrated Draw Frame IDF 2

The right sliver coiling system for every application

Trützschler offers tailor-made systems for can filling. What is your focus?

- The largest possible cans to reduce the number of transports
- High delivery speed during can change
- A version that saves as much space as possible
- Process reduction by Integrated Draw Frame IDF 2
- Rectangular cans
- Preparation for an automatic can transport

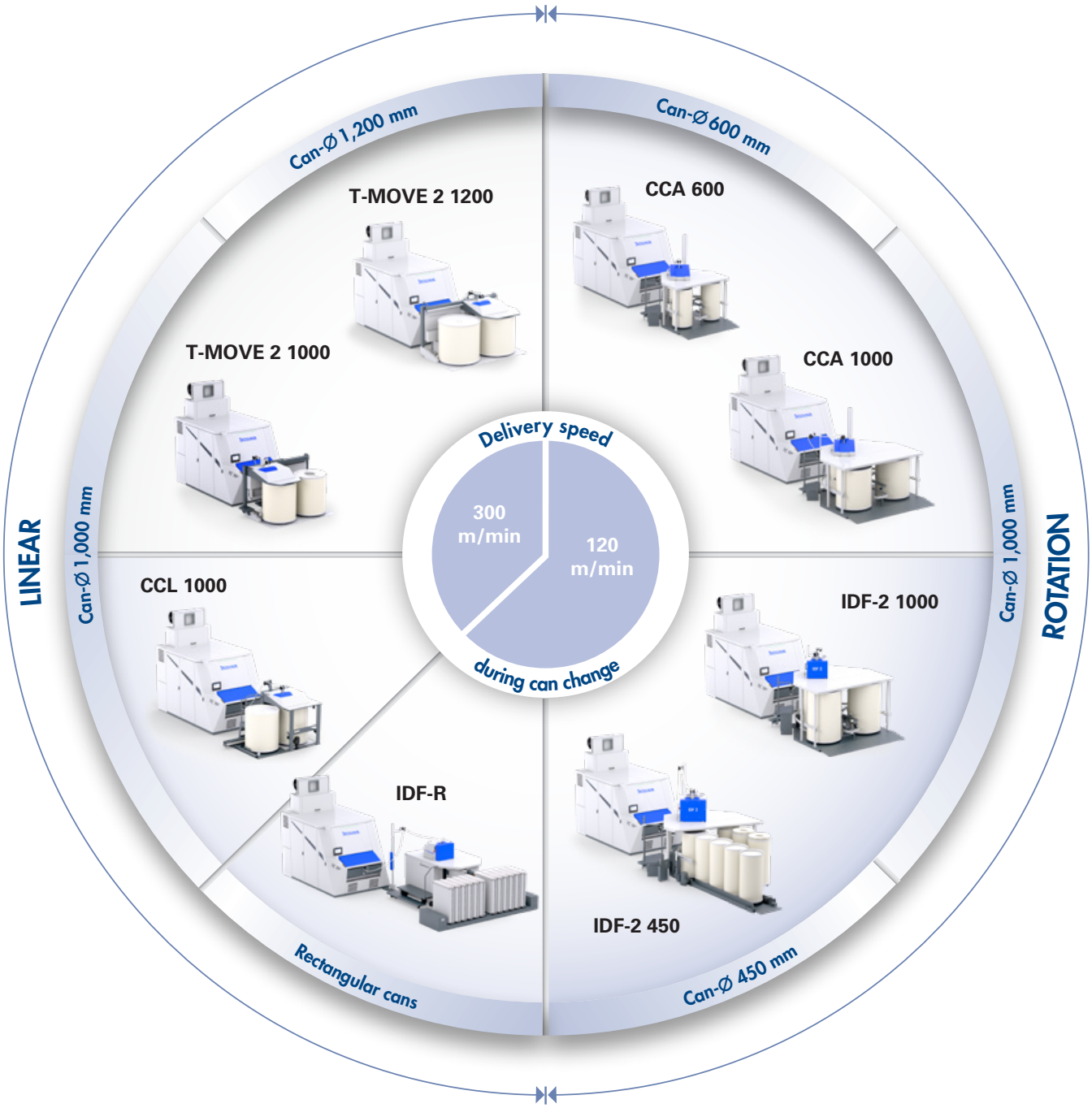
Trützschler can changer

The sliver coiling systems are controlled by the card control. The operator finds all important data on the colored multi-touchscreen of the card.

The turning devices of the cans are installed under floor. For this reason, the cans can easily be inserted into and removed from the filling station. No step or slope must be overcome. If the floor does not permit installation under floor, then the systems can also be positioned completely above floor. ➔

Trützschler can changer

Eight systems - whether rotary, rectangular or integrated sliver coiling - are available for selection:



Can Filling Station T-MOVE 2

Gentler sliver coiling and quicker can change

Gentler sliver coiling

Previously, the can filling quantity was limited by the bulging of the sliver coiling. In the center, the slivers are stacked on top of each other and are very strongly compacted.

With the new Can Filling Station T-MOVE 2, the coiling of the layers is offset. This prevents pressure marks in the middle. The slivers are subject to less pressure and keep their round cross-section to a great extent. This results in qualitative advantages during processing in the creel and feeding into the drafting system of the downstream draw frame.

The sliver feed moves – the can is stationary

The sliver feed with the sliver coiling plate (moving head) is moved in a straight line at high speed from the full to the empty can. This is usually done without reducing the delivery speed of the cards. Because the full can does not have to be moved quickly during the change, larger cans with more content can be used: The Trützschler JUMBO CANS with 1,200 mm diameter and up to 1,300 mm height.

In T-MOVE 2, both JUMBO CANS can be placed directly next to each other. This allows a quick change of the empty can and a clearly defined separation of the card sliver.

T-MOVE 2 with JUMBO CANS reduces the effort for can transport to a minimum.

More information:

or click here:

Trützschler T-MOVE 2

This JUMBO CAN contains 79 kg of card sliver. The test with the hanging scale shows that no more than 6-8 kg of force is required to move the can.

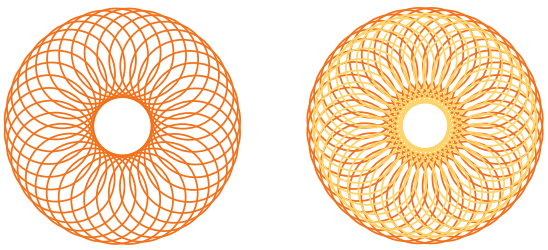
Save space with large cans in the smallest space

Even though the JUMBO CANS have a diameter of 1,200 mm, no greater distance between the cards is necessary.

T-MOVE 2 with 1,200 mm cans requires less space than other can changers with 1,000 mm cans. In addition, T-MOVE 2 allows an operator aisle between the cards and the sliver coiling system. This passage considerably shortens the distance for the operator.

With the new, changing and gentle T-MOVE 2 coiling system, the slivers are subject to less pressure.

On the left, the optimized T-MOVE 2 coiling geometry and on the right, the conventional coiling geometry. Both cans contain 80 kg of card sliver.

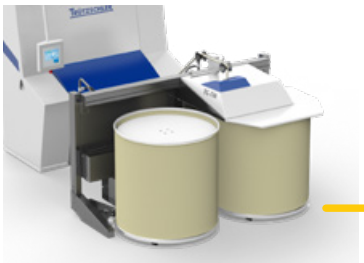


After each can rotation, the slivers are coiled with an offset of a few centimetres. As a result, the many crossing points in the middle are not stacked.

Can Filling Station T-MOVE 2

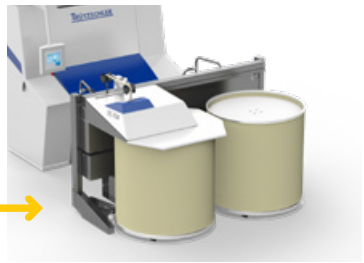
How T-MOVE 2 functions:

The right can is being filled. After each can rotation, the coiler head is offset by a few centimeters. After the next can rotation it is offset in the opposite direction.



Moving head fills can on right.
Can on left ready for filling process.

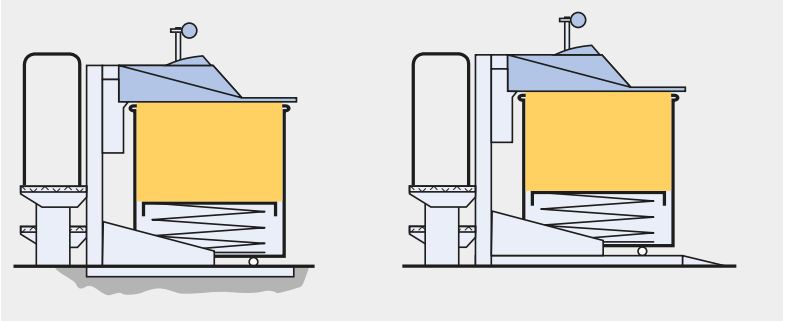
Moving head fills can on left.
Can on right ready to be replaced by empty can.



The right can has been exchanged for an empty can. T-MOVE is ready for the next can change.

The technological and economic advantages:

- Gentler sliver coiling
- Fewer pressed slivers at increased can filling
- High delivery speed during can change
- Less space requirement
- JUMBO CANS
- Increased card efficiency



The installation under floor has major advantages during operation ...

... but an installation above floor is also possible.

The combination of all individual advantages results in the following improvements:		Conventional can changer	T-MOVE		**T-MOVE 2**	
Can diameter	mm	1,000	1,200	+ 20 %	1,200	**+ 20 %**
Can height	mm	1,200	1,200		1,200	
Filling quantity in can	kg	53	76	+ 43 %	80	**+ 51 %**
Space requirement for 5 cards	m²	120.5	110.9	– 8 %	110.9	**– 8.0 %**
Card production	kg/h	90	90		90	
Production at time of can change	kg/h	24	90	+ 275 %	90	**+ 275 %**
Delivery speed at time of can change	m/min	80	300	+ 275 %	300	**+ 275 %**
Can change	1/h	1.9	1.3	– 32 %	1.2	**– 37 %**
Card efficiency	%	97.5	99.6	+ 2.2	99.8	**+ 2.4 %**

Total efficiency advantage of up to 2.4 % with T-MOVE 2

on the intelligent Card TC 19^{i}

Sliver coiling – rotation, linear or integrated

Card installation with Rotary Can Changer CCA

Rotary Can Changer CCA

The rotary can changer is available for cans with diameters of 600, 900 and 1000 mm. The can height can be up to max. 1,500 mm. This type of changer is particularly suitable for automatic can transport. The positions for full and empty cans are exactly defined.

Linear Can Changer CCL

The linear can changer for 1000 mm cans is a space-saving variant. It fits even at minimal card center distance. Here cans up to 1,500 mm height can be used as well.

Card installation with Linear Can Changer CCL

IDF 2 installation with 450 mm round cans

Integrated Draw Frame IDF 2

The integrated draw frame is used in rotor yarn mills and some applications in air-jet spinning. Here, three different can types are available:

- 1,000 mm round cans
  (If followed by a autoleveler draw frame)
- 450 mm round cans
  (For direct feeding at the rotor spinning machine)
- Rectangular cans
  (For direct feeding at the rotor spinning machine)

IDF 2R installation in a rotor yarn mill

Grinding devices and mounting equipment

Continuity of carding quality

Flat Grinding Device TC-FG

With the new Trützschler Grinding Device TC-FG, the activation of flats clothing is now even easier and faster. The grinding roller is perfectly adjusted to the Trützschler cards and provides a precise grinding result.

In addition to being light-weight, the grinding device is also simple to operate. Two adjusting screws allow easy adjustment of the roller to ensure an optimal grinding setting.

Grinding Device TC-GD for main cylinder and doffer

With the traversing Grinding Device TC-GD, optimum results are achieved when activating the metallic cylinder and doffer wires of the Trützschler Card TC 19^{i}. The wire tips are ground in a smooth and burr-free manner over the entire card width. This leads to best carding results.

Clothing fitting and unwinding device TC-ME

The comprehensive Trützschler Wire Mounting Equipment TC-ME has been advanced for the TC 19^{i}. Thus, all TC 19^{i} are perfectly equipped for clothing and re-clothing:

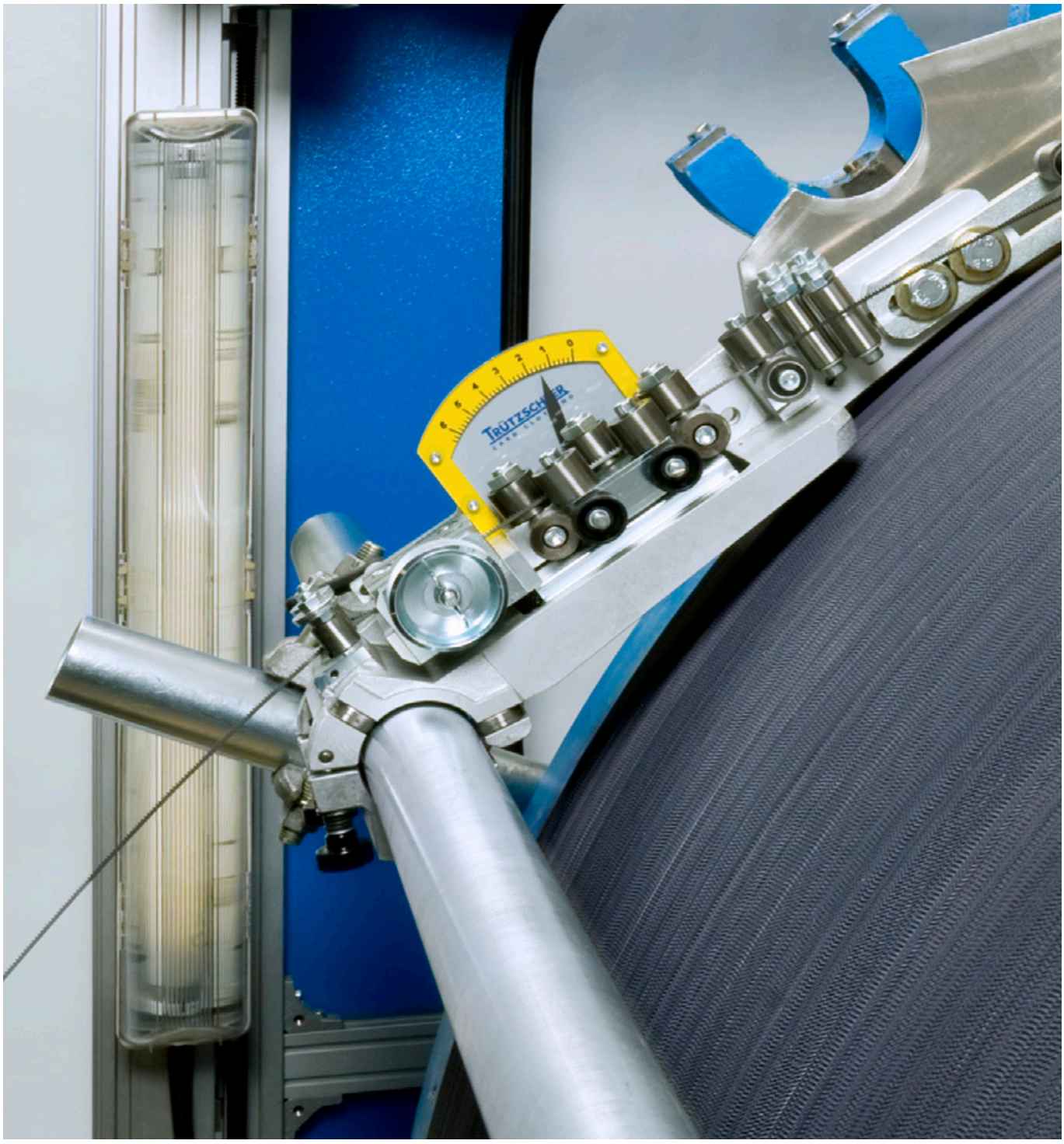
- A complete tool set for applying Trützschler card clothing
- A mounting frame for applying clothing to licker-in and cleaning rollers of cards
- An unwinding machine for re-clothing

The tool set for applying clothing is easy to install and operate, thus ensuring short downtimes. The corresponding T-Winder allows uniform mounting of any clothing type and thickness. Ceramic guide elements in combination with a traveler guide allow a constant winding tension that can be permanently monitored via display.

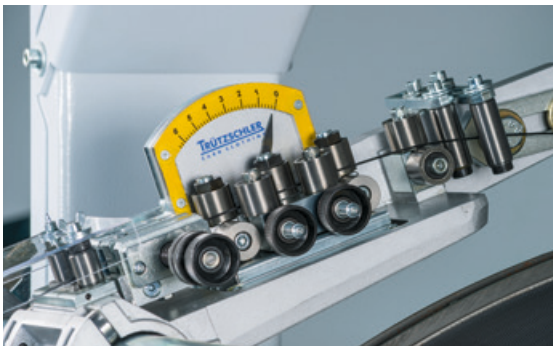
In case the clothing wires cannot be mounted at the machine itself, there is the possibility to use the mounting frame provided. The quick-release fastener of the T-Winder allows fast assembly and disassembly.

Quick and simple activation of flats clothings by means of the Grinding Device TC-FG.

With the comprehensive Trützschler Mounting Equipment TC-ME, all cards are optimally prepared for clothing and re-clothing.



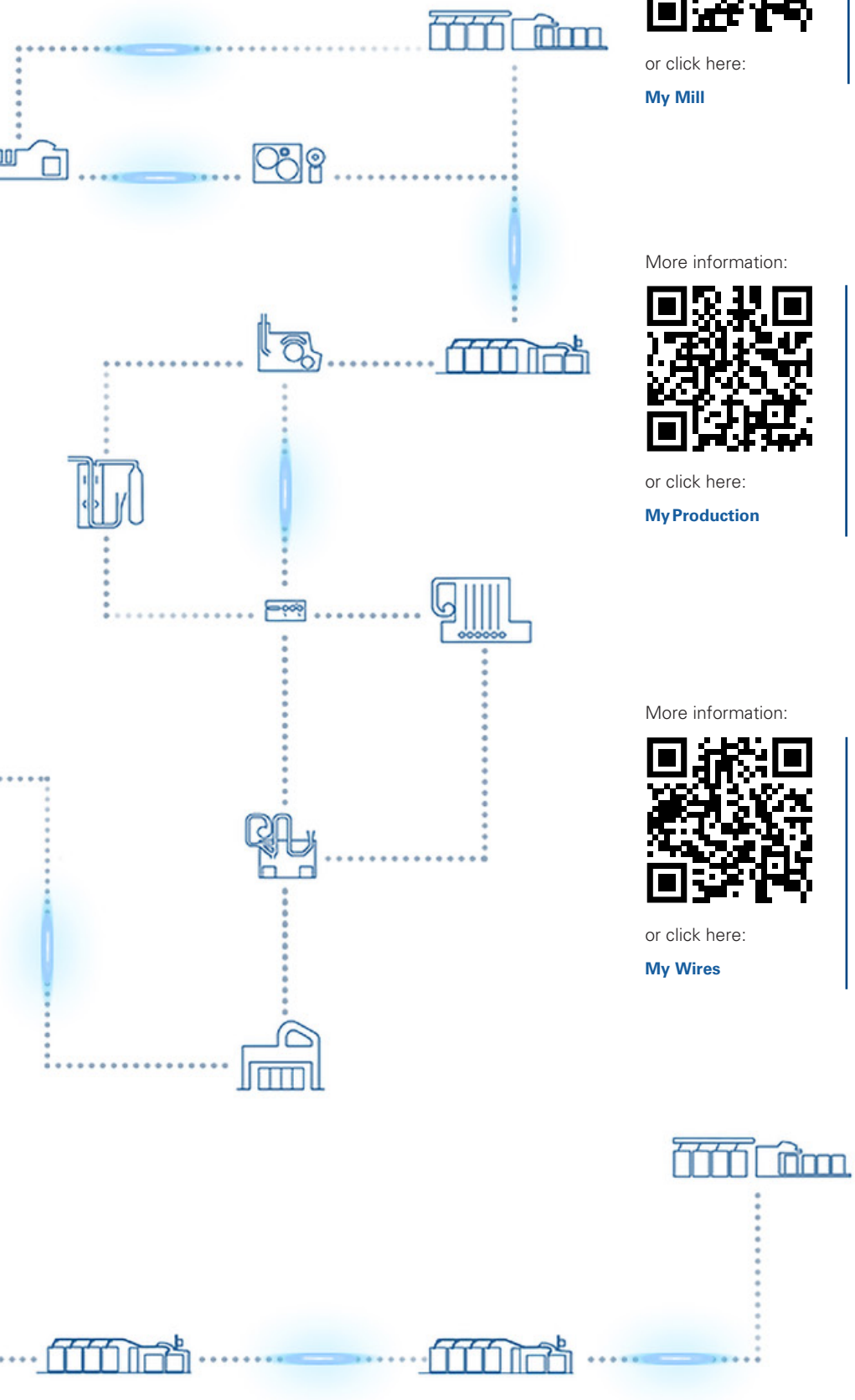
The traversing Grinding Device TC-GD improves carding results for cylinder and doffer.



The corresponding T-Winder allows uniform mounting of any clothing type and thickness.

Always informed, at any time and place: Digital Solutions

With Trützschler technology, you can further extend your lead - also in the course of digitization. Our digital solutions do more than just inform you about the performance of your cards at any time or place. They allow you to optimize processes in your spinning mill with little effort, bundle resources and save costs. They can be easily installed on your PC or Smartphone and function even if you do not exclusively use Trützschler technology.



My Mill

More information:

or click here:

My Mill

The all-in-one platform:
Whether information about your production, quality, maintenance or simply a complete overview - with My Mill your possibilities are almost limitless.

My Production

More information:

or click here:

My Production

Knowing what is going on at home: The extension to My Mill is the ideal companion for managers on the go. You are fully informed via the app practically anywhere on earth and can intervene as necessary.

My Wires

More information:

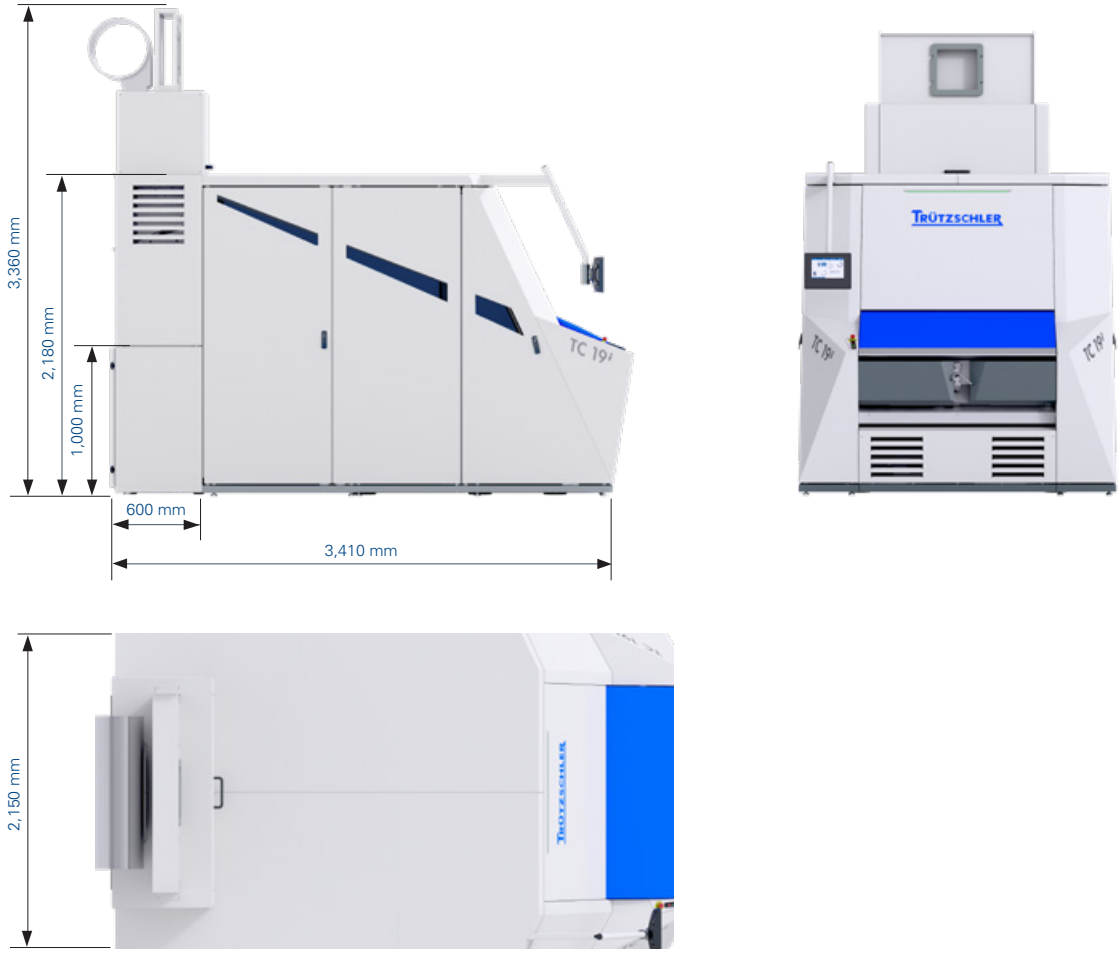
or click here:

My Wires

Your digital clothings management: Digitize your clothings and their condition in just a few minutes! Receive automatic reminders of pending repeat orders and maintenance via the My Wires app.

Our digital offers are cloud-based and extremely secure. We rely solely on the highest security standards because data security is just as important to us as it is to you.

Technical data



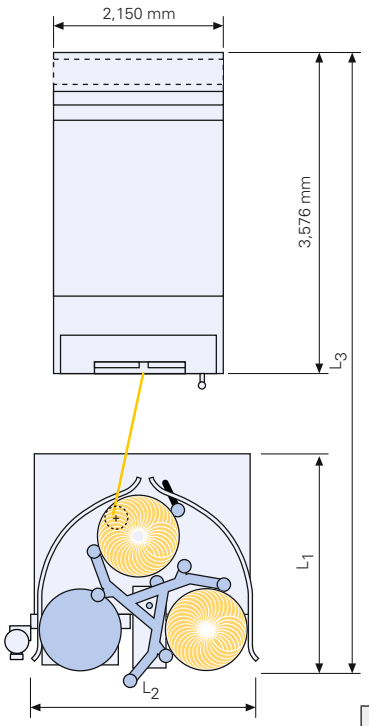
TC 19^{i}

Floor load:	approx. 22,540 N/m^2
Max. surface pressure per base plate:	approx. 57 N/m^2
Production:	max. 300 kg/h
Suction (continuous):	4,200 m^3/h (-740 Pa)
Net weight:	approx. 6,700 kg incl. can changer
Sound pressure level:	67 dB(A) at 100 m/min 73 dB(A) at 250 m/min 78 dB(A) at 500 m/min
Compressed air consumption:	250 NL/h
Delivery speed:	500 m/min

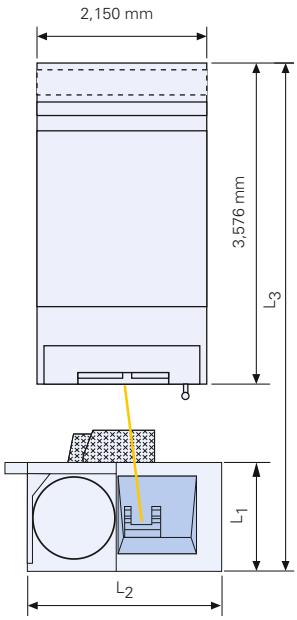
T-MOVE 2

Installed power:	2.5 kW
Continuous power consumption:	1.0 kW
Exhaust air output:	200 m^3/h
Negative suction pressure:	-250 Pa

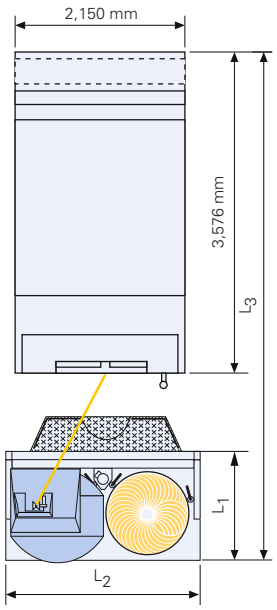
Rotary can changer



Linear can changer



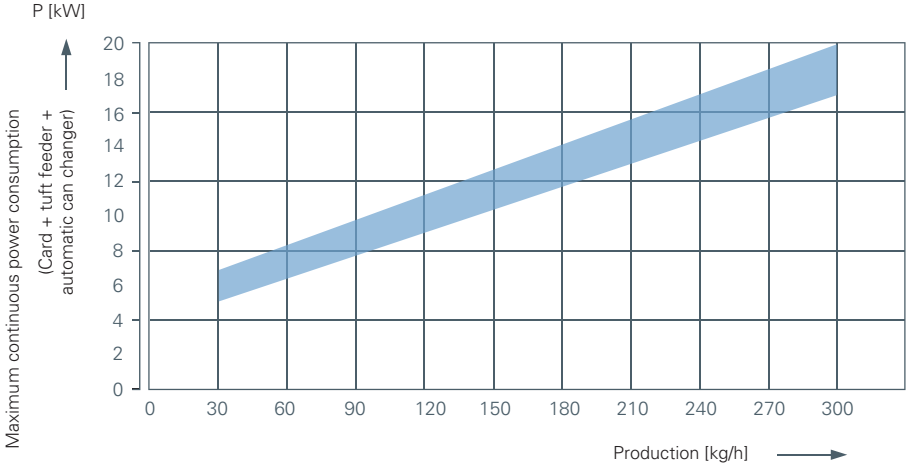
Can filling station



	Ø cans mm	L1 [1] mm	L2 mm	L3 mm	Height under floor	Height above floor	Can height mm
Rotary Can Changer CCA	600	1,715	1,930	6,345	1,345 – 1,970	1,435 – 2,060	900 – 1,525
	1,000	2,350	2,750	6,980			
Linear Can Changer CCL	1,000	1,365	2,340	5,995	1,714 – 2,139	1,794 – 2,219	1,075 1,100 1,200 1,225 1,300 1,500
Can Filling Station T-MOVE 2	1,000	1,420	2,400	6,175	1,540	1,600	1,200/1,300
	1,200	1,620	2,800	6,375			

[1] without can delivery ramps

Power consumption:

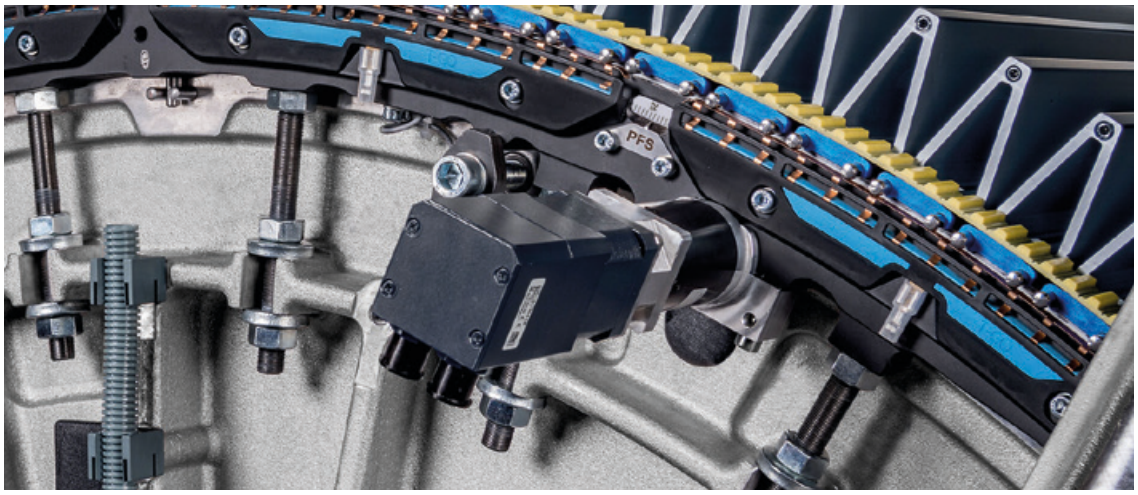


The energy consumption depends on the production output, but also on various settings and the material.

Equipment and options

	The intelligent Trützschler Card TC 19i				Trützschler Card TC 19			
	Universal	High yarn count	MMF	Recycling	Universal	High yarn count	MMF	Recycling
Gap Optimizer T-GO	•	•	•	•	–	–	–	–
Settings optimizer T-CON 3	•	•	•	•	–	–	–	–
Manual flat setting (range 40/1000") PFS	–	–	–	–	•	•	•	•
WASTECONTROL sensor	•	•	–	–	o	o	–	–
Motorized precision blade adjustment system (with WASTECONTROL only)	•	•	–	–	o	o	–	–
Standard settings optimizer T-CON	–	–	–	–	•	•	•	•
MAGNOTOP 3 system	•	•	•	•	•	•	•	•
Connection of spinning Mill Monitoring System "My Mill" and production monitoring app "My Production"	•	•	•	•	•	•	•	•
Clothing management app "My Wires"	•	•	•	•	•	•	•	•
Ethernet connection	•	•	•	•	•	•	•	•
SMART TOUCH	•	•	•	•	•	•	•	•
Identification with RFID chip	•	•	•	•	•	•	•	•
T-LED remote display	•	•	•	•	•	•	•	•
WEBFEED system with 3 licker-ins	•	–	–	•	•	–	–	•
WEBFEED system with 1 licker-in	–	•	•	–	–	•	•	–
Saw tooth licker-in	o	o	o	•	o	o	o	•
Needle licker-in	o	o	o	o	o	o	o	o
Nep sensor NEPCONTROL	o	o	–	–	o	o	–	–
Stainless steel design	o	o	•	•	o	o	•	•
Recycling profiles and blades	–	–	–	•	–	–	–	•
MULTI WEBCLEAN synthetic fibers package	o	o	–	–	o	o	–	–
MULTI WEBCLEAN recycled fibers package	o	o	o	•	o	o	o	•
Doffer suction hood	•	•	•	•	•	•	•	•
Linear can changer CCL, 1,000 mm cans	o	o	o	o	o	o	o	o
Can filling station T-MOVE 2 for 1,000 mm and 1,200 mm cans	o	o	o	o	o	o	o	o
Automatic can changer CCA for 600 mm cans	o	o	o	o	o	o	o	o
Automatic can changer CCA for 1,000 mm cans	o	o	o	o	o	o	o	o
Integrated draw frame for round cans IDF 2	o	o	o	o	o	o	o	o
Integrated draw frame for rectangular cans IDF 2R	o	o	o	o	o	o	o	o
Infinitely variable speed control of main cylinder and WEBFEED TC-VSD	o	o	o	o	o	o	o	o
Flat Measuring System FLATCONTROL TC-FCT	o	o	o	o	o	o	o	o
Flat Grinding Device TC-FG	o	o	o	o	o	o	o	o
Grinding device for main cylinder and doffer TC-GD	o	o	o	o	o	o	o	o
Clothing fitting and unwinding device TC-ME	o	o	o	o	o	o	o	o
Monitored continuous central suction under floor	o	o	o	o	o	o	o	o
Monitored continuous central suction above floor	•	•	•	•	•	•	•	•
Separate strips suction above or under floor	o	o	o	o	o	o	o	o
Large cylinder with 5.3 m² clothing surface	•	•	•	•	•	•	•	•
Tuft Feeder DIRECTFEED with moveable feed tray	•	•	•	•	•	•	•	•
Integral tray SENSOFEED+	•	•	•	•	•	•	•	•
Thick spot monitoring and metal detection in feeding	•	•	•	•	•	•	•	•
Tooth belt guided aluminium flat bars	•	•	•	•	•	•	•	•
Infinitely variable flat speed	•	•	•	•	•	•	•	•
Premium clothings made by Trützschler Card Clothing TCC	•	•	•	•	•	•	•	•
Quality data monitoring	•	•	•	•	•	•	•	•
Spectrogram analysis	•	•	•	•	•	•	•	•
Quality and maintenance management	•	•	•	•	•	•	•	•
Pneumatic piecing aid	•	•	•	•	•	•	•	•
Electronic cylinder brake	•	•	•	•	•	•	•	•
Coordinated leveling systems, long-wave and short-wave	•	•	•	•	•	•	•	•
Central safety locking system	•	•	•	•	•	•	•	•

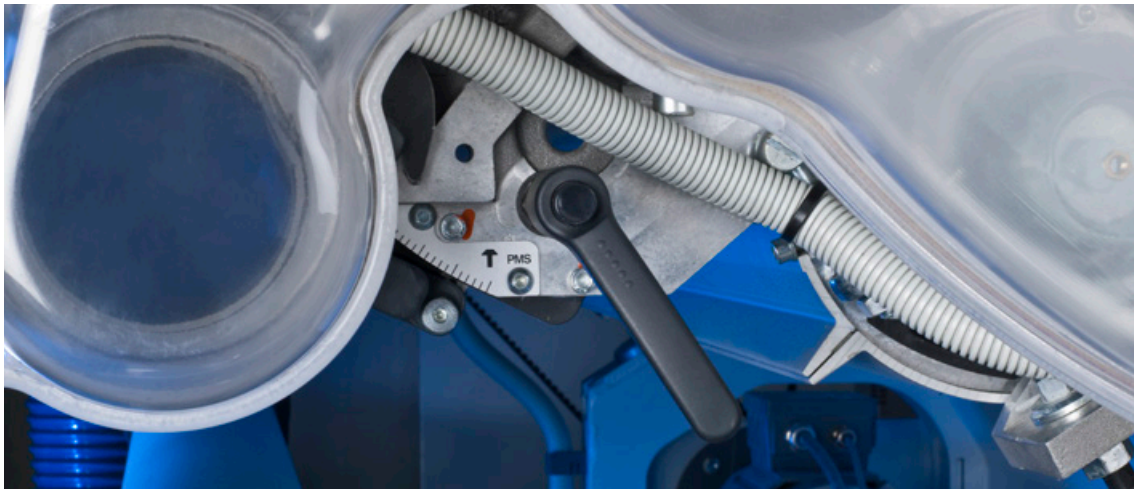
• = Standard equipment o = option – = not available



Precision Flat Setting System PFS

The reliable PFS has been improved in important points:

The adjustment range is five times as large as before. This allows simple and quick adjustment even after grinding the cylinder or flats clothings and after replacing the clothing. On the TC 19^{i} with T-GO, the flat automatically adjusts itself after grinding or clothing replacement. Manual adjustment is no longer necessary, which saves valuable maintenance time.



Precision knife adjusting system PMS

The first cleaning zone is in the area of the first roller of the WEBFEED system. Here, the reliable precision knife adjusting system PMS ensures an optimal waste composition. It is infinitely adjustable within seconds while card is running. The distance of the knife point to the needles is exactly the same in every position since the knife circles around the center of the needle roller.

VDMA Mitglied Member

GERMAN Technology

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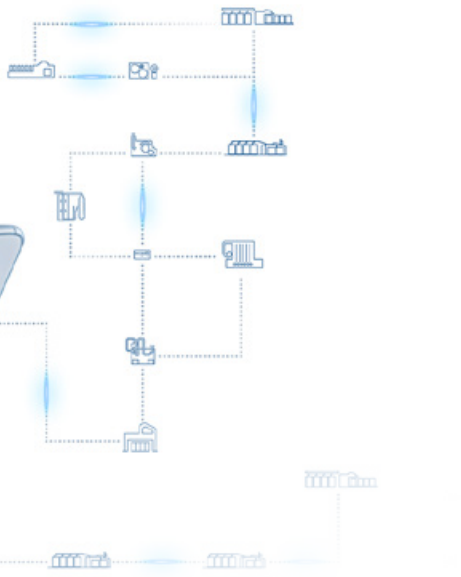
Trützschler Group SE
Postfach 410164 · 41241 Mönchengladbach, Germany · Duvenstr. 82-92 · 41199 Mönchengladbach, Germany
Telephone: +49 (0)2166 607-0 · Fax: +49 (0)2166 607-405 · E-Mail: info@truetzschler.de · www.truetzschler.com



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