

# BLOW ROOM

GETTING FIBERS INTO SHAPE



**TRÜTZSCHLER**  
SPINNING



# BLOW ROOM

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Experience interactive added values with our Trützschler Spinning App



**1. Download the app**

You can use the Trützschler Spinning App with Android devices as well as iPhone and iPad. Download the app free-of-charge from the Google Play Store ( $\geq$  Android Version 4.1) or the Apple App Store ( $\geq$  iOS Version 8).

**2. Use the Smartview function**

Open the Trützschler Spinning App and activate Smartview in the drop-down side menu.



**3. Scanning and viewing additional information**

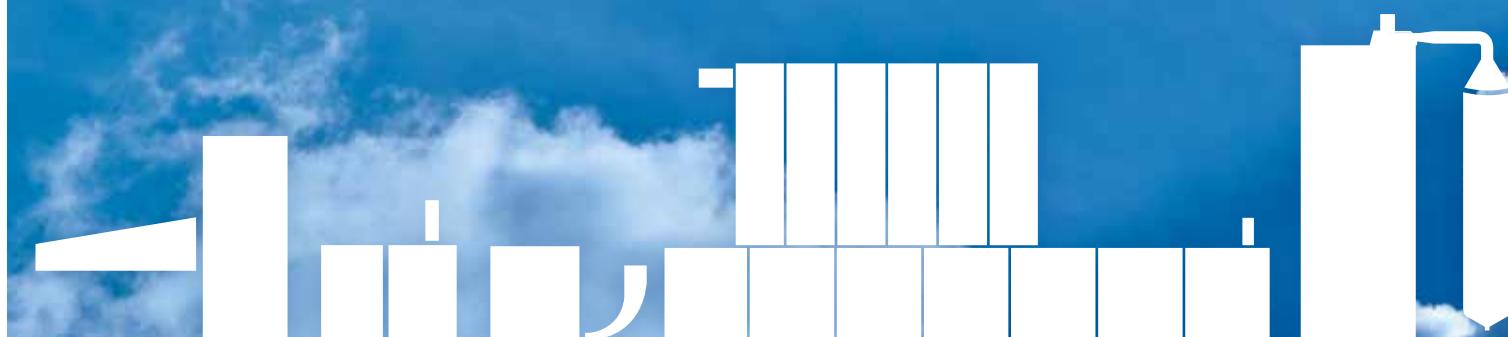
Scan the entire page that contains the scan icon with the Smartview function. Touch the screen to play the video. Get started.

[www.truetzscher.com/apps](http://www.truetzscher.com/apps)

# FARSIGHTED AND RESPON

We want you to be successful with the help of our technologies and services. However, our actions are not limited to economic aspects.

As family enterprise, we have experienced, accompanied and shaped the business and its specifics for decades. Thus we know that success is more than just numbers.



## **Business partner, with the emphasis on partner**

Those who choose Trützschler will receive added values that cannot be taken for granted in view of the increasingly fierce competition. But in our opinion they are imperative.

## **Reliable and close**

For four generations we have demonstrated that our word carries the same weight as a contract elsewhere. Though business numbers are taken seriously by us, we will not bow to them. Instead, we rely on real customer proximity in the textile markets of this world through our international production and service network.

## **Always innovative**

Our actions, which are based on long-term success, ensure that you have a partner that is always available. But also the security to continuously profit from technical innovations that can only be provided by Trützschler in this quality.

In short: Trützschler attaches importance to commercial success, but even more to long-term partnerships.

# SIBLE ACTION



it's true

## **Customer benefits, with emphasis on benefits**

What constitutes a good production installation? Definitely a low TCO (Total Cost of Ownership). The only response of some machine manufacturers is to lower investment costs. We use a different approach.

## **Compact and secure**

The small footprint of our machine technology and its high safety level are good for nature and user. One results in lower building and operating costs, and the other protects the operator during his work.

## **Long-term efficiency**

Our installations convince in terms of a well-known long service life and low energy consumption. At the same time they make the best possible use of valuable raw materials. Our intelligent technologies retrieve additional good fibers even from alleged production waste. The beauty of this particular type of environment protection and resource conservation lies in the fact that it benefits nature and your production equally.

Anyone who expects sustained added value from an installation throughout the entire production process is demanding – and a Trützschler customer.

# Quality, value creation, life cycle costs

Advantages made by Trützschler

It is not by chance that Trützschler is innovation leader in the blow room. We use patented technologies that allow maximum good fiber yield at highest quality.

There is no better starting position for your yarn quality.

## Cotton qualities vary, but your yarn quality does not

The challenges associated with consistent first-class fiber preparation seem simple. However, the quality of the raw material cotton is influenced by natural factors such as climate or pests. Seed coat fragments or honeydew can make the production of a consistent quality more difficult or expensive. Trützschler masters these challenges in the blow room by innovative technology, sensible sensors and intelligent software. All components work together optimally, allowing full concentration on the core tasks.

## More good fibers – more quality

Maximum web quality at minimum waste quantities – this is the standard against which every blow room is measured. By applying its patented technology, Trützschler brings highest quality in line with maximum raw material yield – in a measurable way. Examples for this are, a.o.:

- Foreign part separators which reliably remove parts that were "invisible" in the past (foils, PP parts, etc.)
- Waste Sensor WASTECONTROL, which utilises more good fibers and thus saves many bales of raw material per year

## Return on investment in record time

Investments in Trützschler system technology pay for themselves within shortest time. We would be pleased to substantiate this claim with concrete examples during a personal meeting. Here is an example of what to expect:

- Only the Trützschler cleaning lines produce 1,200 kg/h per line, or 2,000 kg/h per line with two parallel cleaners.
- Savings in machines: For 2,000 kg/h, actually 2 – 3 blow room lines are needed. In comparison, a line with only one bale work-off saves investments of 210,000 US\$ and more.
- Using a spinning mill example<sup>\*)</sup>, the investment savings in building, machines and filter systems alone amount to 426,000 US\$.
- Concerning operating costs,<sup>\*)</sup> additional annual savings of 226,000 US\$ can be realised.

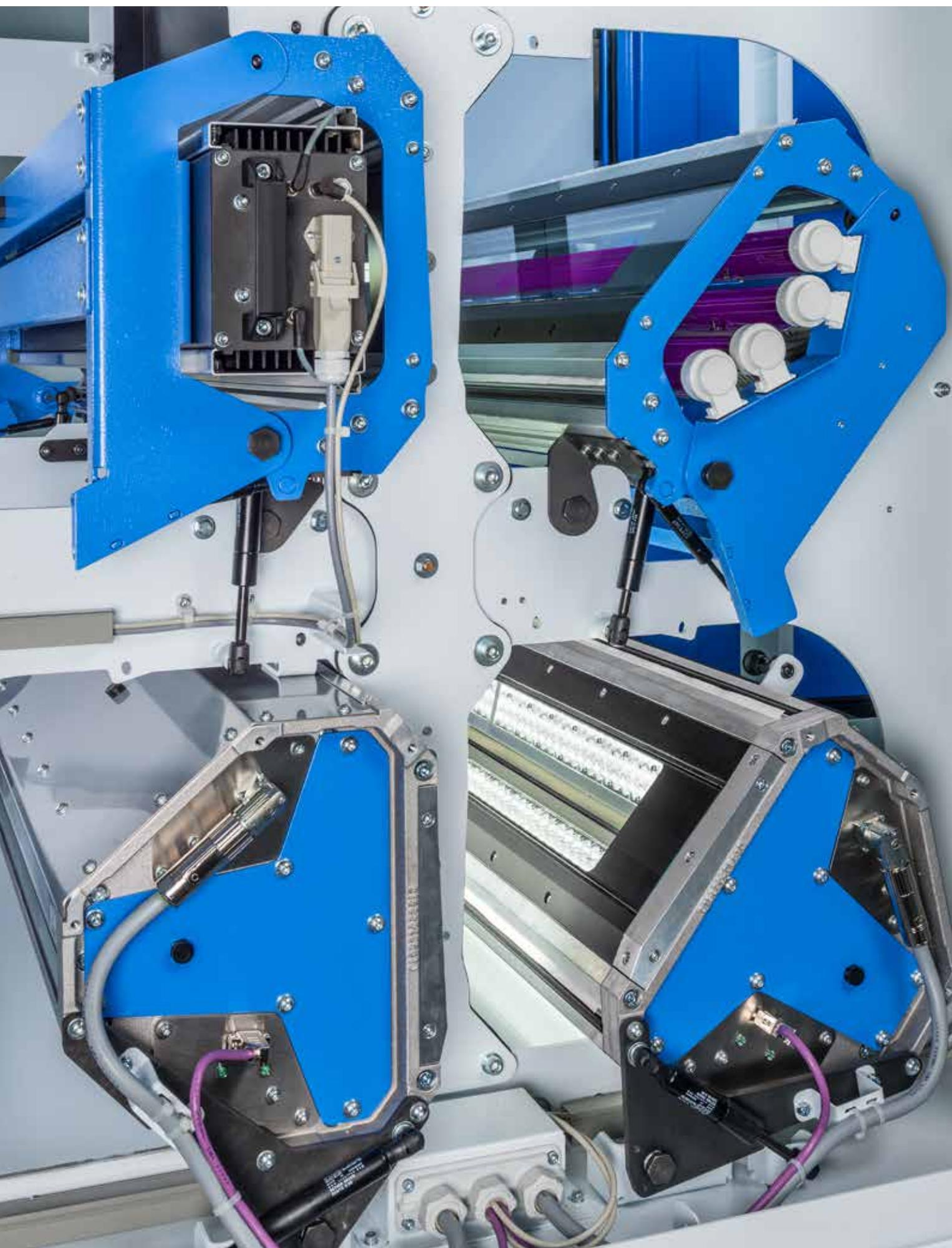
<sup>\*)</sup> 14 cards, each 140 kg/h, 8,000 h p/a;  
raw material use approx. 15,680 t



## Energy Saving Mode T-ECO

During the operation of blow room lines it is always possible that material transport functions are not required. However, the drives, for instance for fans, continue to run and consume unnecessary power. This is prevented by the T-ECO function.

T-ECO decelerates the fan drives to a basic speed. As soon as material is requested, the drives accelerate again to regular values.



# DISCOVERING TECHNOLOGY

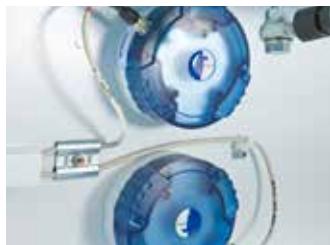
The blow room is part of our company's roots – and even after more than 125 years our engineer teams continue to succeed in improving the efficiency and product quality with intelligent solutions. The sum of many details gives you the appreciated lead in your markets.



The automatic Bale Opener BLENDOMAT BO-A possesses a proverbial robustness and reliability.  
**Page 20**



The WASTECONTROL sensors monitor waste quality and improve raw material utilisation. WASTECONTROL is exclusively available at Trützschler.  
**Page 26**



Speed sensors in foreign part separators determine the speed of foreign parts and allow a targeted separation at minimum fiber loss.  
**Page 34**





Trützschler nozzle beams in foreign part separators are optimized for minimal loss of good fibers and air consumption.

[Page 38](#)



The Installation Controls LINECONTROL are equipped with a large-size colour touch screen.

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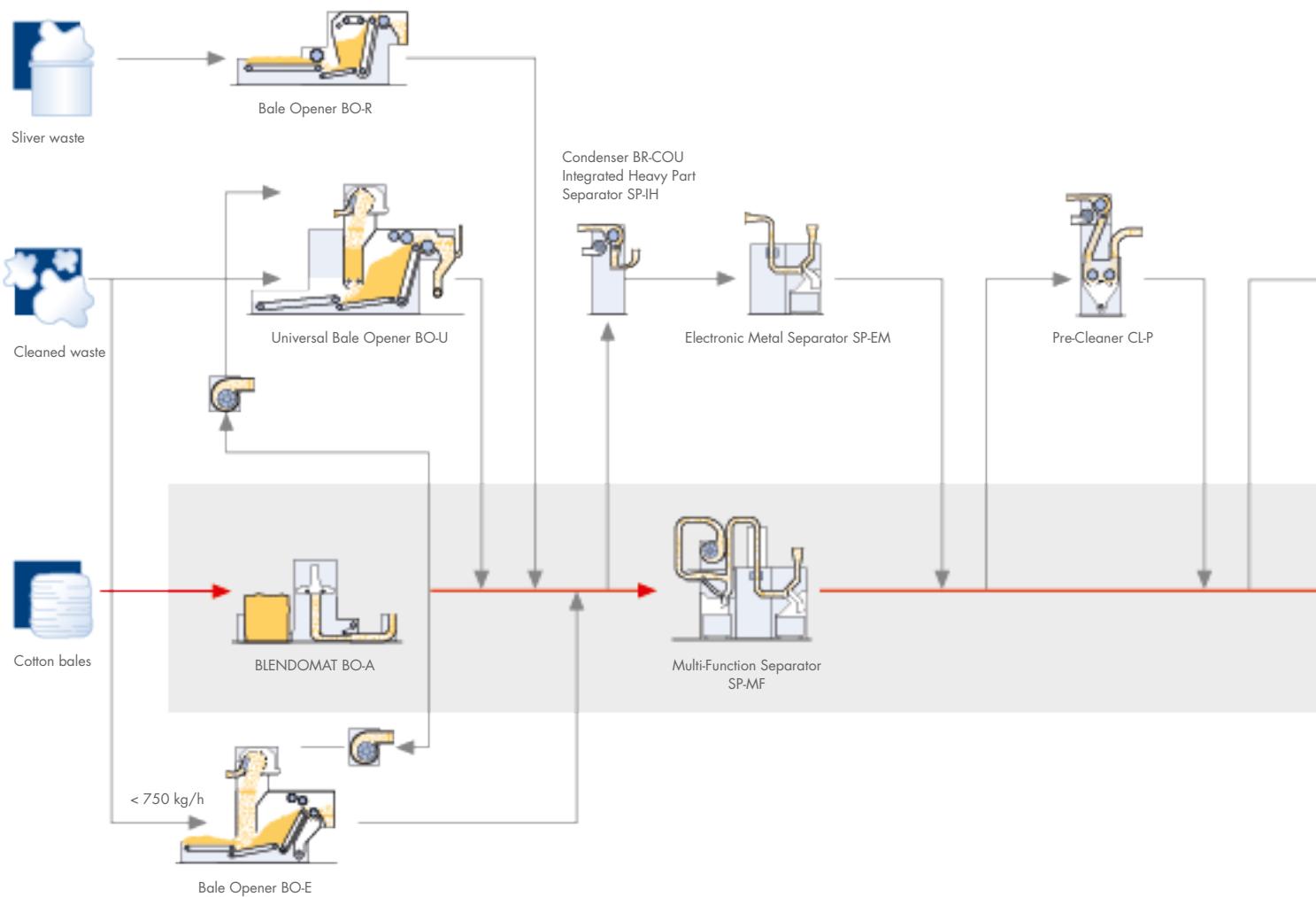
Trützschler has a high level of competence in the development and production of electronic components such as motor controls, digital cameras or special sensors.

[Page 48](#)



# The perfect cotton installation

The cotton is gradually and gently opened in the precisely synchronised Trützscher blow room machines. The answer



## Perfect bale opening

The degree of flexibility of the Automatic Bale Opener BLENDOMAT BO-A is such that nearly every installation version is possible. The Universal Bale Opener BO-U is ideally suited for adding cleaned waste. The Waste Opener BO-R is used to prepare sliver waste in such a way that it can be fed into the production flow finely metered.

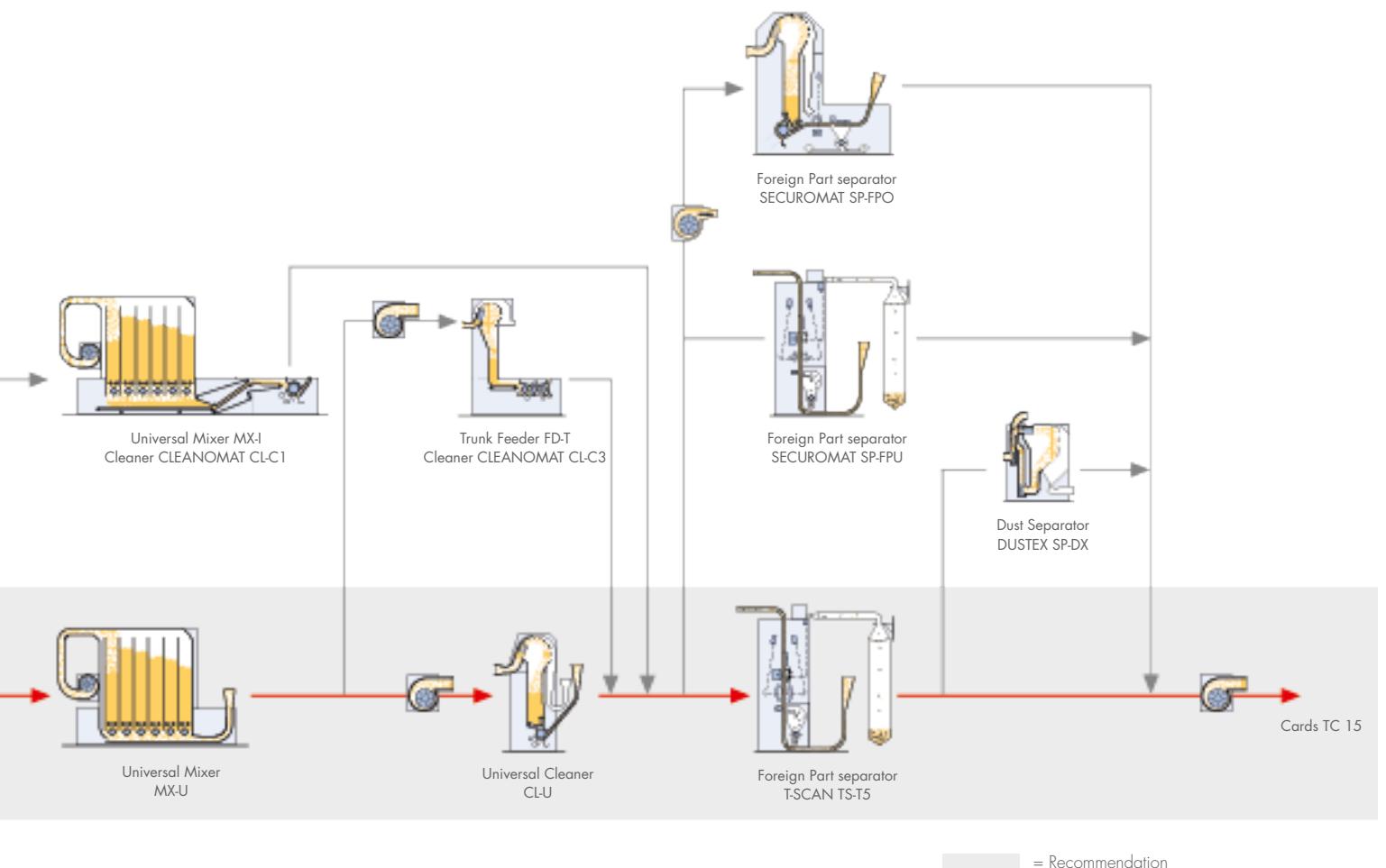
## Secure protection and dust removal

The Multi Function Separator SP-MF simplifies all relevant safety functions, including initial dust removal. Even at production rates of 2,000 kg/h, the downstream cleaner line is securely protected.

## Fiber-friendly pre-cleaning

As first gentle fiber cleaning, the Pre-Cleaner CL-P is the ideal addition to a compact line. Coarse contaminants are reliably removed upstream from the mixers and fine cleaners.

to which one is the correct cleaner or optimal combination of two cleaners depends on raw material and production output.



### **Homogeneous blending**

The Universal Mixer MX-U has been specifically designed to feed one or two Cleaners CLEANOMAT CL-U. Alternatively, the Integrated Mixer MX-I, which allows direct coupling to the cleaners CLEANOMAT CL-C1 and CL-C3, can be used. By applying the same mixing concept, both mixers ensure perfect homogenisation of the tufts.

### **Intensive and gentle cleaning**

The new Universal Cleaner CLEANOMAT CL-U is the first choice for almost all applications. In the event of special applications, the Cleaners CLEANOMAT CL-C1 and CL-C3 are used.

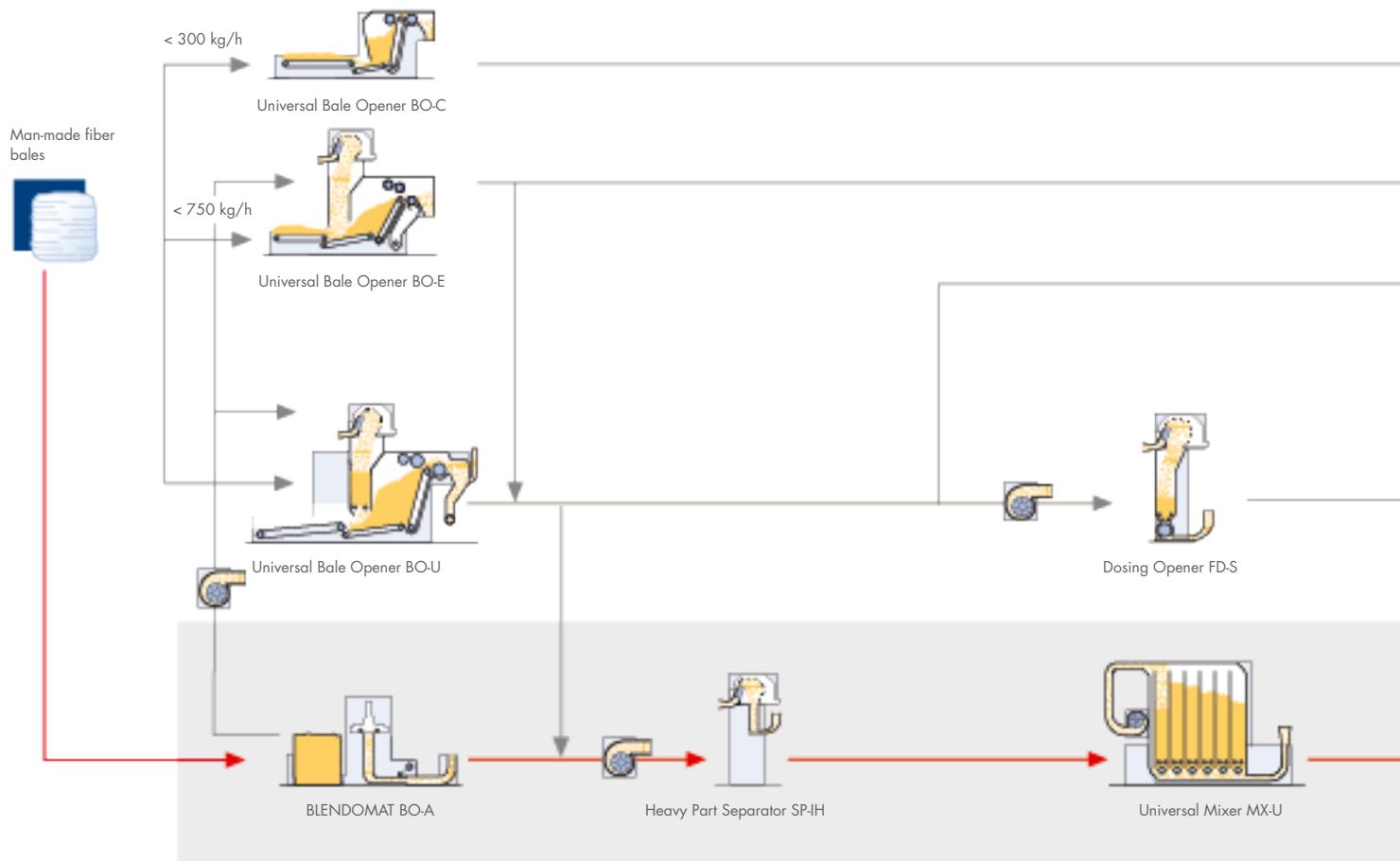
### **Reliable detection and separation of foreign parts**

The Trützschler T-SCAN TS-T5 is the most effective system for the separation of foreign parts. Five different detection technologies tailored to the requirements of foreign part separators are combined in one separator. Depending on type of contamination and further processing, the established Foreign Part Separator SP-FPU is also a good choice.

In addition, the high performance Dust Separator DUSTEX SP-DX can be connected downstream from the separators. Especially for use in rotor spinning mills, the dust removal function is already integrated into the Foreign Part Separator SP-FPO.

# Customised man-made fiber opening for a perfect carding result

Man-made fibers in an increasing variety are becoming more and more important in short staple spinning.



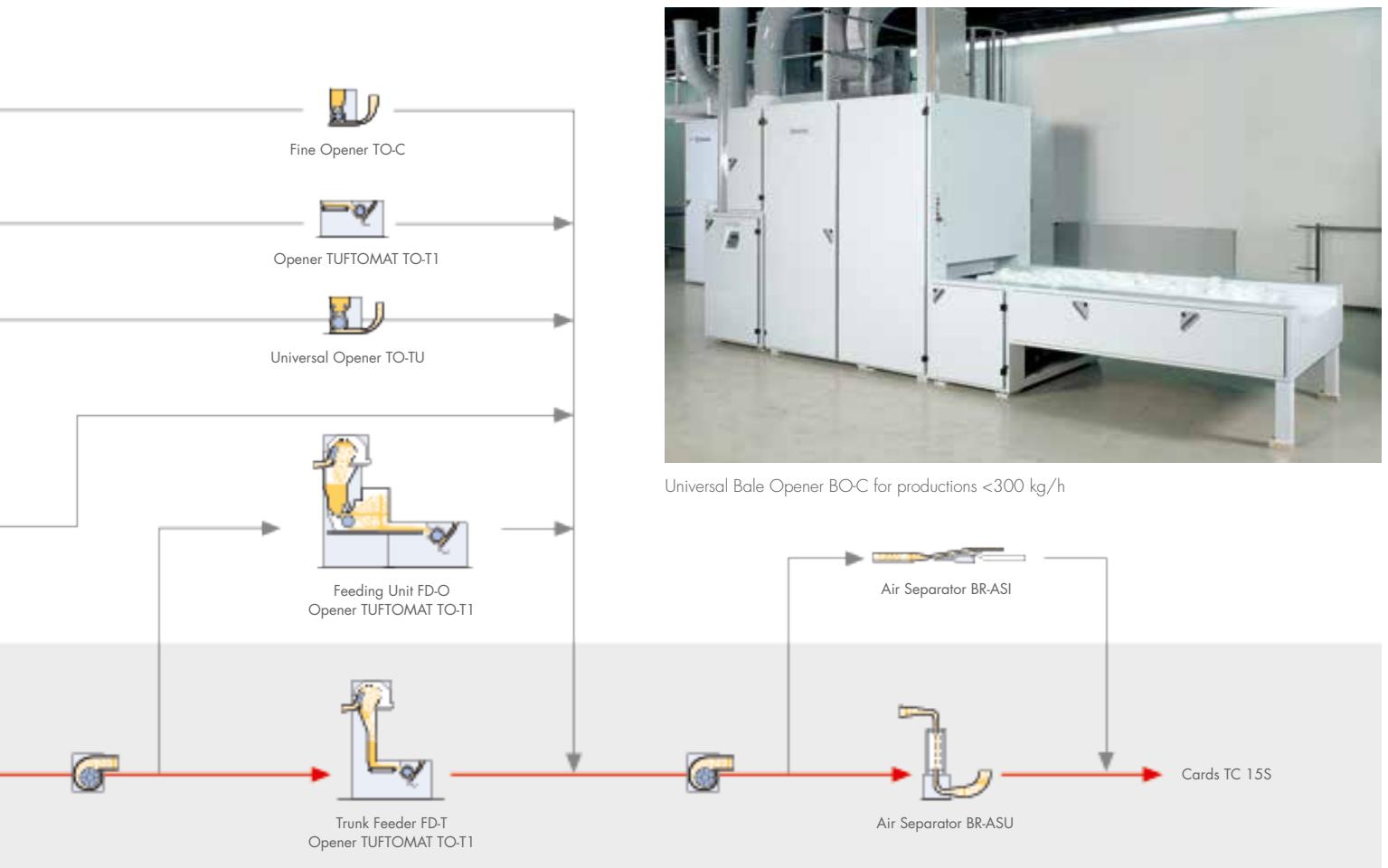
## Optimal opening of every production size

For large lots, the Automatic Bale Opener BO-A with a large bale lay-down is ideal. This ensures good blending from the start even in case of variations in material moisture or reviving agent. The Bale Opener BO-E is perfect for medium production rates. If only one or two cards are fed, the compact Bale Opener BO-C provides the most economical solution.

## Homogeneous blending for even card slivers

To achieve absolutely even card slivers with perfectly homogeneous fiber distribution, mixers such as the Universal Mixer MX-U are indispensable. This homogenisation is often neglected during processing of man-made fibers, thus the moisture content, for example with viscose, can differ greatly from bale to bale.

In this regard, the modular Trützschler blow room offers customised solutions ranging from small lines to feeding a card at high production rates up to 2,000 kg/h.



Material transport components such as fans, condensers or material separators have not been mentioned individually.

### Optimal opener feeding

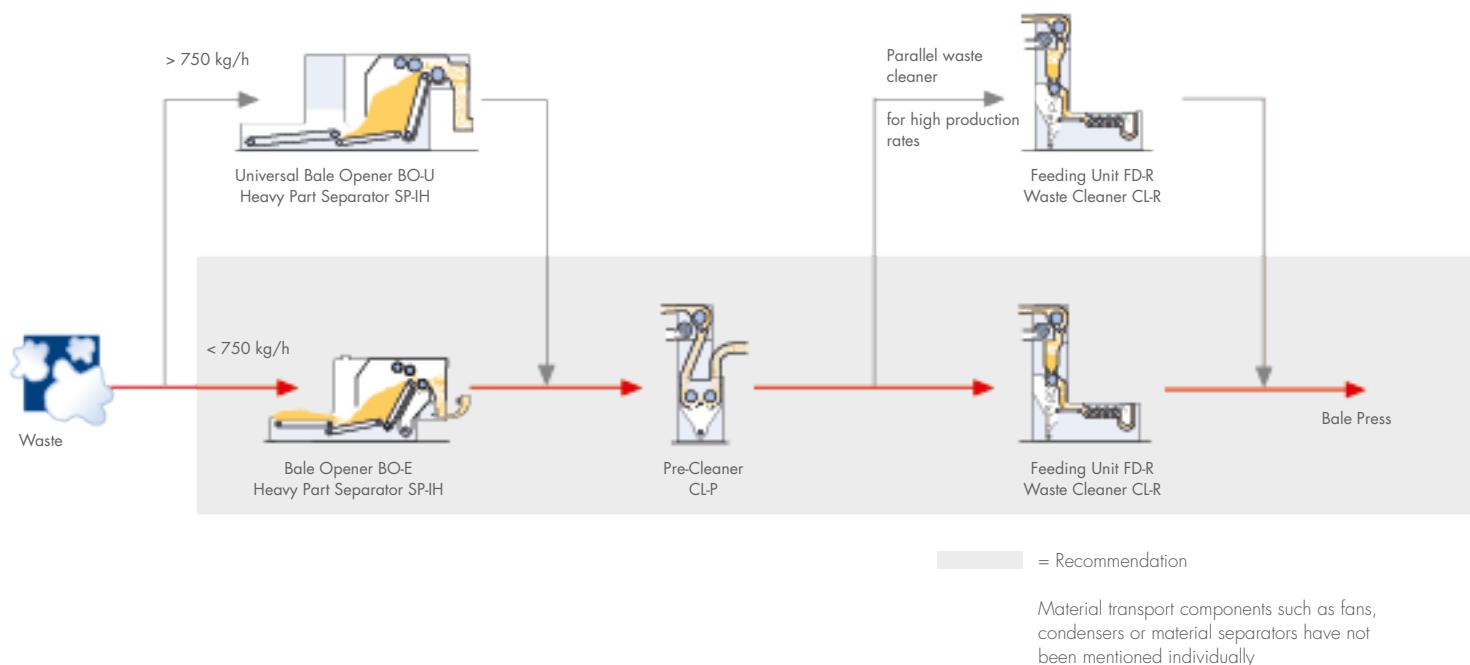
Trützschler openers can be optionally fed by different machines. The Feeding Unit FD-O is ideal for fibers that require additional opening prior to the fine opening process. All other man-made fibers are transported to the corresponding fine openers via the Trunk Feeder FD-T.

### Individual degree of opening depending on fiber type

The selection of the fine opener determines the degree of opening. A smooth or siliconised polyester fiber or a tencel fiber require hardly any opening. In contrast, a dull viscose fiber or polypropylene fiber requires more intensive opening. To meet these different requirements, the Trützschler opener program offers three different opener types.

## Efficient use of waste recycling

The recovery of good fibers from blow room and card waste can significantly increase the overall efficiency of the spinning mill. Small, compact or even large high performance installations for central waste preparation have a short amortisation period.



### Benefits in integrated or stand-alone installations

When using integrated installations, the waste is usually directly suctioned off from the prefilter of the central filter system and directly fed to the recycling system. On a stand-alone installation, a Universal Bale Opener BO-U is applied that simultaneously also pre-blends different types of waste.

### Reliable heavy part separation

Protecting the installation from heavy parts is of particular importance during waste processing. For this reason, a Heavy Part Separator in the suction area of the bale openers is required.



Universal Bale Opener BO-U



Pre-Cleaner CL-P

### Optimal cleaning of waste

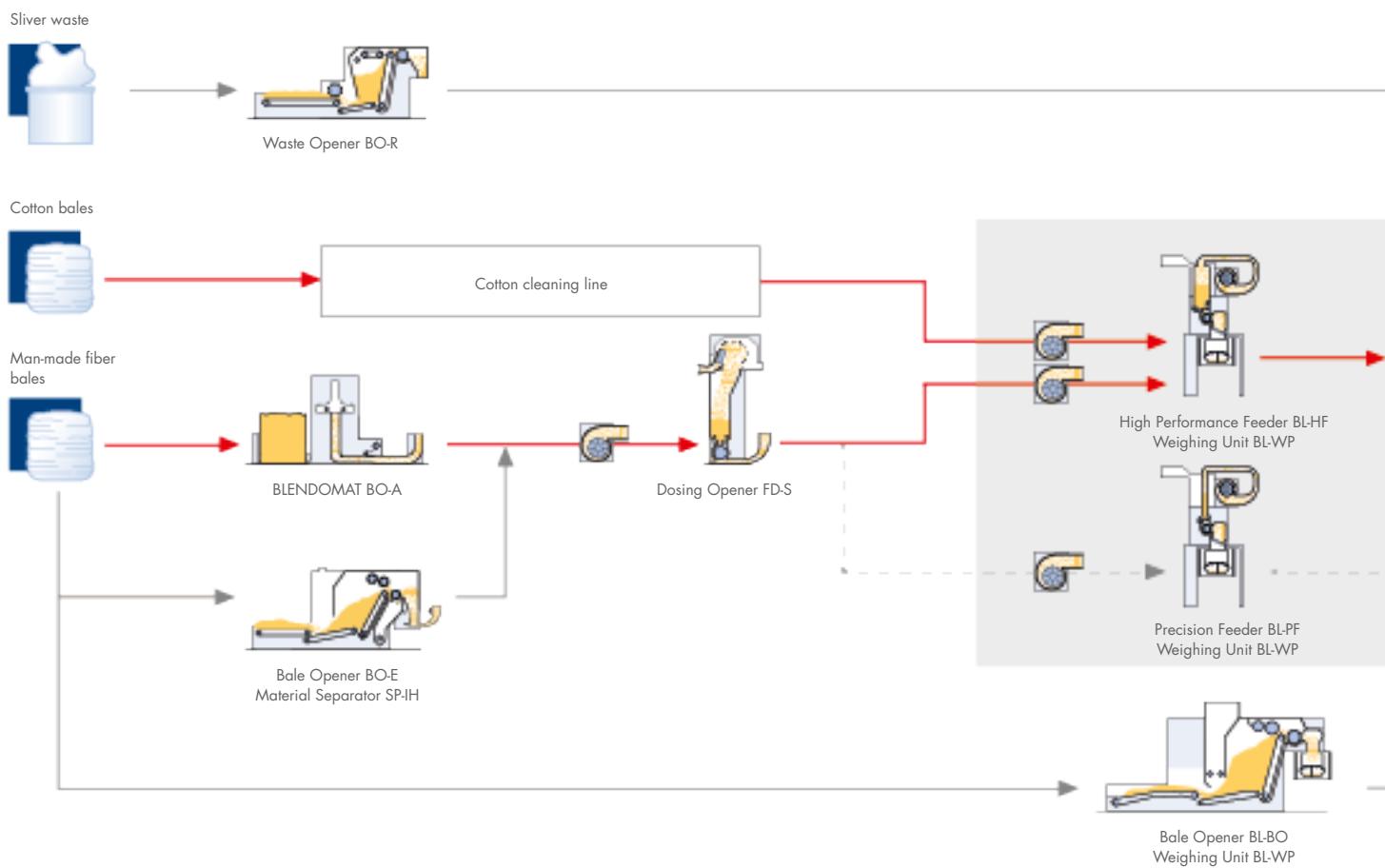
Since waste cleaning is subject to very specific requirements, cotton cleaners are less suitable for this task. Under qualitative and economic aspects, the Waste Cleaner CL-R is best suited. An initial pre-cleaning takes place already in the Feeding Unit FD-R. The further cleaning is performed by four cleaning rolls connected in series.

### Utilisation of valuable fibers

In theory it is possible to feed the cleaned fibers directly back into the process. In practise, however, pressing the fibers into bales has proven successful. They can be used in another product line or in the bale lay-down of the same product line, or otherwise be sold.

## Tuft blending – homogeneous and efficient

The production of tuft blends in a perfectly homogeneous as well as efficient manner is an art. The production of smaller lots with, for instance, five to six colours or continuous polyester/cotton blends require highest flexibility of the blending installations.

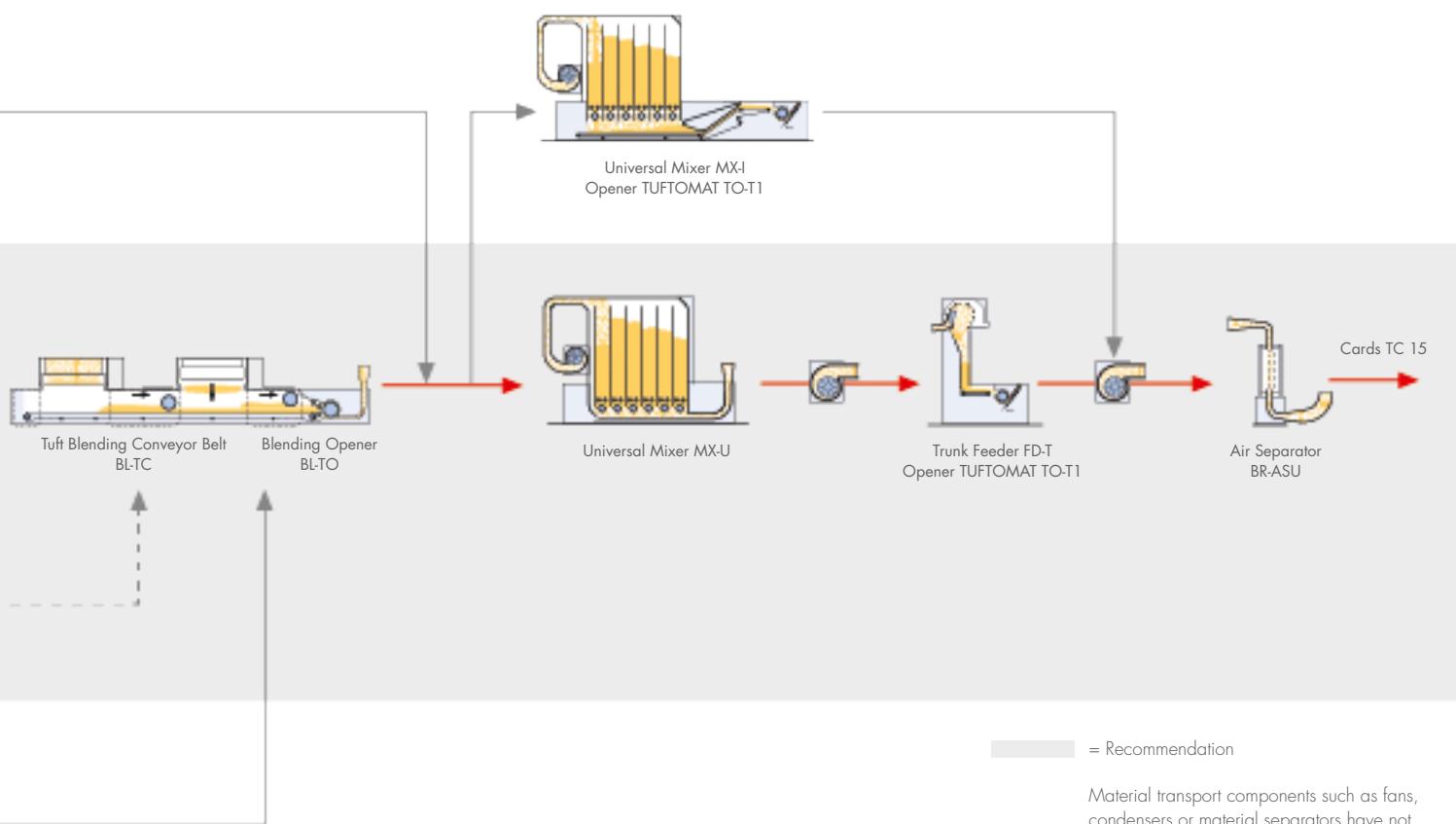


### Flexible fiber preparation

The entire product range of bale work-off machines, pre-openers and cleaners is of course also available for tuft blending installations. When cotton is added it should be completely cleaned, dedusted and free of foreign parts before blending it with man-made fibers.

### Flexible dosing

Tuft blending begins with the exact dosing of the blending components. This applies to 99 percent as well as 1 percent blending ratio. High production rates are best performed on the automatically fed High Performance Feeder BL-HF and the manually fed Bale Opener BL-BO. For low blending ratios, the Precision Feeder BL-PF is used.



### Precision weighing

The pre-opened tufts of the various components are very precisely dosed in the Weighing Unit BL-WP.

### Flexible homogenisation

The precise homogenisation of the tufts takes place in the controlled operating trunk mixers. Depending on downstream machine, the Universal Mixer MX-U or the Integrated Mixer MX-I are used.

### Flexible fine opening

In principle, all Trützschler opener versions can be used here. The preferred choice is the Opener TUFTOMAT TO-T1.

= Recommendation

Material transport components such as fans, condensers or material separators have not been mentioned individually.

# Highest yarn quality in an efficient manner

## Trützschler blow room components

By using modular installation concepts, Trützschler gives you the opportunity to individually combine compactness, production capacity, product quality and economic efficiency into an installation that is like a fingerprint of your requirements.

### **Perfect quality + productivity + reliability**

The flexible Trützschler blow room concept combines high performance and reliability. Perfect quality is natural. The cotton cleaning lines are designed for production rates up to 1,200 kg/h. Using two parallel cleaners and foreign part separators results in 2,000 kg/h. The key components of the Trützschler blow room are:

#### **Bale opening** (page 20)

Bale work-off can be performed fully automatic. However, there are also various manual solutions with hopper feeders available

#### **Installation protection** (page 22)

Depending on requirements, Trützschler can offer different solutions for heavy and metal part separation. It is prepared for the integration of fire protection devices from reputable providers. Trützschler is the only company that offers a multifunctional solution here as well.

### **Opening/cleaning** (page 26)

The cleaners and openers are the centre of every blow room. The Trützschler solutions are as diverse as the various natural and man-made fibers.

#### **Blending** (page 32)

Whether homogenisation of the natural raw material cotton or blending of different fibers, graded solutions are available for both tasks.

#### **Foreign part separation and dust removal** (page 34)

Three different foreign part separators cover all requirements. In this area, only Trützschler offers a machine with five high-end technologies for foreign part detection combined in one machine. Dust removal can be integrated or take place separately.

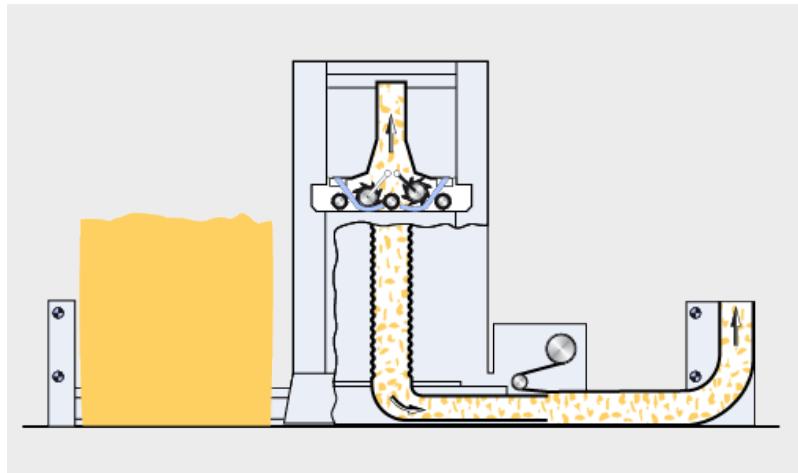


The animation shows  
a 360 degree view  
into a blow room.

Scan page with Smartview.

# Automatic Bale Opener BLENDOMAT BO-A

## Establishing the quality chain with maximum performance



Automatic Bale Opener  
BLENDOMAT BO-A

The BLENDOMAT BO-A can be flexibly adapted to spatial conditions: one-row or two-row bale lay-downs and feeding of up to three cleaner and opener lines are possible. The quality chain starts with the homogeneous tuft flow from its gentle bale opening.

### Flexibility at bale lay-down and during bale work-off

- Production capacity up to 2,000 kg/h
- Work-off of 1 to 3 bale groups per work area
- Selective work-off on one or both sides
- Lay-down of up to 200 bales for long, unattended operation (up to three lines simultaneously)
- Different bale heights are possible
- Free work-off area for a complete reserve set of bales: Working width max. 2,300 mm and machine length of 50 m and more
- Constant performance in both travel directions

### Optimal start of the quality chain

- Separate lay-down of different cotton qualities in different lines is possible
- Direct work-off of two or three different fibers, which are blended on a downstream tuft blending installation, on one BO-A.
- Two opening rolls ensure uniform production and small tuft size

### Constant tuft sizes and initial blending

Two opener rolls gently work off the tufts from the bale surface in parallel. A special equipment ensures uniform production of both rolls. Here one opening roll is lifted and the other one lowered during change of travel direction. The usual wear-intensive deceleration and acceleration of the opening roll is eliminated.

### More than 200 bales in the bale lay-down

The large working width of the BLENDOMAT BO-A of 1,720 mm or 2,300 mm allows lay-down of up to 150 or over 200 bales with a machine length of 50 m. The BLENDOMAT BO-A can selectively process bales on one or both sides.

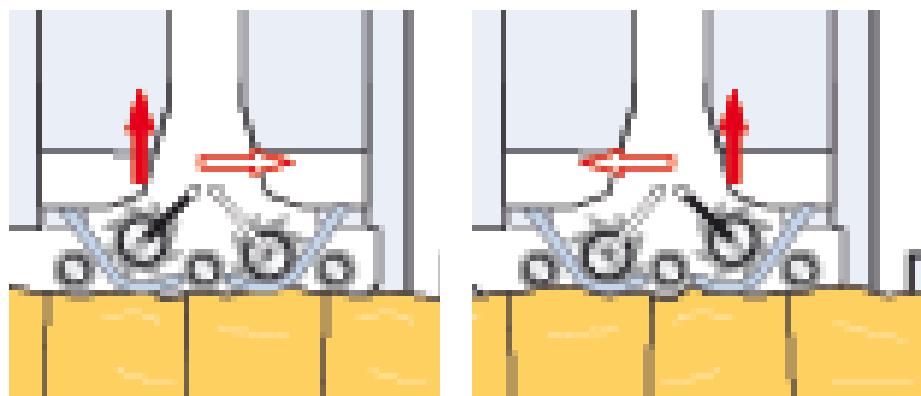
### Simple and safe operation

- Fully automated bale work-off
- Automatic adaptation of travel speed
- Intuitive operation with touch screen
- Minimal maintenance
- Work area secured by light barrier system



The animation shows the operation of BLENDOMAT BO-A

Scan page with Smartview.



Travel direction to the right:  
The left roll is lifted.

Travel direction to the left:  
The right roll is lifted.

# Hopper Feeder Bale Opener

Compact and economical

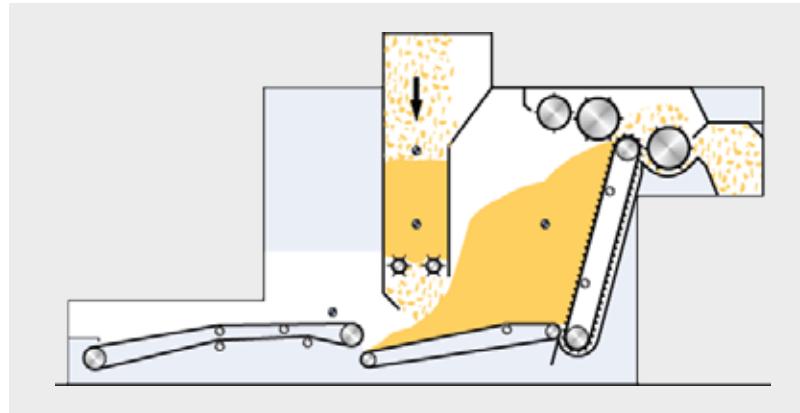
The Hopper Feeder Bale Openers BO-U, BO-E and BO-C are characterised by flexible use and high economic efficiency during the opening of natural and man-made fibers.

## **Universal Bale Opener BO-U**

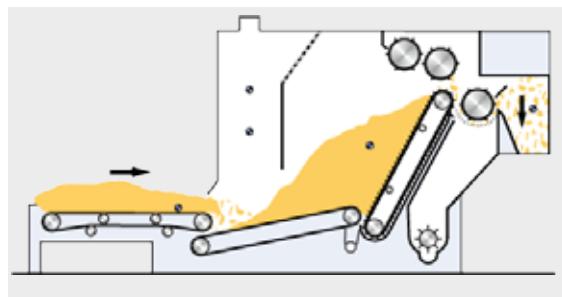
Powerful performance combined with economic efficiency:

- Specific blending of different material flows by means of additional trunk feeder
- Dosed addition of cleaned waste and re-feeding of sliver waste
- Selective lay-down of bale layers/bales
- Easy to combine with cleaners and openers

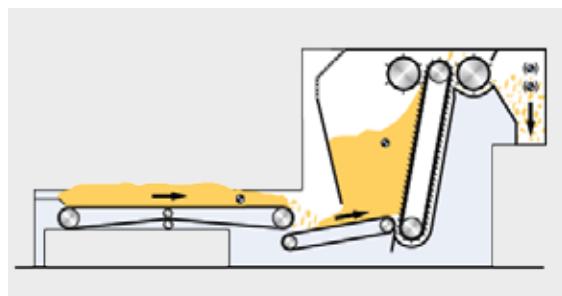
The BO-U is used with smaller lots or as a complement of BLENDOMAT BO-A.



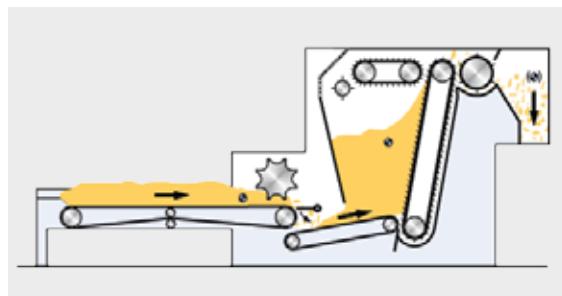
Universal Bale Opener BO-U (shown here in version with one trunk feeder)



The Bale Opener BO-E is the economical solution in the medium production range.



The Compact Bale Opener BO-C is ideal for feeding of a small man-made fiber installation and can directly feed an opener.



The Waste Opener BO-R reliably opens sliver waste as well.

# Multi Function Separator SP-MF

## Completely secure installation protection



Multi Function Separator SP-MF

The modular Trützschler system protects the installation and thus the production at all decisive process stages.

Parts separated before the cleaners:

### Metals and heavy parts

Parts separated at the end of the cleaner line:

### Coloured, white, transparent foreign parts

This way secure installation protection is combined with the economic advantages of an optimal raw material utilisation.

### Multi Function Separator SP-MF lowers operating costs

The Multi Function Separator SP-MF is located downstream from the automatic Bale Opener BO-A. All functions work reliably at all times, even at production rates up to 2,000 kg/h – supported by an integrated microcomputer control:

- Suction of BLENDOMAT BO-A
- Heavy part separation
- Metal separation
- Dust removal/air separation
- Waste feeding



**6,480 US\$  
savings in investment  
costs**

**4,350 US\$  
savings p/a in energy  
costs**

### 1. Suction

When applying conventional solutions, condenser and fan always operate at highest output level to ensure reliable material transport even at the furthest point. With Trützschler, the fan operates only at the currently required performance, depending where the BLENDOMAT is running at the time. Energy costs are considerably lowered. If the line temporarily does not require any material from the BO-A, an automatic changeover to Energy Saving Mode T-ECO takes place (see page 6). This means a reduction of the fan speed to an energy-saving minimum.

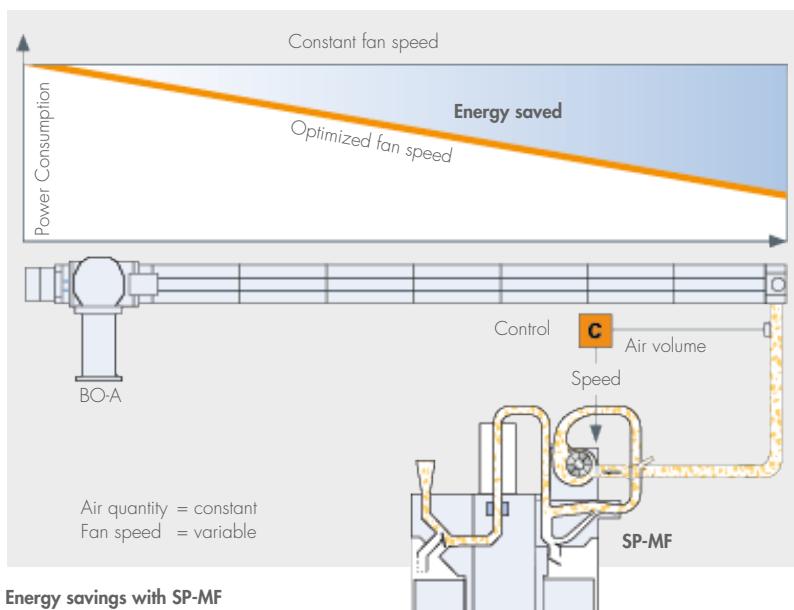


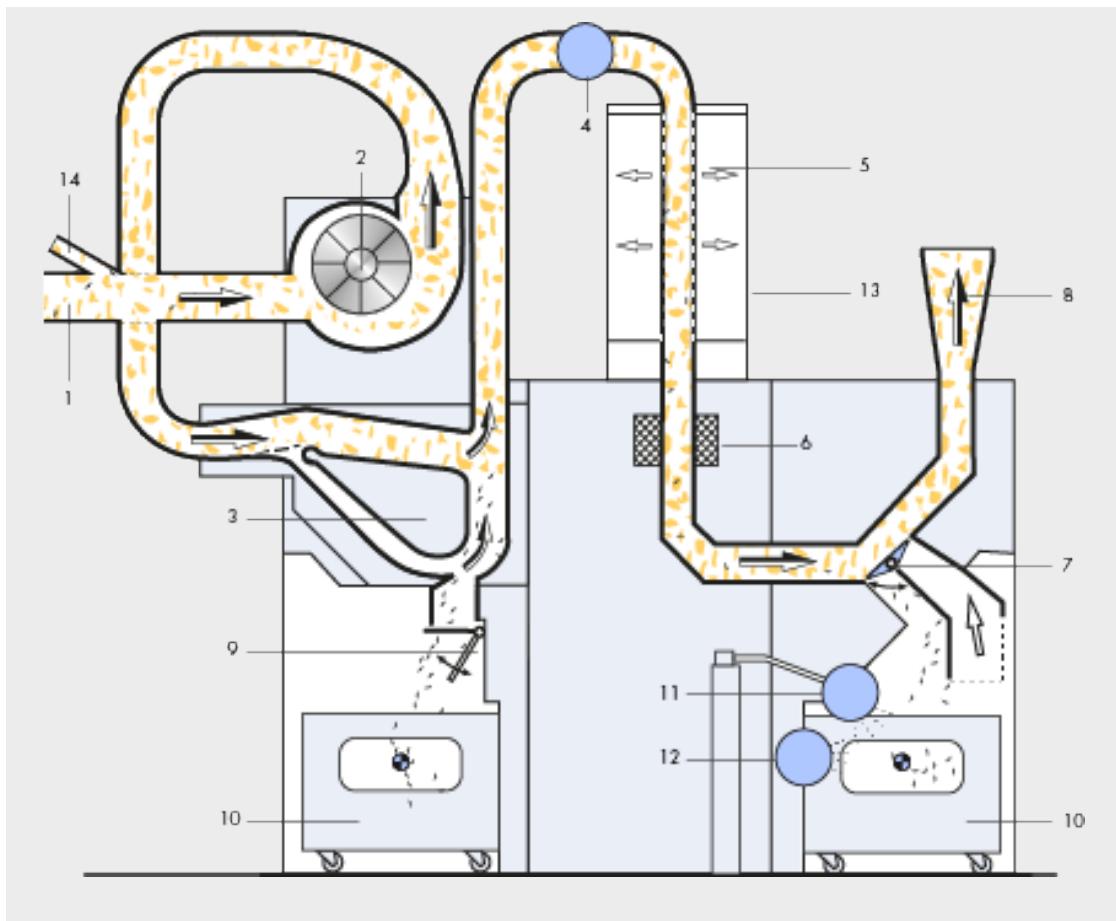
### 2. Heavy part separation

Optimal efficiency at minimal loss of good fibers during the separation of heavy parts is ensured by a special fan speed control. The heavy parts are automatically discharged into a waste container.

### 3. Air separation

In conventional systems, the entire air flows from bale opener to filter system. To increase efficiency, Trützschler is using an integrated air-volume separator in addition to dust removal. It directs only a small amount of air into the filter, which can be designed for approx. 3,000 m<sup>3</sup>/h less. The main air current





The Multi Function Separator SP-MF combines many functions in a compact form. It is prepared for the integration of fire protection devices.

flows directly to the next machine. Compared to conventional installations, significant savings in energy costs are achieved here as well.

#### 4. Fire protection

The Multi Function Separator SP-MF is prepared for the installation of individual fire protection devices.

#### 5. Metal separation

The Multi Function Separator SP-MF reliably protects cleaners and cards from metal particles: An electronic sensor surrounds the fiber channel and detects metal parts. The subsequent extraction flap is a special Trützschler development; since it is actively moved, it responds quickly in both directions. The customary wear-intensive spring pre-tensioning is no longer required.

- 1 The material is suctioned from an Automatic Bale Opener BLENDOMAT BO-A
- 2 The automatic control of the fan ensures uniform air volume
- 3 A new guiding profile has been developed for the aerodynamic heavy part separator
- 4 The rectangular duct is prepared for spark detectors
- 5 The dusty air is extracted in the air separator
- 6 The metal detector detects all types of metals
- 7 The extraction flap does not work with pre-tensioned springs, but is actively opened and closed
- 8 The next machine (e.g. fan in front of mixer) suctions off material
- 9 A flap conveys the separated heavy parts into the waste cart
- 10 Both waste carts are generously dimensioned
- 11 The extinguishing device can be integrated here
- 12 Heat sensors for monitoring the waste container can be integrated
- 13 The dusty exhaust air is fed to a filter system
- 14 Opened waste from the Waste Opener BO-R can be fed back without an additional fan

#### 6. Waste re-feeding

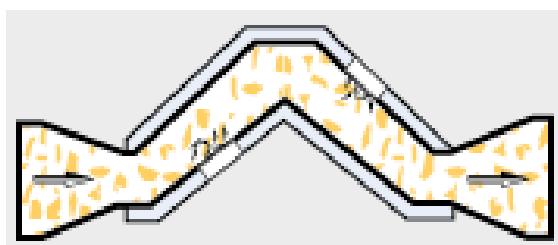
Soft waste, such as opened card and draw frame slivers, can easily be re-fed without the usually required fan: It is sucked up together with the main material flow. Thus, it passes through the entire machine and is also checked for heavy parts and metal particles.

## Special machines and components

Protection against heavy parts as well as magnetic and non-magnetic metals



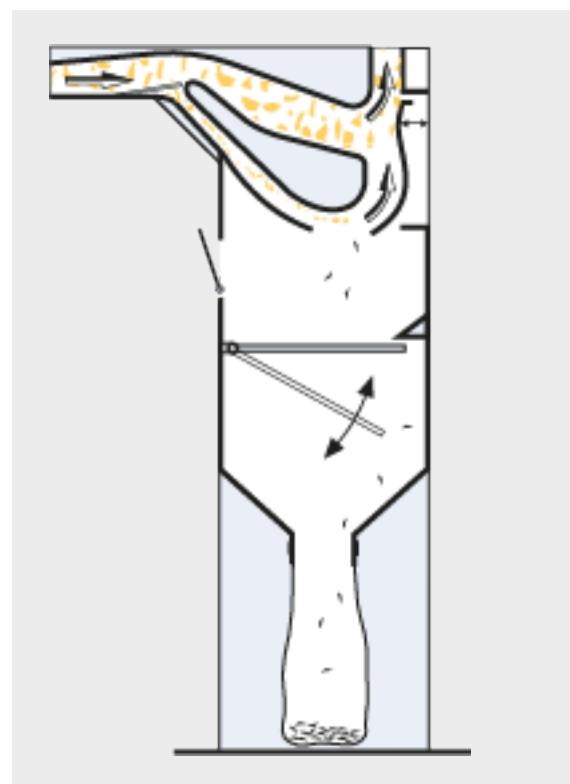
Dust Separator DUSTEX,  
electronic Metal  
Separator SP-EM and  
Pre-Cleaner CL-P



Principle of Magnet Trap BR-MT

### Basic protection against magnetic particles: BR-MT

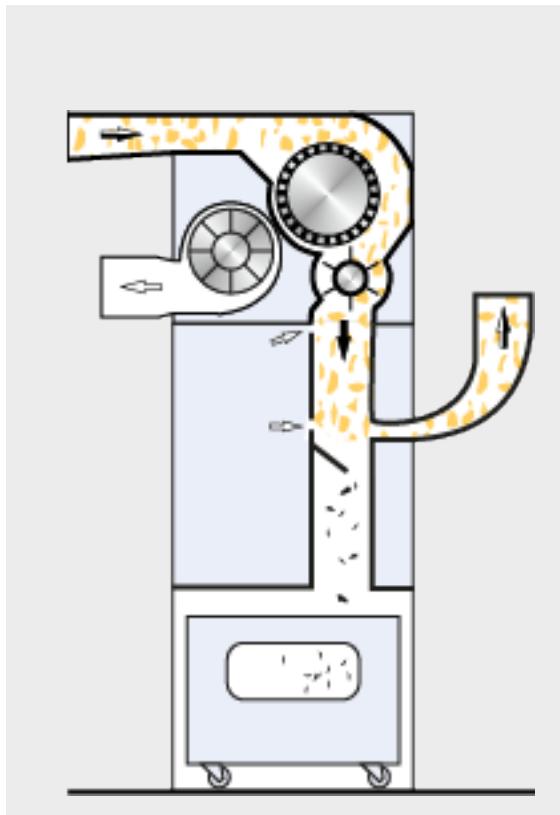
The Magnet Trap BR-MT fitted into the pipeline offers basic protection against magnetic particles that are not stuck in material tufts.



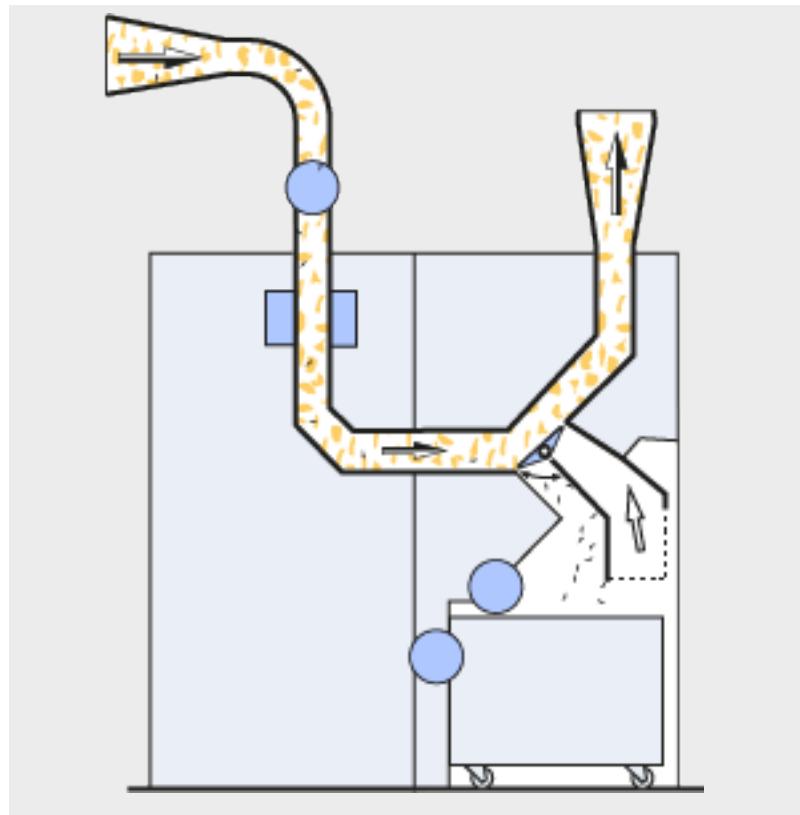
Heavy Part Separator SP-H

### Heavy parts separation: SP-H

The Heavy Part Separator SP-H reliably separates heavy parts from the tuft flow into a waste container. Since it is maintenance free and requires no electrical energy, it also does not generate any operating costs.



Condenser BR-COU and Integrated Heavy Part Separator SP-IH



Electronic Metal Separator SP-EM

### Integrated separation SP-IH

The Integrated Heavy Part Separator SP-IH is directly mounted on a Universal Bale Opener BO-U or under a Condenser. Since fiber suction is performed at a right angle, the heavy parts fall straight down. There is no simpler and cheaper way.

### Safe metal separation: SP-EM

The electronic Metal Separator SP-EM helps to protect the cleaners and cards from metal parts at the interface between bale work-off and mixers/cleaners. Since, in the process, the material transport is performed by the downstream machine, it is free of exhaust air and requires no filter capacity – another example of the efficiency of Trützschler installations.

# WASTECONTROL BR-WCT

Intelligent cleaning saves hundreds of bales of cotton per year.

The efficiency in terms of raw material yield of the world exclusive Waste Sensor WASTECONTROL remains unrivalled. It allows the surge in productivity from which leading spinning mills profit today.



Small and intelligent:  
WASTECONTROL  
reduces waste and lowers  
raw material costs.

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 ct./lbs, this corresponds to savings in the amount of 110,900 US\$.

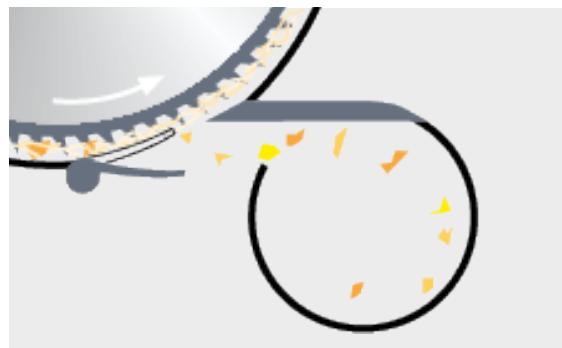
The Waste Sensor WASTECONTROL is used at a Cleaner CLEANOMAT. Its optical measuring sys-

tem determines the waste quality and sets the cleaning elements of the cleaner in such a way that optimal cleaning is achieved with minimum loss of good fibers.

**110,900 US\$  
savings in raw material  
purchase**



The unique technology of the adjustable deflector blades controls the amount of waste on CLEANOMAT CL-C1.



## Perfect cleaning – the key to efficient production

Cotton quality characteristics have changed greatly in recent years: While the pure trash content dropped somewhat, the percentage of neps increased. Cottons containing honeydew also require an adapted, fiber-friendly cleaning technology. This current requirement is also perfectly met by the CLEANOMAT system.

# CLEANOMAT system

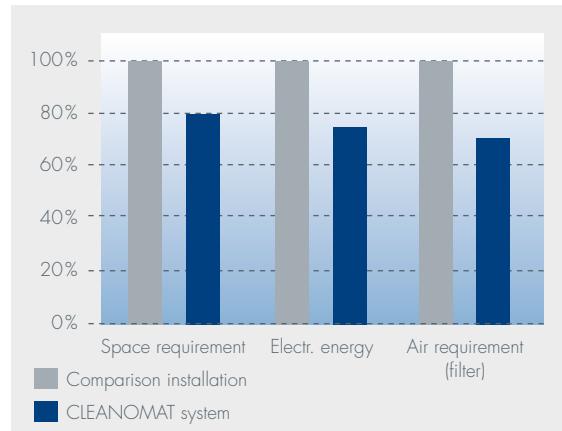
Globally leading cleaner technology

## To the point in an economically optimal way

The decisive factor for efficient cleaning is working at the optimal point between degree of cleaning and economic viability.

### Advantages of the CLEANOMAT system:

- Optimal opening and cleaning combined with extremely gentle fiber treatment, even at 1,000 kg/h and more
- Freely selectable degree of cleaning by means of individually adjustable cleaning elements at any time, even during production
- Perfect adaptation to every cotton by means of specially developed needle and saw tooth rolls
- Rapid raw material adaptation by means of infinitely variable roll drives
- Clean machine thanks to direct suction; allows processing of even sticky cotton
- Greater yarn quality and improved running behaviour in OE and ring spinning through specific permanent dedusting of the cotton
- Reduced maintenance outlay due to belt drives and maintenance-free motors
- Permanent monitoring and precision control by means of integrated Trützschler microcomputers



Savings potential with CLEANOMAT system

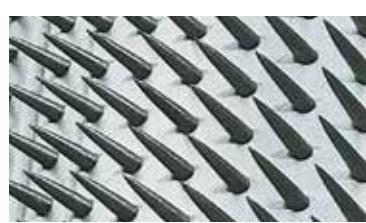
## CONTIFEED 2 increases production and quality

Full utilisation of the potential of a cleaner or opener line is only possible with the control module CONTIFEED 2. With CLEANOMAT cleaners, a high degree of cleaning is achieved even at high production rates due to the continuous material flow instead of stop and go. (See page 52)

**25% savings in energy costs compared to a conventional cleaning line.**

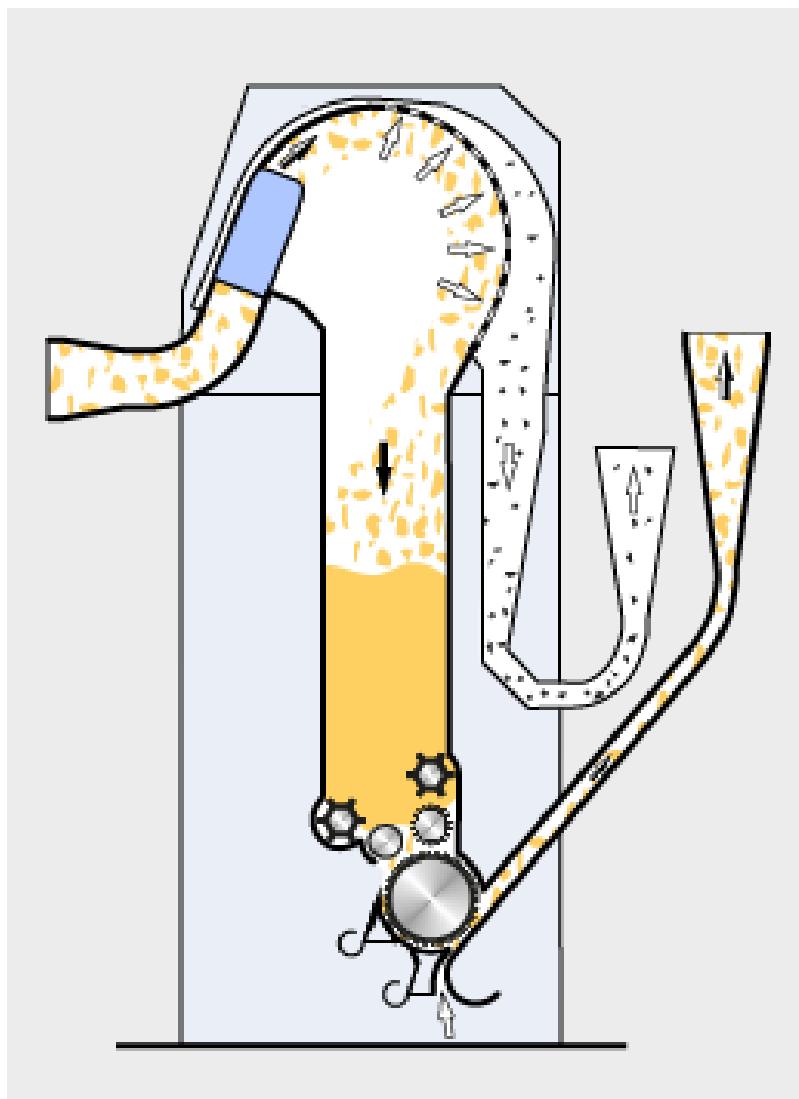


The Cleaner CLEANOMAT CL-C3 features increasingly finer clothing and steeper angles of the clothing teeth from roll to roll



# Universal Cleaner CL-U

The new generation of cleaners



The Universal Cleaner CL-U has a compact design and requires little space

The new Trützschler Universal Cleaner CL-U is a fine cleaner with greatest possible self-adjustment for meeting the highest standards. It combines a wide range of functions:

- Effective fine dust removal
- Continuous card feeding without stop and go
- Excellent cleaning technology
- Adjustable degree of cleaning
- Optical monitoring of the waste quality via WASTECONTROL
- Self-optimization of the cleaning quality
- Easy operation on colour touch screen

Production rates up to 1,200 kg/h made possible through 4-roll feeding. The core of the cleaner features a large-sized cleaning roll with two cleaning elements: In the first element, the knife is lineally movable by a motor. The second element features a fixed knife and the successful Trützschler deflector blade principle.

## Self-optimization

The two suctions of the CL-U are monitored by the optical sensors of WASTECONTROL. The application of a special lighting technology enables the sensors to distinguish between dirt and fibers. If the sensors detect too many good fibers in the waste, the servo motors adjust the knives and deflector blades. This self-optimization is performed upon request while machine is operating at full capacity. The material and waste suction is permanently monitored by two additional special Trützschler pressure sensors.



Elements of self-optimization and monitoring

- 1 Servo motor knife
- 2 WASTECONTROL sensors
- 3 Servo motor deflector blades
- 4 Pressure sensors of suctions

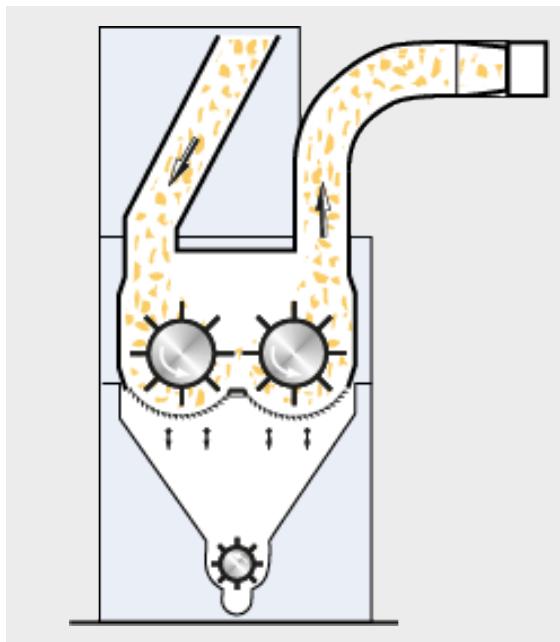
# CLEANOMAT cleaner

Specialists for clean work

## The first fiber-friendly cleaning:

### CLEANOMAT Pre-Cleaner CL-P

The Pre-Cleaner CL-P is the ideal addition to a cleaning line when the gentle removal of coarse contaminants from the raw material is required. For processing ELS cotton, one CL-P in the line is sufficient for complete cleaning.



Pre-Cleaner CL-P

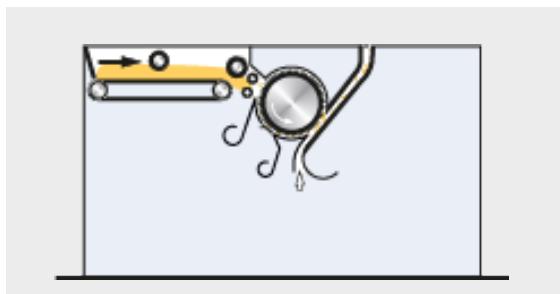


Pre-Cleaner CL-P

## Cleaning and opening in one:

### CLEANOMAT Cleaner CL-C1

With its open, fiber-friendly needle roll, the special Cleaner CL-C1 can also clean extra long staple cottons. At the same time, the cotton is extensively and optimally prepared for gentle carding in a defined degree of opening.

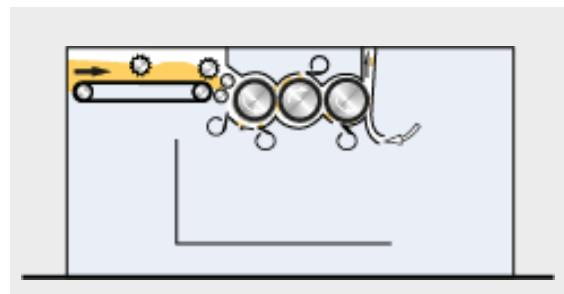


Fine Cleaner CL-C1

## The universal fine cleaner:

### CLEANOMAT Cleaner CL-C3

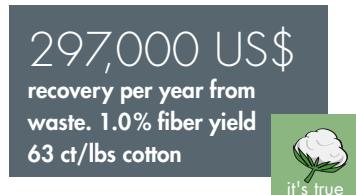
The CL-C3 is a stand-alone cleaner designed for severely contaminated cottons in short, compact lines. In combination with the Pre-Cleaner CL-P, it can be used for almost all cottons – a flexibility that provides the spinning mill with investment protection and future reliability.



Fine Cleaner CL-C3

# Waste Cleaner CL-R

Recycling waste means saving costs



The higher the usage of raw material cotton down to the last fiber, the higher the value creation of the capital invested. Hence, powerful fiber recycling technologies play an increasingly important role in the economic success of a spinning mill.

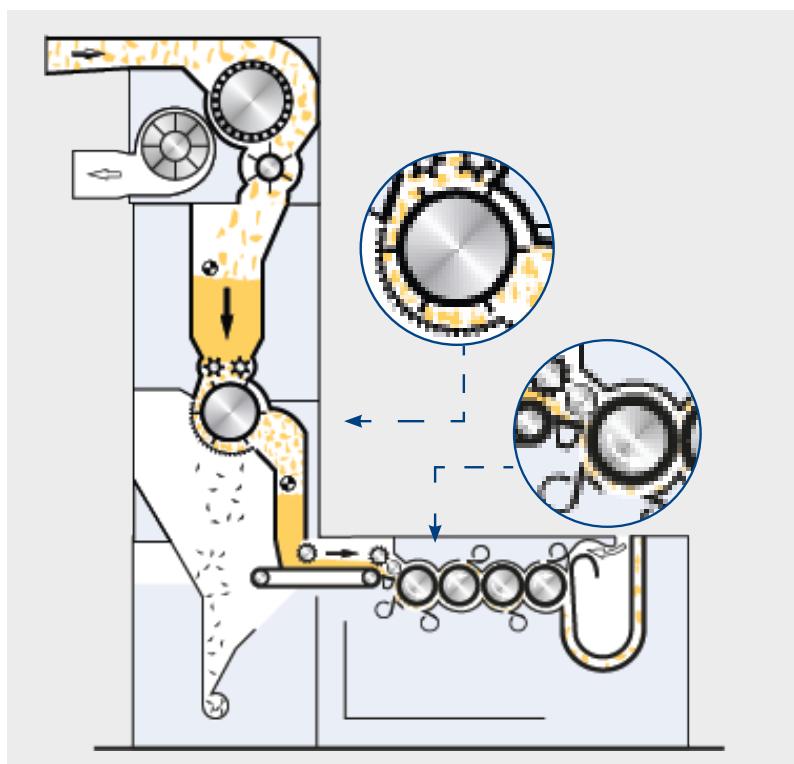
Trützschler has designed the Waste Cleaner CL-R for this specific purpose. It differs from the CLEANOMAT cleaners in a number of technological features:

- Four rolls with 5 cleaning elements
- A tray feed for short fibers
- Availability of special clothings
- Adapted roll speed

The result is a significant increase in opening and cleaning. The setting of the optimal degree of cleaning corresponds to the high level of the CLEANOMAT series. Its performance can be further increased in connection with the Feed Unit FD-R, which opens the material and removes coarse dirt particles.

#### Installation concepts for waste cleaning:

1. When waste cleaning is integrated in production, the waste can be optionally returned into the process, for instance by a central filter system via a heavy part separator and the Waste Cleaner CL-R. It can either be fed to a bale press or the lay-down of another lot.
2. Waste cleaning as separate line consists of a Universal Bale Opener BO-U and a Pre-Cleaner CL-P, which removes coarse contaminants. Another cleaning occurs in the Waste Cleaner CL-R. Then the waste can be fed to a bale press.

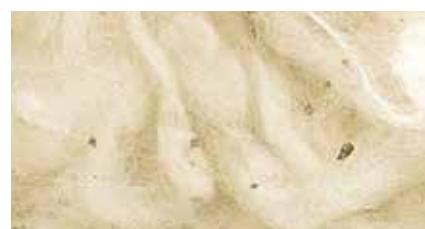


Feeding Unit FD-R – Waste Cleaner CL-R

Blow room waste



Fiber yield after the pre-cleaners



Good fibers after waste cleaner



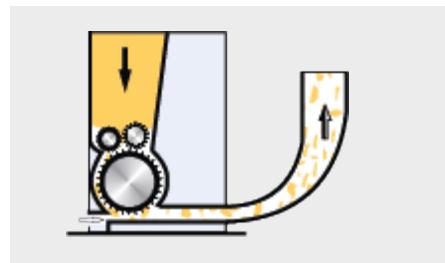
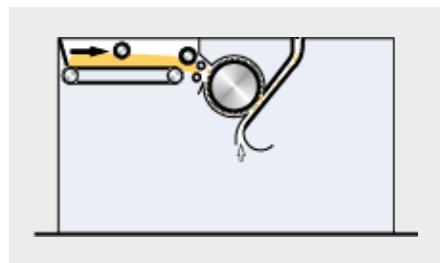
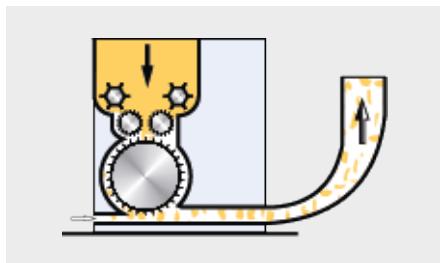
# TUFTOMAT system

## The tailor-made opener program

### **TUFTOMAT system**

The TUFTOMAT system offers perfect solutions for almost every production: From universal opener for all fibers ≤ 130 mm to special openers for PES/

viscose/acrylic and other man-made fibers. Other individual requirements can be realised by different opening rolls.



### **Universal Opener TO-U**

- High performance opener for all fibers up to 130 mm
- 3 different opening rolls for each material and each application

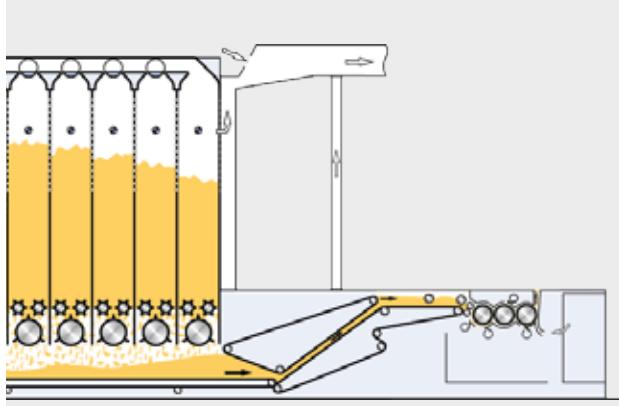
### **TUFTOMAT TO-T1**

- PES/viscose/acrylic
- For almost all fibers in the man-made fiber short staple spinning mill
- Maximum fiber protection

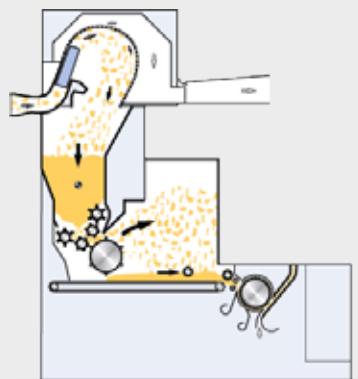
### **Fine Opener TO-C**

- Man-made fibers
- Direct feeding through a Universal Bale Opener BO-U
- Ideal for direct feeding, i.e. of a card or small card group

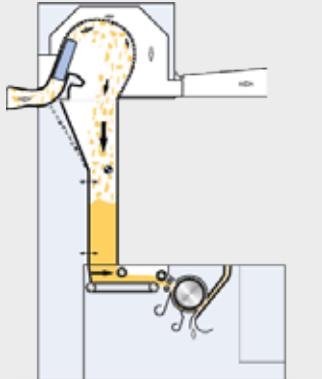
## Feeding can look this good



Integrated Mixer MX-I



Feeding Unit FD-O



Trunk Feeder FD-T

Trützschler cleaners and openers can be equipped with various devices. The selection of the optimal combination depends on material, production level, available space and individual installation configuration

### **Feeding Unit FD-O**

The intelligent design of the FD-O with its pre-opening function gives fine openers a clear performance advantage.

### **Trunk Feeder FD-T**

The most cost-efficient feeding option is the Trunk FD-T in combination with a Cleaner CLEANOMAT CL-C1 or CL-C3.

### **Integrated Mixer MX-I**

A very homogeneous cotton lay-down for cleaners is possible as the most space and energy saving solution in combination with a mixer.

# Mixer MX-U and MX-I

## Controlled mixing at high precision

In the area of one component staple fiber blends, Trützschler mixer systems offer individual solutions for every assignment:

- Individual mixer sizes for every task
- Maximum homogeneity due to controlled, reproducible blending
- Uniform product appearance by optimizing the blend

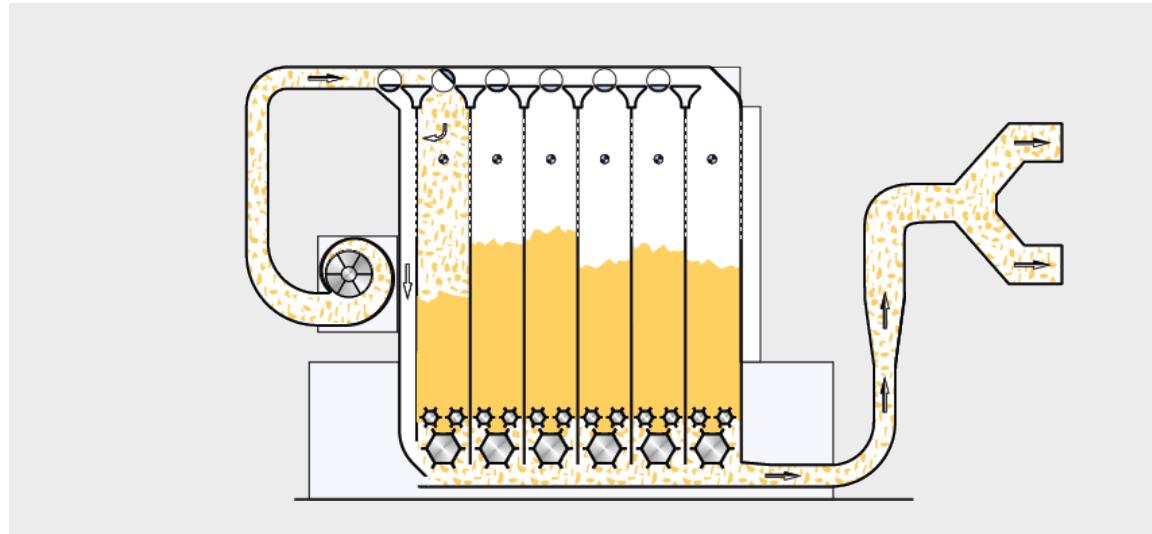
If the mixer temporarily does not request any material, an automatic changeover to Energy Saving Mode



T-ECO takes place (see page 6), thus reducing the fan speed to an energy-saving minimum.

### Perfect mixing

The mixers are designed as universal (MX-U) and integrated (MX-I) machines. Depending on requirement, six or ten trunks are sequentially filled from the top and simultaneously emptied at the bottom on both types. This principle guarantees maximum homogeneity of the mix. In case of highest requirements, two mixers are set up in series (tandem mixing).



The Universal Mixer MX-U is ideal for feeding two parallel installations.



Mixer MX-U6 – Pre-Cleaner CLP

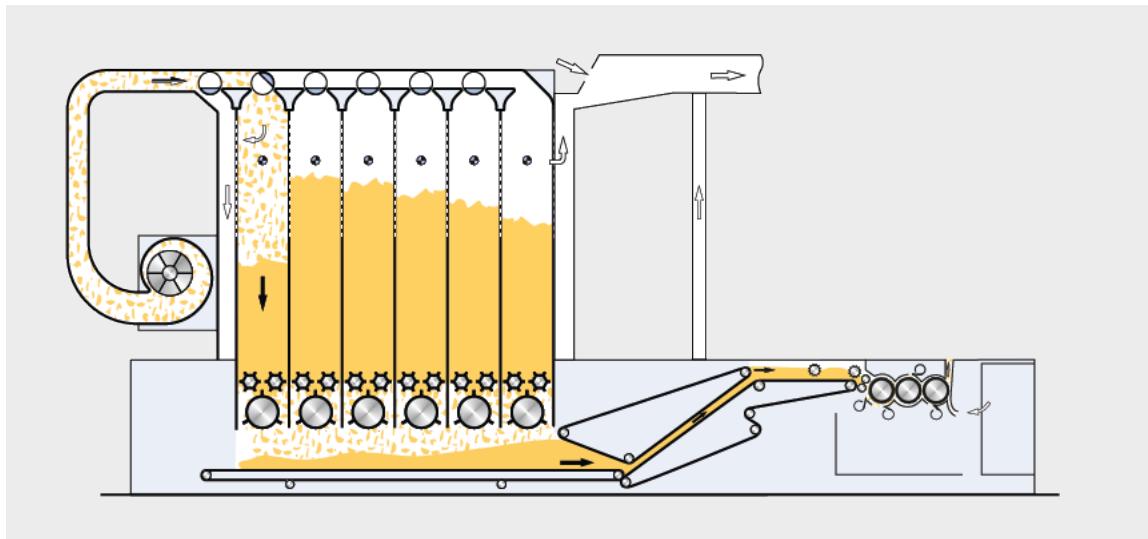
### MX-U: the flexible solution for every installation

The Universal Mixer MX-U is ideal for the feeding of two parallel cleaners. The tufts reach the 6 or 10 trunks of the mixers via a fan. In contrast to Mixer MX-I, suctioning of the mixing duct takes place directly below the opening rolls. The MX-U works with a closed air circulation: The injected transport air is simultaneously used for conveying the tufts to the downstream machine.



The animation shows the operation of the mixers.

Scan page with Smartview.



The Integrated Mixer MX-I, coupled with a CLEANOMAT Cleaner CL-C3

#### **MX-I: direct cleaner feeding**

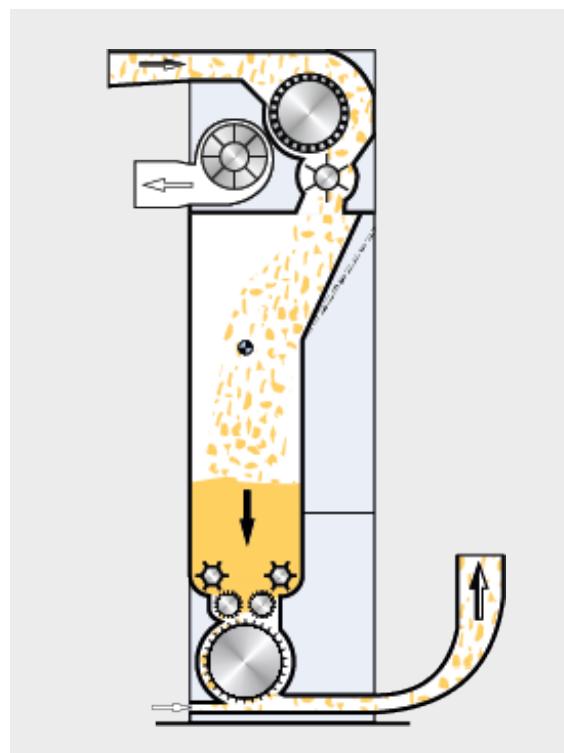
Its direct coupling with a cleaner or opener makes the Integrated Mixer MX-I ideal for compact installations. The mixing chambers are fed from the top by the directly attached fan: Low-maintenance rotating flaps forward the material in sequence to the individual trunks in several stages. In the lower section of the trunks it is passed to a mixing conveyor belt via delivery rolls and large dimensioned opening rolls. At the end of the conveyor belt, material from all the trunks is stacked in layers in a sandwich format. This ensures uniform feeding of the CLEANOMAT cleaner. The 6-trunk version is suitable up to approx. 600 kg/h, after this the 10-trunk version is applied.

#### **FD-S: small dosing opener for great uniformity**

To obtain a more continuous material flow it is practical to use small buffer units in some cleaning and opening lines for uniform feeding of downstream machines.



The Integrated Mixer MX-I 10 – directly coupled with a CLEANOMAT Cleaner CL-C3



The Dosing Opener FD-S buffers small material amounts and releases them in doses.

# Trützschler T-SCAN TS-T5

The new generation of foreign part separators

A complex task for our developers: "How can the benchmark of foreign part separation be improved even more?"

The solution, which denotes an all-time high-end, is: "By adding new features that have not been possible up to now!"

To detect foreign parts, Trützschler used three technologies in one machine already in the previous generation. The Foreign Part Separator SP-FPU is still the benchmark for this type of machines. However, up to now no known machine was able to reliably detect and separate colourless and white opaque PP.

The Trützschler development team has found an innovative solution to this complex task: The new T-SCAN TS-T5 presents a new generation and, compared to the SP-FPU, features two additional technologies:

Module	Foreign part detection
• F-Module	coloured/dark foreign parts
• P-Module	transparent foreign parts
• UV-Module	fluorescent foreign parts
• <b>G-Module</b>	<b>shiny foreign parts (NEW)</b>
• <b>LED-lighting</b>	<b>small/thin foreign parts (NEW)</b>

The T-SCAN camera records colour pictures as well as glossy pictures.

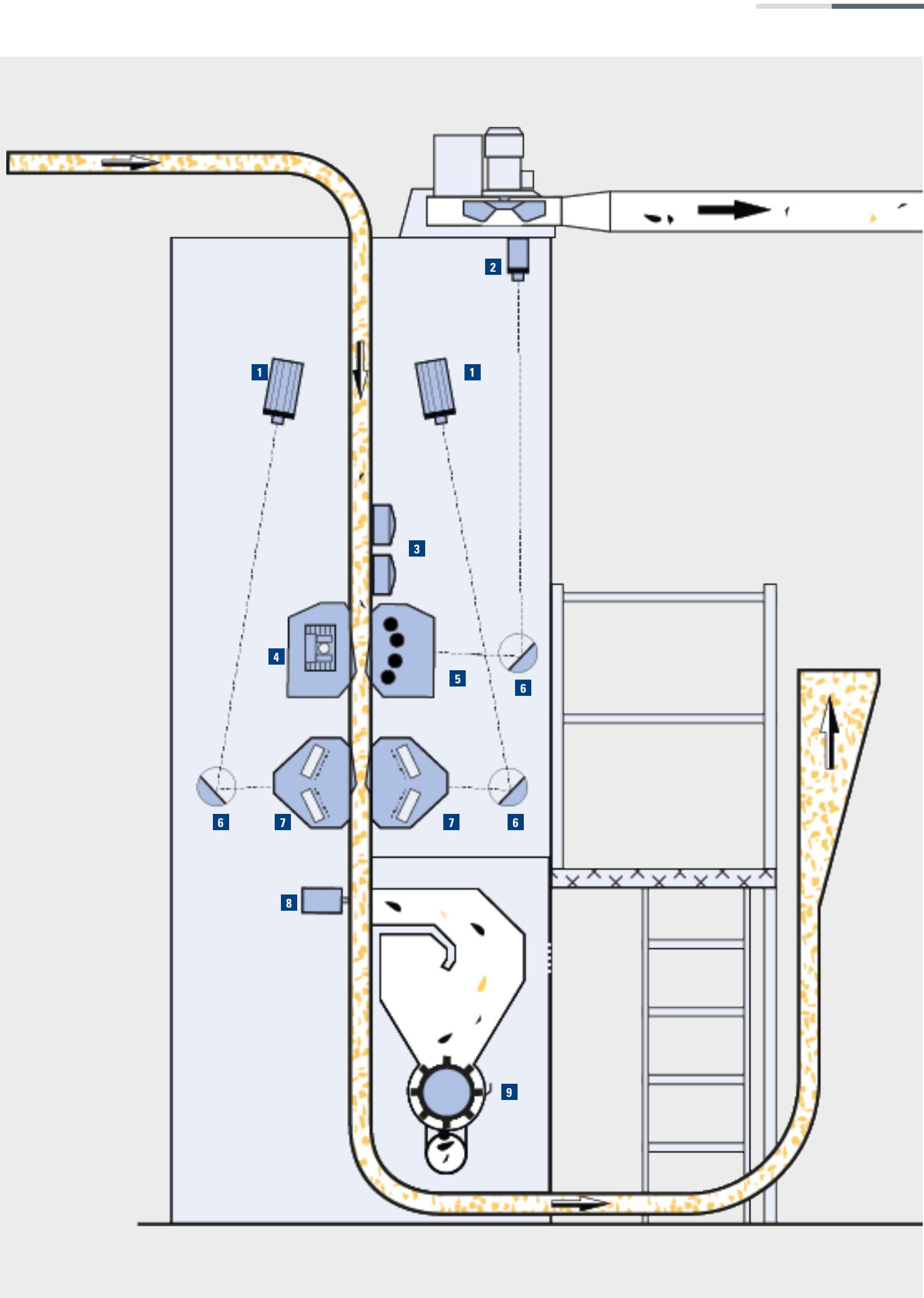


## Focus of the development

- Improved detection of white PP strips
- Improved detection of small/thin coloured PP strips
- Low good fiber loss
- Low energy consumption
- Low air consumption
- Extended service intervals
- Low maintenance costs
- Minimum space requirement
- Integration into existing cleaner lines

The T-SCAN TS-T5 is in full compliance with all these criteria. Its cameras and lighting technology are unique in the market. The Trützschler T-SCAN TS-T5 represents the high end of separation technology.

- 1 Trützschler colour and gloss cameras with very high resolution and scanning frequency
- 2 Trützschler camera with polarisation filter
- 3 Trützschler speed sensors
- 4 Lighting unit with polarisation filter for the detection of transparent and semi-transparent parts in transmitted light
- 5 UV lighting unit for the detection of fluorescent foreign parts in incident light
- 6 Deflection mirror
- 7 LED lighting module with 536 LEDs and special lenses for the detection of small thin foreign parts
- 8 Nozzle beams with 48 valves and 144 nozzles
- 9 Bucket wheel to separate exhaust air from fiber flow



# Modules for the separation of foreign parts and foreign fibers

## Perfect interaction

### F-Module for the detection of coloured parts

Trützschler uses newly developed T-SCAN cameras with even higher resolution and scanning rate. The two high performance light modules in LED technology that ensure perfect lighting are new as well. The flow of cotton tufts is continuously monitored from both sides with reliable detection of even small coloured foreign parts.



These are typical parts detected by the colour module.

### G-Module for the detection of shiny parts

The contrast of many foreign parts to cotton is very small, but they reflect light because they are shiny. The newly developed Trützschler gloss module uses this effect. Two T-SCAN Cameras take pictures from two sides. Parts that differ from cotton due to shine are identified. To detect smallest shiny foreign parts, this module works with high resolution and scanning frequency as well.



The G-Module detects the glossiness of foreign parts.



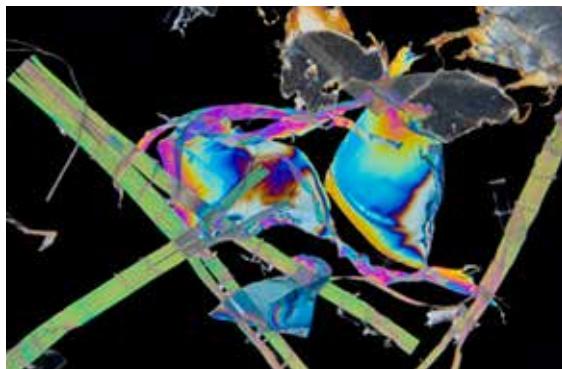
Over a thousand LEDs with assigned lenses ensure perfect illumination.

### P-Module for the detection of transparent and semi-transparent parts

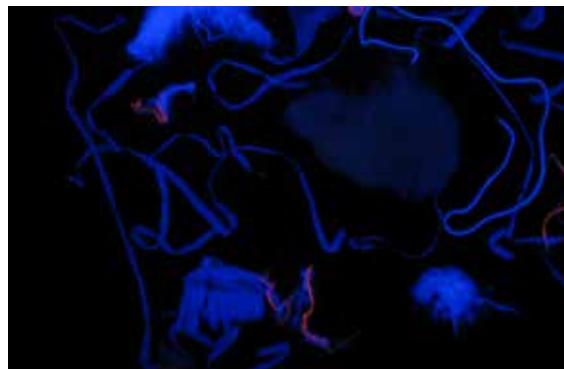
The Trützschler P-Module detects transparent and semi-transparent parts, regardless of their colour. To achieve this, the patented method uses polarised transmitted light. If the cotton contains transilluminable foils, packaging residues from PP fabric and similar parts, they are reliably detected by this module.

### UV-Module for detection of fluorescent parts

Some cotton sources contain foreign parts that have a fluorescent glow in UV light. Even parts that are difficult to detect, e.g. bleached cotton, PES or fluorescent PP strips, are reliably detected by the Trützschler UV-module.



In regular light, the contrast between these foreign parts and the cotton is not sufficient for a reliable detection. In polarised light, the same parts appear in colour and are therefore detected.



Fluorescent parts appear blue in UV light

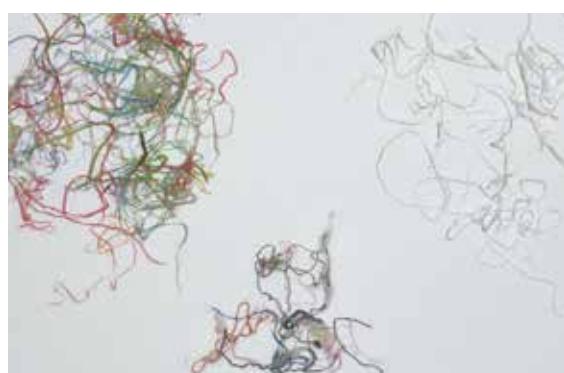
## LED lighting

Increased scanning rate and detection of thin, thread-shaped parts

In standard foreign part separators, the lighting units feature fluorescent tubes. Their price advantage is countered by a massive quality disadvantage: The light's proportion of blue – which is crucial for colour detection – is only available in new tubes during the first few months after installation. After approx. six months the proportion of the blue light is no longer sufficient for the reliable detection of foreign parts. Even though the fluorescent tubes still look new to the eye, they must already be replaced to ensure that the high efficiency for foreign part separation is maintained.

The lighting unit of the new T-SCAN TS-T5 features high performance LEDs. Both lighting modules contain a total of 1,072 exactly focused LEDs and the same amount of lenses. Since the light is four times brighter than in the SP-FPU, cameras with higher res-

olution and scanning frequency can be used. Thus, even small and thread-shaped thin parts are detected. And of course LEDs do not require a regular replacement (like with fluorescent tubes).



The bright LED light detects even smallest thread-shaped foreign parts.

# Foreign part separation and control

The right timing and precision of hits is decisive

## During separation, correct timing is decisive

Naturally, the T-SCAN TS-T5 is also equipped with special Trützschler speed sensors. They measure the speed of the tuft flow and the foreign parts. With this information, the separation nozzles can be controlled at such a high level of accuracy that only approx. 0.4 g good fibers per foreign part are captured. This top value corresponds to approximately half of the good fiber loss of other systems in the market.

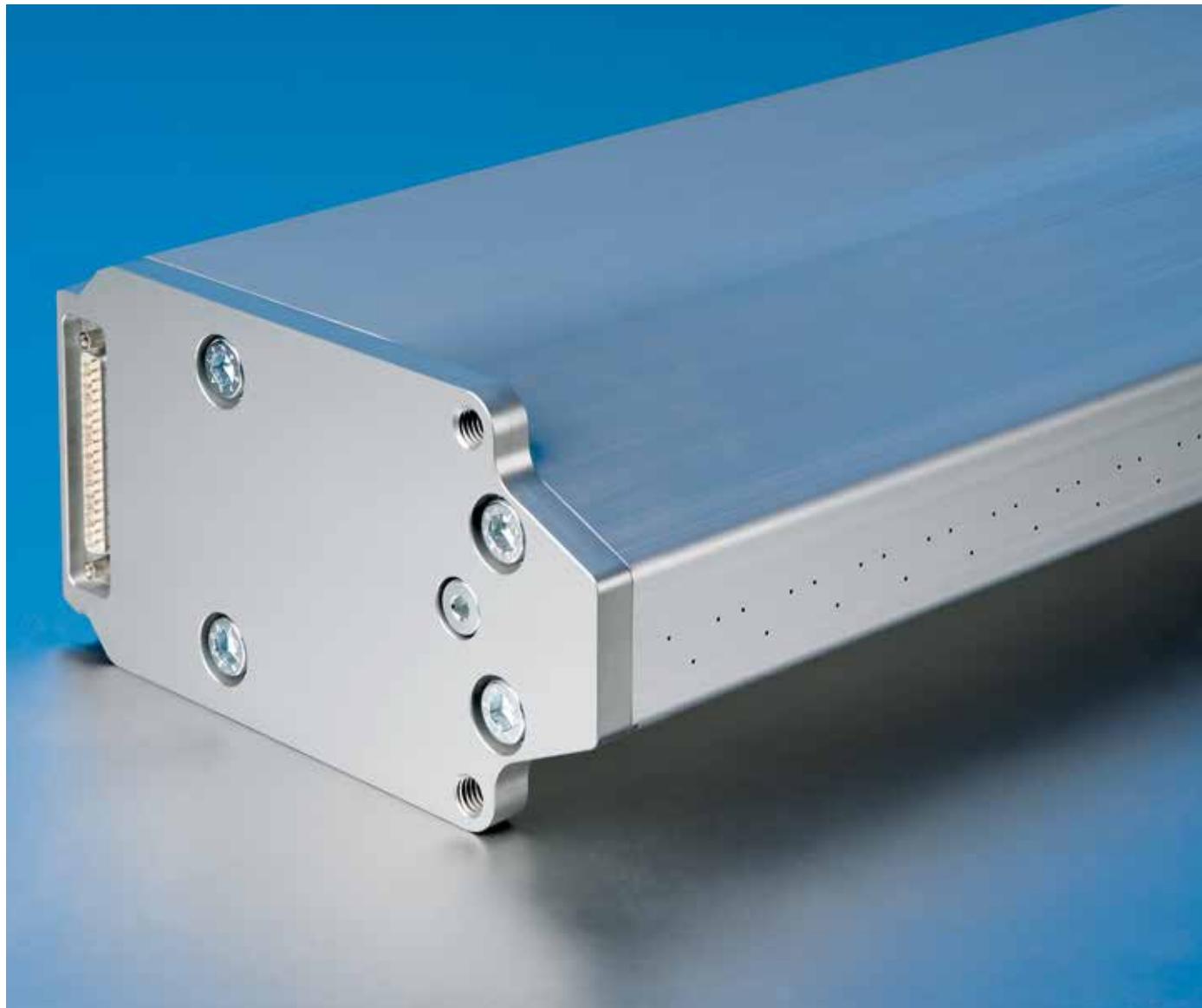
## 144 nozzles: precise hits and low fiber loss

The 48 valves for the 144 nozzles are located in a compact aluminium profile. To allow quick response and short blowing time, the valves are positioned directly at the nozzles.

## Bucket wheels reduces good fibers in the suction

To keep the good fiber loss to a minimum, separation is not to be influenced by the suction air. Only Trützschler separators feature a bucket wheel that divides the waste section from the suction.

The nozzle beam with  
144 tiny nozzles



### Simple use of optimization potential

Maximum foreign part separation at minimum fiber loss can only be achieved with an individual machine optimization. All the information required for this is provided by the powerful Trützschler control:

- Extensive functional analysis
- Extensive status analysis
- Separation statistics
- Easy to understand screen masks for individual optimization

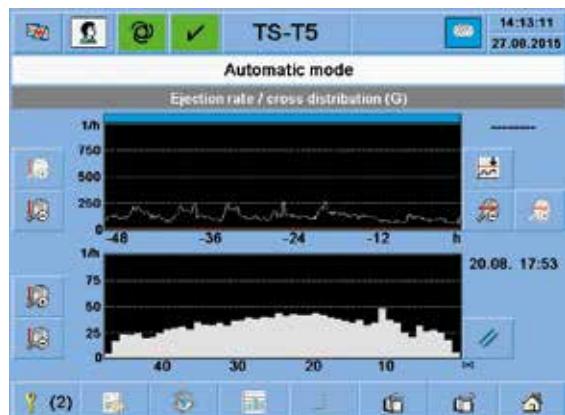
Consistent use of the control tools helps Trützschler foreign part separators to achieve their maximum efficiency.

### Powerful display and easy operation

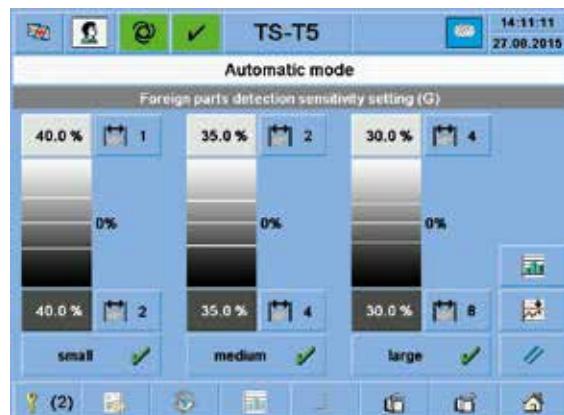
In spite of complex technology, the T-SCAN is easy to operate with the familiar large-size touch screen. The new info unit T-LED, located at an exposed position, indicates the operating condition to the operator even from afar.

### Extensive quality and production data

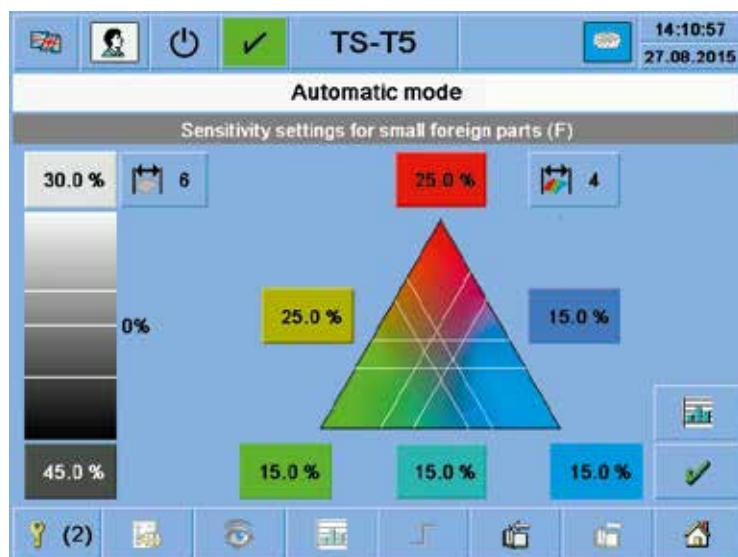
The screen also allows the presentation of quality data in clearly structured graphics.



Number of separations over the time axis and width of the machine



G-Module settings



### Data transfer to T-DATA

The separation data are important for quality management. For this reason the data from T-SCAN, which are displayed on the operating unit, can also be transferred to our quality and production data system T-DATA.

The screen is also used for detailed setting information.

# Trützschler Foreign Part Separator

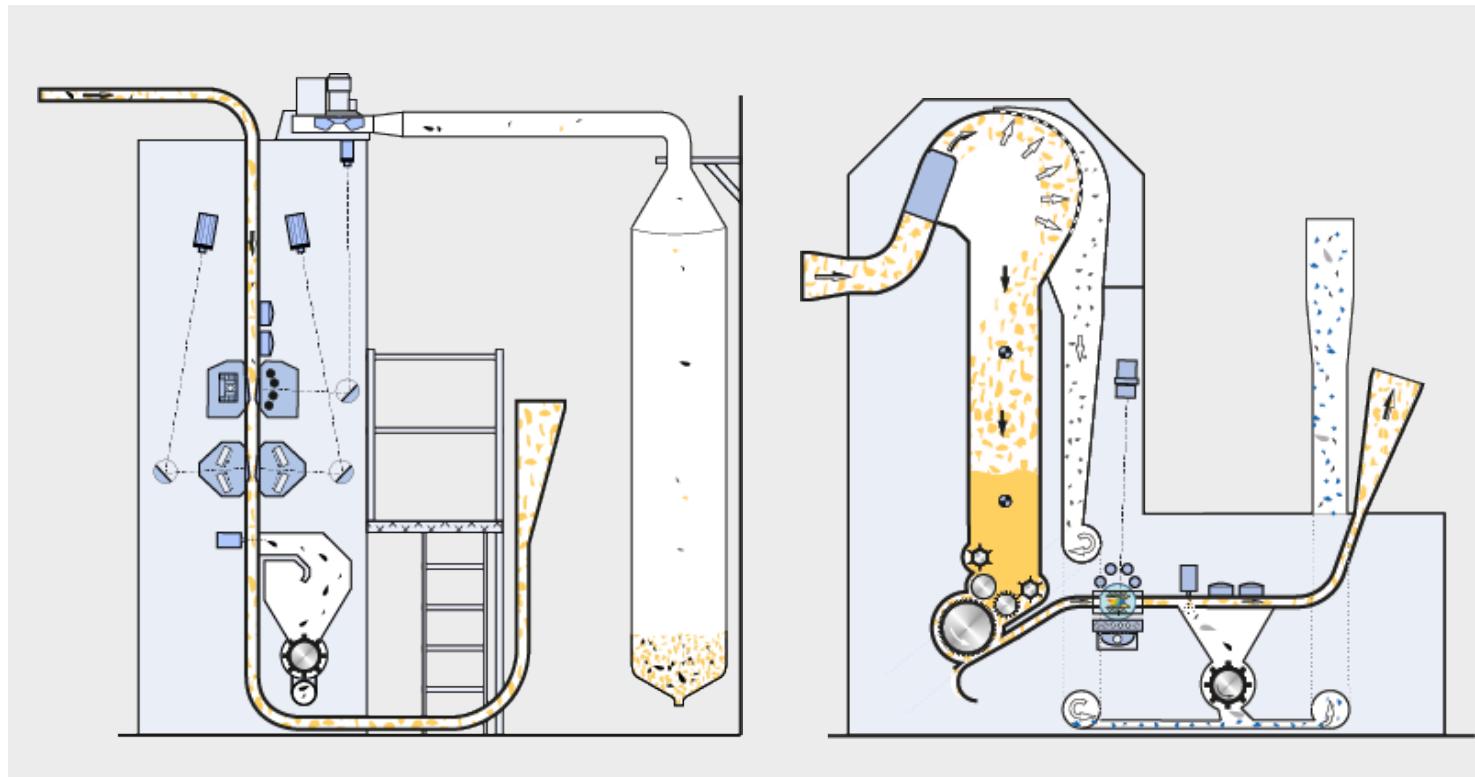
## The perfect machine for every task

### Trützschler T-SCAN TS-T5

This machine presents the current high end of separation technology. The function, number of detection modules as well as lighting technology are unique in the market. Even problems concerning the detection of colourless and opaque, white PP have been eliminated.

### Foreign Part Separator SP-FPO

The SP-FPO fights PP contamination in an optimal manner. Its camera technology and coordinated light colour allow the detection of transparent and semi-transparent PP parts as well as fluorescent parts. The integrated high performance dust removal of the SP-FPO makes this solution a good choice in rotor spinning mills.



**T-SCAN TS-T5**

- F-Module
- G-Module
- P-Module
- UV-Module
- LED-Module

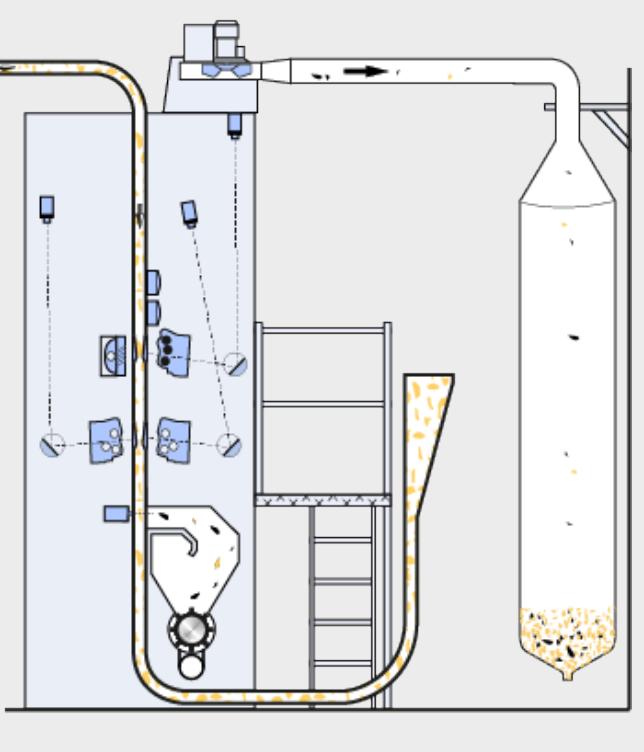
**SP-FPO**

- F/P-Module
- UV-Module
- Dust removal module
- CONTIFEED module with opener roll

### Foreign Part Separator SP-FPU

The Foreign Part Separator SP-FPU has been successful for years and is operating in hundreds of spinning mills throughout the world. It is similar to T-SCAN and includes the modules:

- F-Module
- P-Module
- UV-Module



**SP-FPU**  
F-Module  
P-Module  
UV-Module



The video shows  
the operation of the  
Foreign Part Separator  
SP-FPU.

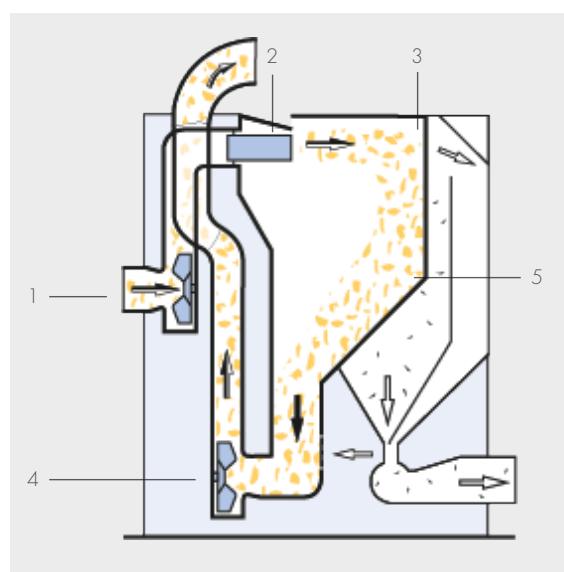
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### Maximum dust removal for all production stages

If an integrated solution (e.g. on SP-FPO) is not applied, the effective dust removal with a DUSTEX SP-DX machine offers:

- Higher efficiency rates
- Longer lives of clothings and spinning components
- Improved running behaviour of the spinning machines
- Increased economic efficiency of the total installation
- Clean ambient air

This is of particular advantage to downstream processing: Thoroughly dedusted slivers ensure optimized running behaviour during yarn formation, e.g. in rotor spinning machines, but also significantly higher efficiency rates (less yarn breaks) in winding, knitting, warping and weaving.



### Dust Separator DUSTEX SP-DX

- 1 This fan sucks the material off the Cleaner CLEANOMAT
- 2 The distribution flaps distribute the tufts over the working width of 1,600 mm
- 3 Major dust removal takes place by the tufts hitting the sieve surface
- 4 The material drops into the suction system and is transported to the cards by the infinitely variable fan
- 5 The separated dust is permanently sucked off

# Tuft Blending System T-BLEND

Exactly reproducible blends

Tuft blending installations T-BLEND hold a key position in the value chain because blending faults originating here often become obvious only after finishing.



Bad product quality at a later production stage wipes out all previous production efforts and is thus a "full cost".

This is the reason why the Trützschler T-BLEND concept for tuft blending relies on reproducible top blend quality. The self-monitoring system ensures the perfect quality when blending natural and man-made fibers of different lengths, finenesses and colours.

#### Only Trützschler has this to offer:

- Direct measurement of weight
- High capacities up to 2,000 kg/h
- Precise maintenance of blending ratios
- Blending of up to 6 components per process step
- Addition of smallest percentages (up to 1 %)
- Automatic taring, very simple calibration
- Formula memory for quick lot changes
- Quality control by means of lot protocols



#### Blending six components in one step while achieving optimal CV values

A decisive advantage of Trützschler T-BLEND tuft blending installations lies in their flexibility – 2 to 6 different fibers can be blended. This results in an application range that covers everything from standard blends (e.g. 50 % cotton/ 50 % polyester) to the addition of smallest portions (e.g. 1% black fibers/ 99 % white fibers).

A second advantage can be seen in the reproducible high-end quality of the blend result: T-BLEND achieves excellent CV values even when adding smallest portions.

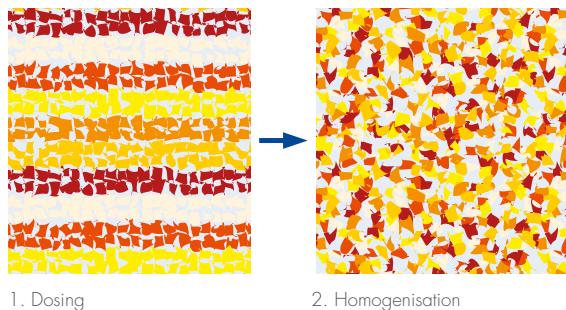
#### Highest quality in harmony with high production rate

The large volume of the weigh pans and the short weighing cycles ensure a high throughput per weighing unit of 800 kg/h and more. A high degree of blending homogeneity is ensured by electronic precision scales that deliver very accurate measurements.



The animation shows the automatic start and finish of a lot

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Smarview.



1. Dosing

2. Homogenisation

**The principle of Trützschler tuft blending technology:**

Creation of precisely dosed layers of different raw materials and perfect blending of all these layers.

**New weighing technology for T-BLEND**

Compared to previous Trützschler tuft feeding installations, the performance of the scale is roughly twice as much. This has been achieved by a number of measures:

- The pan volume is 50% larger
- New software automatically optimizes the filling process
- The pre-filling chamber is larger
- Since the scales are suspended at three points, weighing is performed more quickly. They do not vibrate; the damping time is very minimal.

All of this combined results in increased weighings per unit of time and more volume per discharge

**Fully automatic start and finish of a lot**

The BLENDCONTROL of the T-BLEND system features a fully automatic control of the start as well as the finish of a lot. The individual feedings are activated or deactivated as needed.

**Variable blending ratios with one installation**

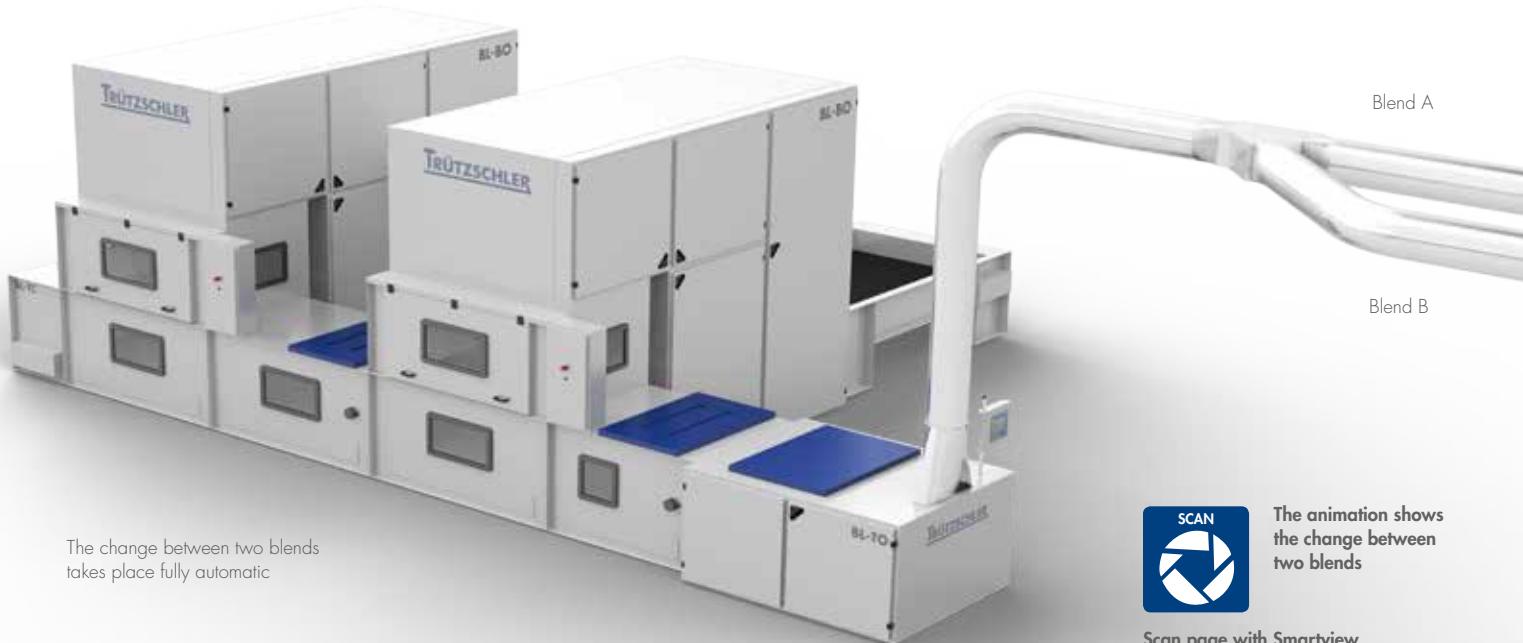
A frequent requirement is the parallel feeding of various blends of the same materials to two lines. With T-BLEND, the typical request of simultaneous processing of PES/cotton 65%/35% and 50%/50% poses no problem. Depending on the requirement of both lines, the change from one blend to another is performed fully automatic.

**Perfect also for different fibers**

Blending different types of fibers in the tuft, e.g. flax with cotton, and then subsequently carding them together produces a particularly homogeneous product appearance. Even with critical blends, Trützschler installations achieve an absolutely uniform result:

- Fabrics dyed tone in tone
- Fabrics where only one component is dyed

This applies above all in comparison to draw frame blending where different card slivers are blended at the draw frame.

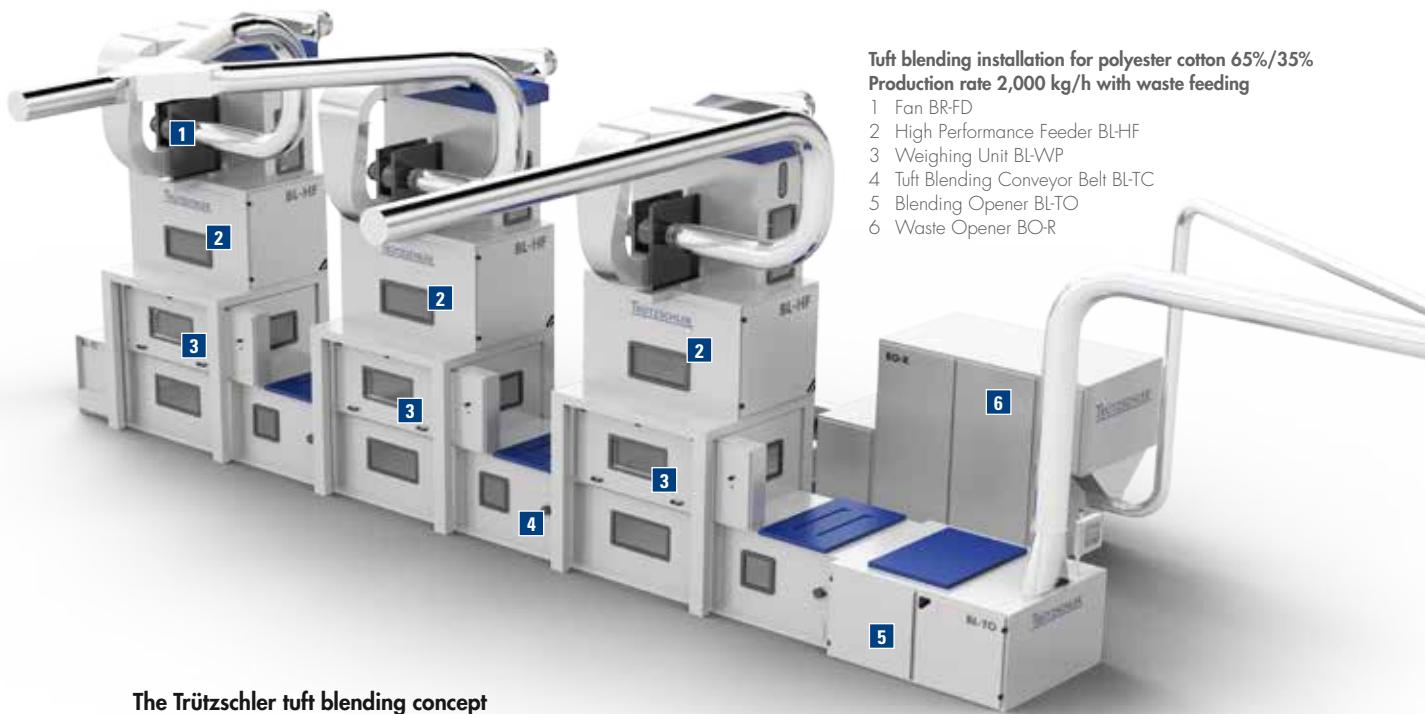


The change between two blends takes place fully automatic

The animation shows  
the change between  
two blends



Scan page with Smartview.



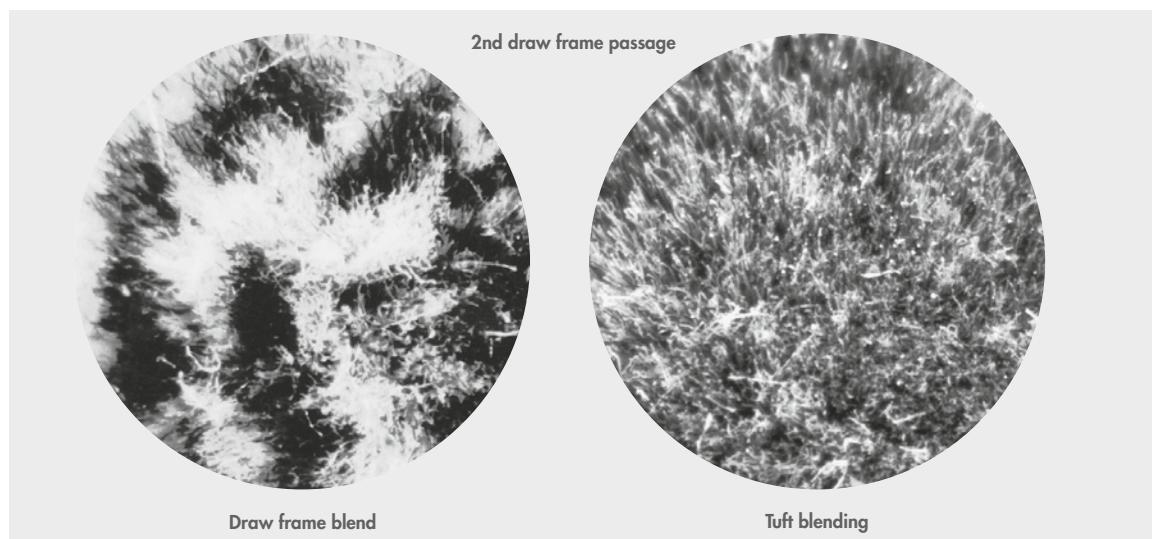
#### The Trützschler tuft blending concept

Electronic weighing cells provide BLENDCONTROL with the actual values for continuous comparison with the target values already during filling of the scales. As soon as the target weight is reached, the closing flaps above the weigh pan are shut and stop the filling process. Due to the new 3-point suspension of the weigh pans, the damping time is extremely short. The settings for the subsequent weighing cycles are based on the results of this final weighing. An optimization program compensates any possible differences between target and actual weight during the course of the next weighing.

#### Automatic taring prevents weighing errors

Between the discharge cycles an automatic taring of the scales takes place at chosen intervals to rule out exterior influences on accuracy, e.g. dust deposits. This ensures compliance with blending ratios over a long period of time.

Comparison of draw frame blend / tuft blend



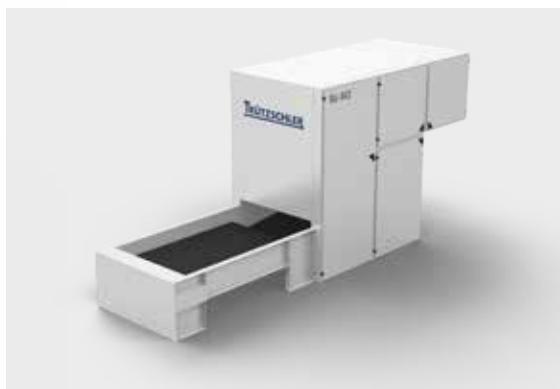
Cross sections of draw frame slivers (20-fold magnification). Dark sections: viscose 35%; light sections: cotton 65%

# T-BLEND system

## Precisely coordinated components

### Bale Opener BL-BO

Due to manual feeding via the feed apron, the BL-BO is very flexible in its application. Additional feeding from the top via a Material Separator BR-MS is also possible. The feed table can be extended. Production rates up to 1,000 kg/h are possible. The BL-BO discharges the material into the weigh pan of the weighing unit.



Bale Opener BL-BO for manual feeding

### BO-R waste opener

This is the unit for accurate addition of spinning waste such as card or draw frame slivers. These materials are already blended and are therefore added downstream from the Blending Opener BL-TO. Here it is also possible to extend the feed table.



The Waste Opener BO-R is suited for the addition of production waste that has already been blended.

### High Performance Feeder BL-HF

This very space-efficient feeding version can automatically feed productions up to 800 kg/h. The material, for instance, can be provided by a cotton cleaning line or an automatic Bale Opener BLENDOMAT BO-A. The High Performance Feeder BL-HF discharges the material into the weigh pan of the weighing unit.



High Performance Feeder BL-HF with automatic feeding

### Precision Feeder BL-PF

This feeder is designed for adding very small blending components in small productions. A typical application example are blends with less than 10% of a component. The Precision Feeder BL-PF discharges the material into the weigh pan of the weighing unit.



Precision Feeder BL-PF for precision dosing

### Weighing Unit BL-WP

The weighing unit has been designed for high accuracy and high performance. The weighing process has been significantly reduced:

- An innovative three-point suspension prevents vibrations
- To prevent unwanted vibrations, the weigh pan is not connected to the feeders
- 50% increased weigh pan volume

### Tuft Blending Conveyor Belt BL-TC

The tuft blending conveyor offers a high volume particularly for bulky fibers. Special elements ensure a very good width distribution even at production rates up to 2,000 kg/h.



The weigh pan BL-WP is suspended at three points on a solid frame.



The tuft blending conveyor belt BL-TC has a modular structure. Weighing units can perform 2 to 6 feedings.



The Blending Opener BL-TO delivers the blended tufts usually to a trunk mixer

### Blending Opener BL-TO

At the end of the tuft blending conveyor belt, the blending opener takes on the fibers from the conveyor belt, blends and opens them. The four-roll feed unit ensures a high output up to 2,000 kg/h. The large diameter of the needled opener roll ensures gentle opening.

# Tuft blending installations

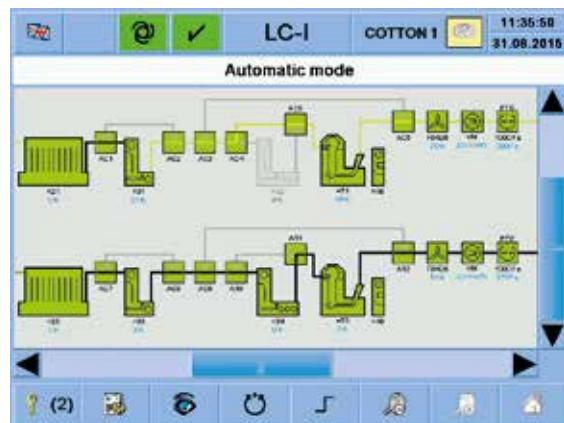
Consequent direction controlling quality and economy

## Precise calibration and fully automatic taring

Electronic scales can be calibrated quickly and precisely by inserting a standard weight. In the process, the electronic is automatically calibrated; operator-based errors are almost completely excluded. During operation, taring is performed fully automatic in adjustable intervals. This guarantees exact weighing at any time during production.

Tuft blenders that work with continuous material flow do not allow taring during production and are thus prone to fluctuations in the blending ratio.

In addition, BLENDCONTROL improves accuracy: Slight upward or downward deviations in target values of a scale filling are stored and used for the correction of the following weighings. Any malfunction is precisely located and displayed on the screen. Malfunctions can therefore be rapidly resolved and machine availability increased.



The visualisation of the installation shows the current operating condition of all machines at a glance.



BLENDCONTROL simplifies operation due to a recipe library.

## More flexibility, speed and clarity:

### BLENDCONTROL LC-BC

The BLENDCONTROL LC-BC which is integrated into the installation control of the tuft blending installation is operated via the customary screens. The new blending combinations, as well as the required settings (e.g. production rate) can easily be selected. As it is possible to store the lot data, a particular quality can always be reproduced and operating errors minimised. Lot changes can be performed in a very short time.

## Quality control by means of lot reports

Quality evidence is more important than ever today. The BLENDCONTROL lot report proves to the customer at any time that the blending ratio has been in full compliance with his requirements.

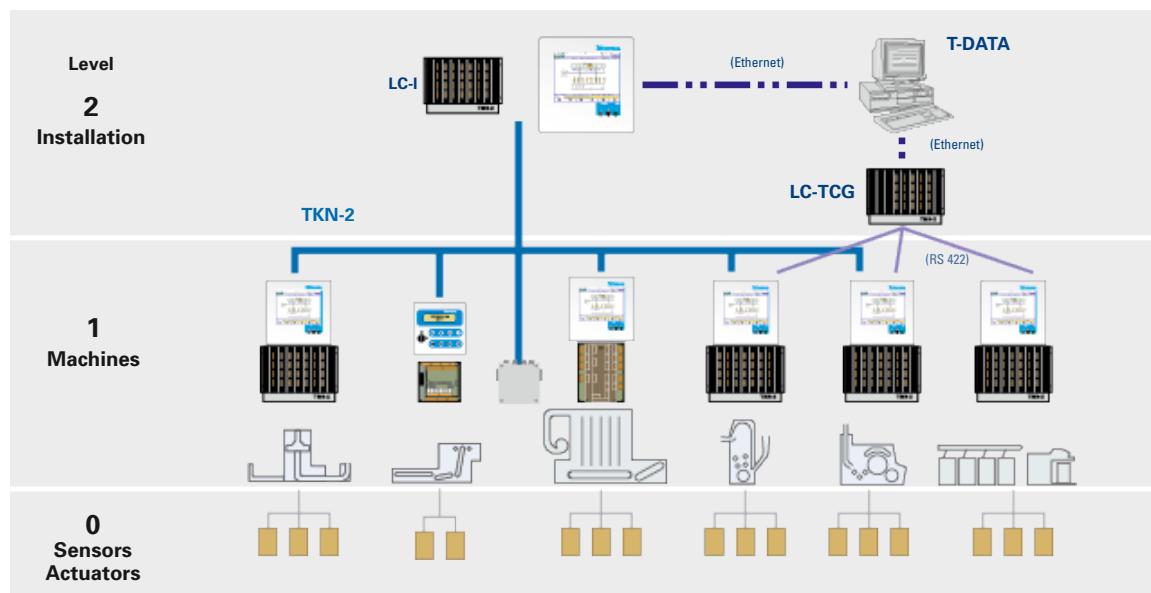
## Self-optimizing precision

The production of an installation or individual scale is dictated by the application. To achieve this at highest possible precision, a self-optimizing process takes place in BLENDCONTROL. This entirely relieves the operator who, in conventional installation, must perform numerous settings.

# Trützschler controls

## Simple operation and optimal data flow

Trützschler control hierarchy and communication



Trützschler installation and machine controls distinguish themselves in various ways during the harsh daily production:

- Flexible adjustment to individual customer requirements
- Reliable, even under extreme conditions
- Network capability
- Worldwide online availability via T-DATA
- User friendliness

These criteria are only met by the Trützschler installation and control technology developed and produced in-house. The electronic system of the Installation Control LC-I is resistant to dusty air, humidity and high temperatures – conditions common in spinning mills throughout the world.

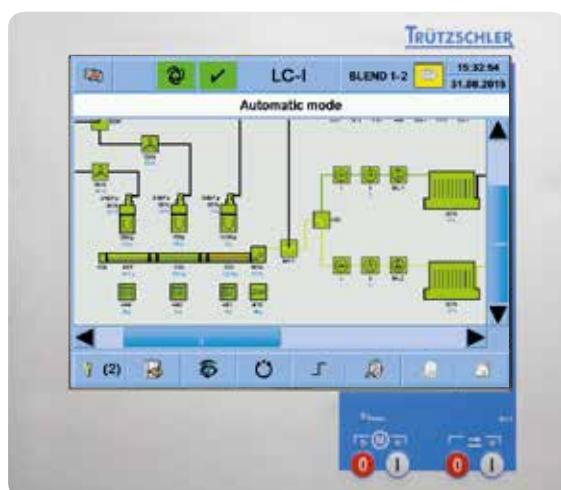
### Installation Control LINECONTROL LC-I

The LINECONTROL LC-I coordinates the functions of the individual machines and thus fully automatically controls the material transport of the total installation. Malfunctions in the installation or individual machines are graphically displayed, thus allowing quick and specific reactions. All safety-relevant functions such as emergency stop and door safeties are hardware-wired, ensuring a particularly high level of fail-safe performance.

The Electronic Installation Control LC-I is optimally suited for coordinating individual machine controls.

It uses modern intelligent network technology and offers maximum functional safety and reliability:

- Simple commissioning
- Easy operation on colour touch screen
- High amount of display information
- Use of international standards
- Open system
- Minimum cabling
- Same spare parts as machine controls



Installation Control LC-I – operating unit with colour screen

### Monitoring and display of machine conditions

All Trützschler controls ensure constant data exchange between the machines and the installations. Thus it is possible, for instance, to control and monitor the whole installation regarding production and material flow from a central point with the Installation Control LC-I. Access to individual machines is possible at any time.

At the same time, a number of machines are equipped with an individual control, which offers many advantages:

- Operation directly at the machine
- Significantly lower cabling outlay
- Simple planning
- Closed and tested functional units

### Convenient operation of all blow room machines

All machines of the cleaner and opener lines with their independent machine controls are also connected to the central installation control via the network. Since the machine controls feature the same assembly groups as the cards and draw frames, spare part costs can be reduced.

A special software automatically localises possible errors and shows them on the display. All production processes as well as possible malfunctions can be viewed on displays in numerous languages. Simple symbols and functional keys facilitate operation.



Example of a display for the control of a Bale Opener BLENDOMAT BO-A.

The operating terminal of the Automatic Bale Opener BLENDOMAT BO-A visualises the most important data.

# Online data monitoring system T-DATA

## Transparency in spinning

Due to its unique sensors, only Trützschler can provide valuable insights into the system-relevant parameters during all important process steps. A significant increase in efficiency and quality in spinning is only possible with this statement quality.

### All important data in view at all times

The Trützschler Online Data Monitoring System T-DATA acquires all current production and quality data – even when on the road. No matter where you are, Smartphones or tablets allow access to all important data and error statistics of the machines connected, individually and also as overview.

### Optimization of production

Trends in production can be detected at an early stage and malfunctions and faults dealt with faster. This allows a measurable reduction of downtimes and optimization of machine settings for higher production rates. With T-DATA, the correctness of the blends is ensured.

### Individual data view

Each customer decides which data is of interest and how it is to be displayed. The Web interface with intuitive operation can easily be adapted to individual requirements. The options range from basic settings to highly sophisticated functions.

Data can be selected from clearly arranged graphics or tables over a freely definable period, and compared with each other.

### Special Trützschler sensors at all relevant points

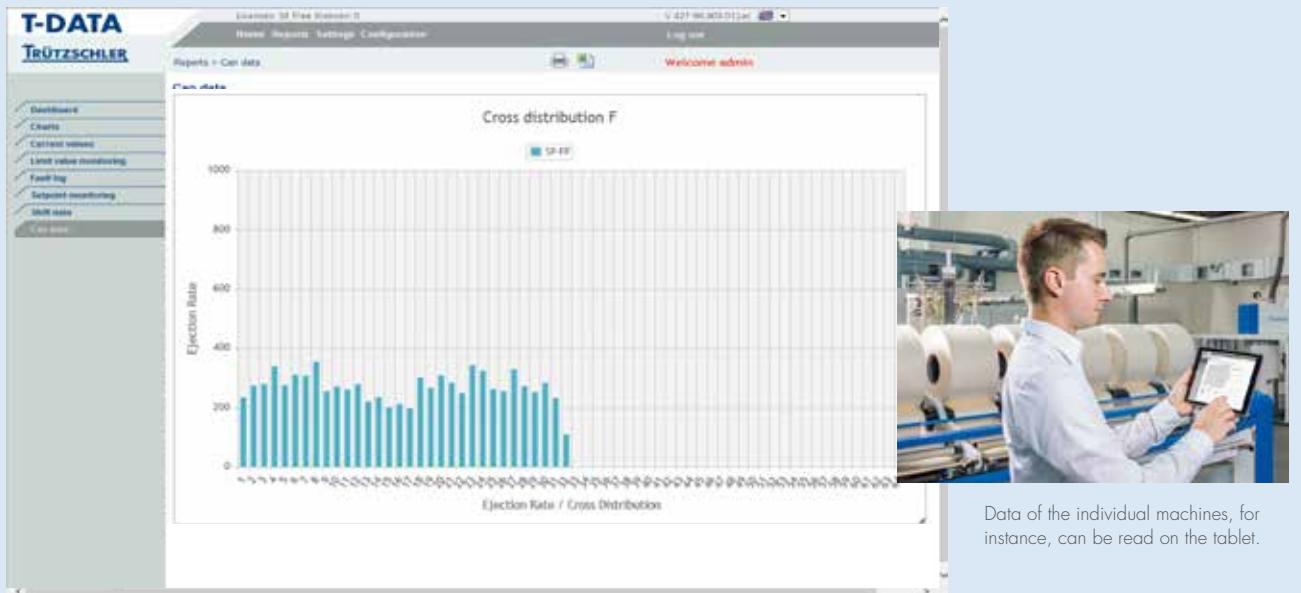
Trützschler sensors measure all important quality and production data that are required for the optimal control of production. The comparison of several machines of a blow room line reveals optimization potential with the Foreign Part Separator TS-T5. T-DATA also shows how the efficient separation of foreign part keeps the air consumption low.

### Integration into existing systems

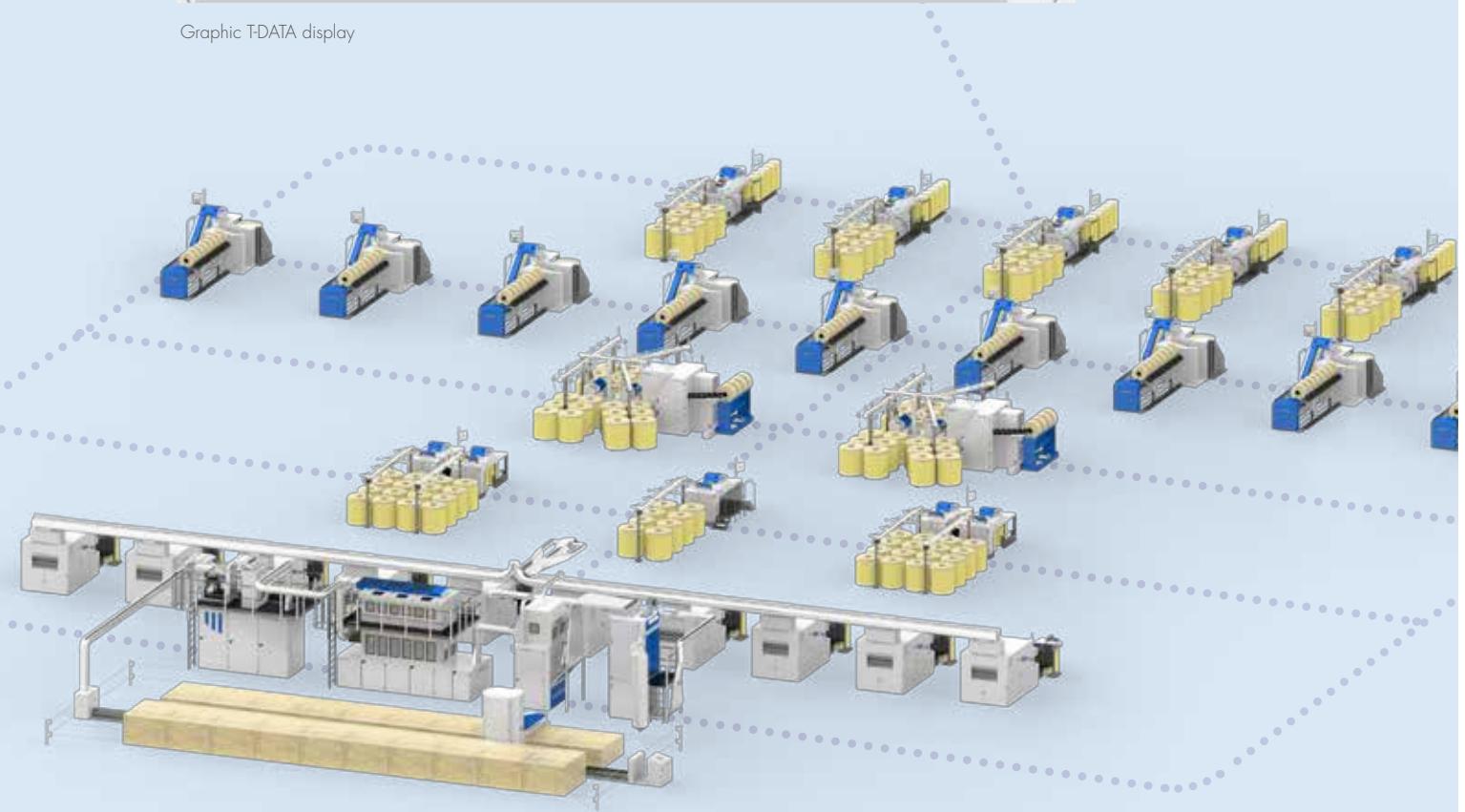
T-DATA can easily be integrated into an existing ERP or control system. In addition to current data, it is also possible to transmit and compare past production data and fault messages via an external interface. This allows easy use of synergy effects.

For more information,  
see the brochure "T-DATA".





Graphic T-DATA display



Watch the film T-DATA  
with the Trützschler  
Spinning app.

Scan page with Smartview.

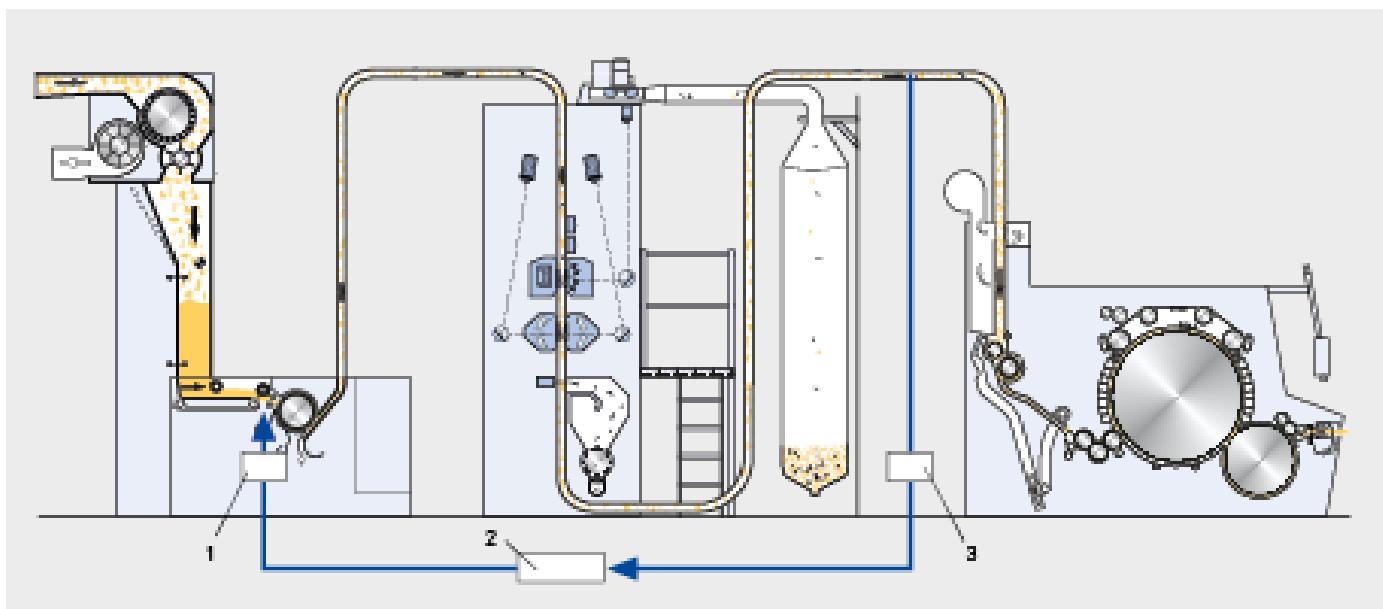
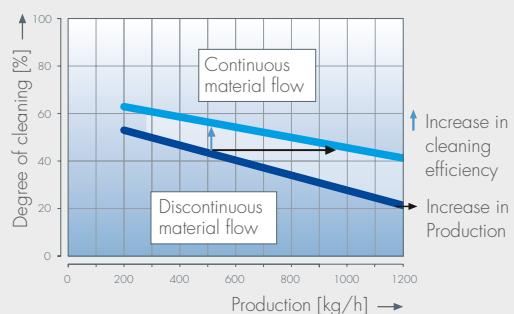
# Modular Control System CONTIFEED 2

## Optimal cleaning and uniform card feeding

Conventional installations operate on a stop-and-go basis: The material transport is frequently switched on and off due to production fluctuations. Result: uneconomical production and increased quality risks. To ensure continuous operation from the cleaners to the cards, Trützschler has been using the Modular Control System CONTIFEED for decades. It is integrated into the installation control and optimally tunes the production rates of the individual machines. The advantages of this are a greater cleaning efficiency or a higher production at same cleaning efficiency. When processing man-made fibers, CONTIFEED ensures that the degree of opening and therefore the tuft size remains constant.

### Production and quality increase due to CONTIFEED 2

Full utilisation of the potential of a cleaner or opener line is only possible with CONTIFEED 2. Thus, for instance, greater cleaning efficiency can be achieved in CLEANOMAT cleaners even at higher productions.



The standard CONTIFEED 2 guarantees a continuous and uniform material flow to the card.

- 1 Maintenance-free infinitely variable motor
- 2 Controller with adjustment for target value
- 3 Pressure transducer

### Self-optimization relieves the operator

The new modular control system CONTIFEED 2 offers increased performance in many respects. In addition to uniform material flow during production, it also automatically finds the optimal setting when commissioning an installation.

After a one-time learning phase of several minutes duration, a fully-automatic transition occurs to the production phase.

The improvements of CONTIFEED 2 are obvious:

- Uniform card feeding
- Automatic adjustment during can change or sliver break
- Simplification and reduction of commissioning
- No manual interference required when material properties change
- Continuous calculation of production
- Compensation of temporary material shortage



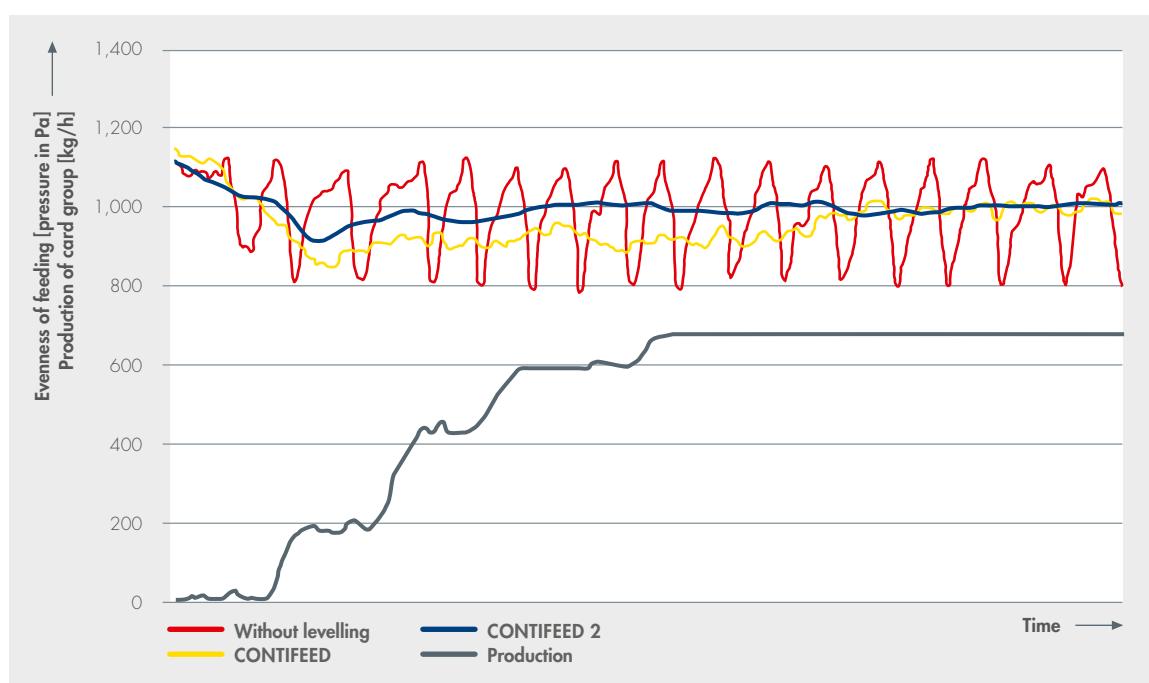
Assembly of digital controls at Trützschler headquarters in Mönchengladbach, Germany

### Uniform feeding for uniform sliver

A typical CONTIFEED 2 application is the control of a cleaner of the CLEANOMAT system. In this case the material transport from cleaner to card is controlled by evaluating the pressure in the card feed pipes and the overall production of the card line as signal. Based on these data, the control can provide precise,

uniform feeding of the tuft feeders upstream of the cards. This results in better card sliver evenness than in stop-and-go operation.

Compared to the reliable CONTIFEED system, the new CONTIFEED 2 features self-optimization during a short learning phase. With CONTIFEED 2, the operator does not need any special know-how and is not required to intervene at any time.



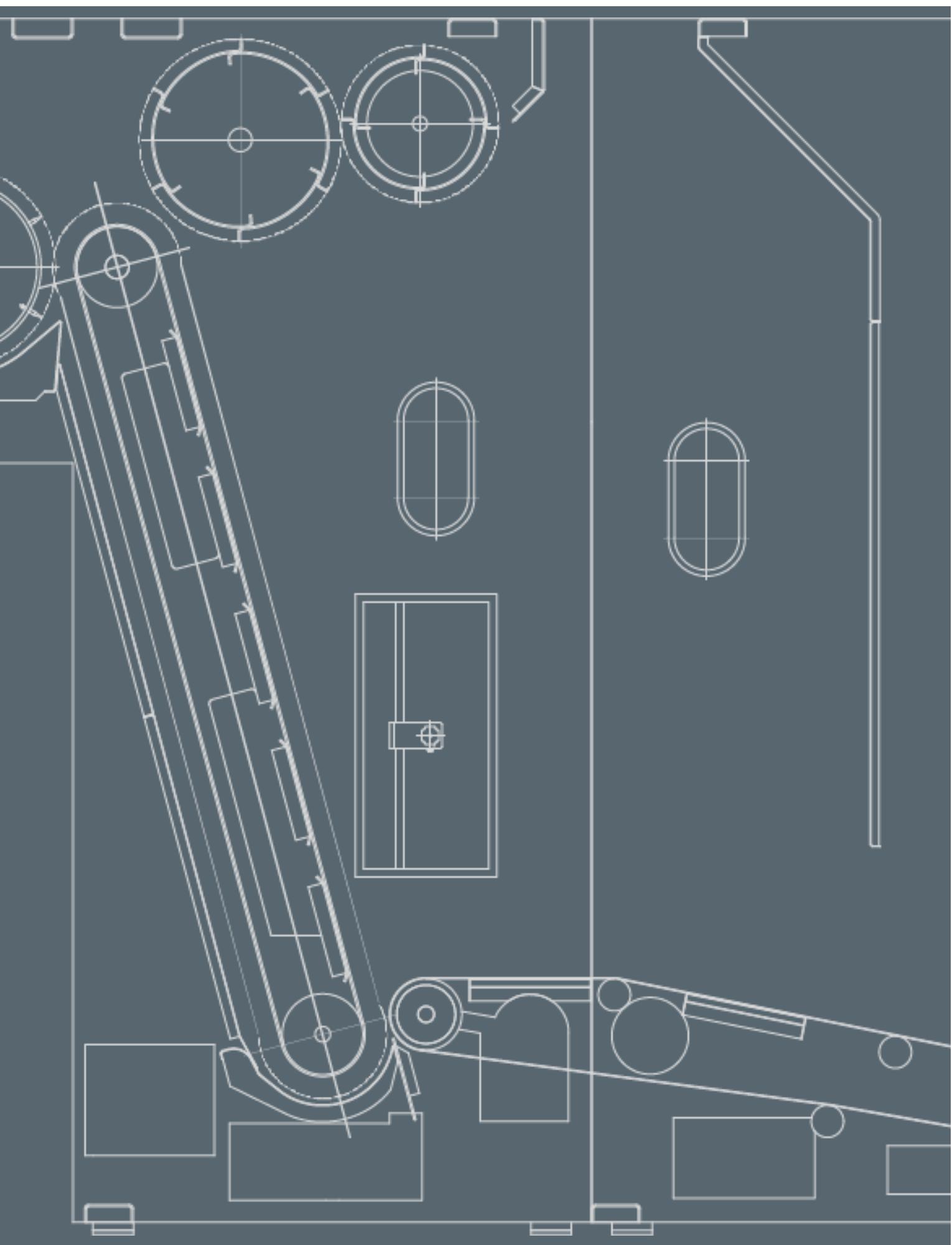
# Technical data

On the following pages we provide you with the most important technical data of Trützschler blow room machines. The purpose of these tables is to give you initial information for planning a new installation.

## Customised planning

This information should not and cannot replace customised planning. Our specialists will be happy to provide you with a professional plan to implement your requirements for a new installation. Contact us.

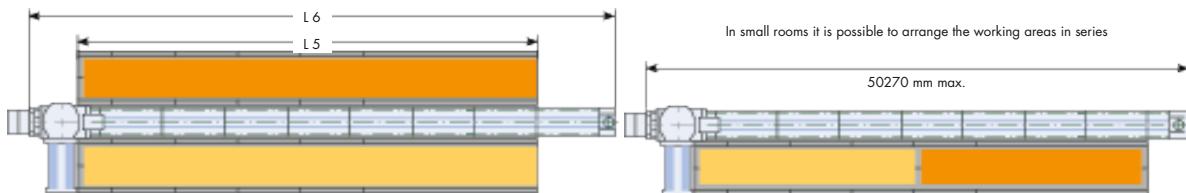




## Bale openers

<b>AUTOMATIC BALE OPENER</b>	Frame width	Height	Max. bale height	Machine length min.	Machine length max.	Installed power	Continuous power consumption at max. production	Max. continuous production	Noise level
	mm	mm	mm	mm	mm	kW	kW	kg/h	db (A)
<b>BLENDOMAT BO-A</b>	1,720/2,300	2,900	1,800	10,670	50,270	10.9/17.9	7.8/12.7	1,200/2,000	< 70

Length options and max. number of bales for BLENDOMAT BO-A 1720/BO-A 2300



<b>BO-A 1720</b>	max. number of bales**	18	36	52	60	68	84	100	118	134	150
L 5		5,810	10,760	15,710	<b>18,185*</b>	20,660	25,610	30,560	35,510	40,460	45,410
L 6		10,670	15,620	20,570	<b>23,045*</b>	25,520	30,470	35,420	40,370	45,320	50,270
<b>BO-A 2300</b>	max. number of bales**	26	50	74	84	96	120	142	168	190	214

\* = Standard

\*\* = Bale dimensions: L 1.400 mm x W 600 mm

<b>MANUAL BALE OPENERS</b>		Frame width	Total width	Total length	Total height	Installed power	Power consumption	max. continuous production <sup>1)</sup>	Storage capacity	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	m <sup>3</sup>	db (A)
	<b>BO-C</b>	1,000	1,464	5,265	2,250	2.9	2.0	300	1.5	71
	<b>BO-E</b>	1,600	1,800	6,180	2,520	4.9	3.5	750	5.0	73
	<b>BO-R</b>	1,000	1,464	5,265	2,250	2.8	2.0	100	1.0	72
	<b>BO-U</b>	1,600	2,464	7,010	3,000	5.4	3.8	1,700	6	74

1) depending on material characteristics

<b>SERIES/OPTION</b>	<b>AUTOMATIC BALE OPENER BLENDOMAT BO-A</b>
•	The standard version of the BLENDOMAT BO-A (2,300) has a length (L 6) of 23,045 mm.
◦	It can be extended up to 50,270 mm with up to 11 Extension Units BR-EU of 2,475 mm each.
<b>UNIVERSAL BALE OPENER BO-U</b>	
•	Feed table supply
◦	Automatic material supply is made possible with a Trunk Feeder BR-FU
◦	The feed table can be extended with one to three Feed Table Extensions BR-TE by 2, 4 or 6 m.
◦	If an opener is fed directly then it is possible to temporarily bypass the opener via a Reversing Flap BR-RF
◦	Maintenance platform
<b>COMPACT BALE OPENER BO-C / WASTE OPENER BO-R / BALE OPENER BO-E</b>	
•	Feed table supply
◦	The feed table can be extended with one to three Feed Table Extensions BR-TE by 2.5 m, 5 m or 7.5 m.

• = Series    ◦ = Option

## Cleaners

<b>CLEANOMAT CLEANER</b>		Frame width	Total width	Total length	Total height	Installed power	Consumed power	Max. continuous production	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	<b>CL-P*</b>	1,300	1,964	1,485	3,250	8/11.4	5.5/8.0	800/1,000	< 70
	<b>CL-C1</b>	1,600	2,264	2,165	1,250	5.7	4.0	1,000	< 70
	<b>CL-C3</b>	1,600	2,264	2,455	1,250	12.4	9.0	1,000	< 70
	<b>BR-COI/ FD-R/* CL-R</b>	1,600	2,264	3,265	4,230	14.5	10.1	200**	72
	<b>CL-U</b>	1,600	2,200	1,480	3,900	5.9	4.2	1,200	< 70

\* Maintenance platforms are optionally available

\*\* Input 300 kg/h

## Openers

<b>OPENER TUFTOMAT</b>		Frame width	Total width	Total length	Total height	Installed power	Consumed power	Max. continuous production	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	<b>TO-T1</b>	1,600	2,264	2,165	1,250	6.0	4.1	1,000	< 70
	<b>TO-U</b>	1,600	2,064	1,100	1,250	5.9	4.1	1,800	< 70
	<b>TO-C</b>	1,000	1,464	860	1,250	2.4	1.7	250	< 70

## Feeders

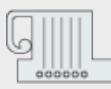
TYPES		Installed power		Power consumption		Noise level	
		kW		kW		db (A)	
	<b>FD-R</b>	1.3		0.9		72	
	<b>FD-O</b>	2.4		1.7		73	
	<b>BR-COI</b>	6.6 – 8.6		4.6 – 5.8		77	
	<b>BR-MS</b>	0.04		0.03		73	
	<b>FD-T</b>	–		–		–	

## Machine combinations

TYPES		CL-C1		CL-C3		TO-T1	
		Total length mm					
	<b>With FD-O*</b>	4,030			4,320		4,030
	<b>With FD-T*</b>	2,825			3,115		2,825

\* Maintenance platforms are optionally available

## Mixers\*

TYPES		Number of trunks	Trunk width	Trunk depth	Width <sup>1)</sup>	Length <sup>1)</sup>	Machine height	Installed power	Consumed power	max. continuous production	max. filling weight <sup>2)</sup>	Noise level
			mm	mm	mm	mm	mm	kW	kW	kg/h	kg	db (A)
	<b>MX-U6</b>	6	1,600	500	2,264	5,500	4,040	4.1	3.0	depends on the downstream machines	500	< 70
	<b>MX-U10</b>	10	1,600	500	2,264	7,500	4,040	5.6	4.0		875	< 70
	<b>MX-I6</b>	6	1,600	500	2,264	6,000	4,160	5.6	3.9	depends on the downstream machines	400	< 70
	<b>MX-I10</b>	10	1,600	500	2,264	8,000	4,160	6.0	4.2		700	< 70

1) without maintenance platform, without fan

2) depending on degree of opening and material type

\* Maintenance platforms are optionally available

## Dosage opener\*

TYPES	FD-S	Working width	Width	Length	Height <sup>1)</sup>	Installed power	Consumed power	max. continuous production	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	FD-S	1,200	1,664	1,100	2,980–3,980	5.8	3.2	1,300	< 70
		1,600	2,064	1,100	2,980–3,980	5.8	3.8	1,800	< 70

1) With condenser BR-COI 1,000 mm higher

\* Maintenance platform is optionally available

## Separators

TYPES		Frame width	Total width	Total length	Total height	Installed power	Continuous power consumption	Max. continuous production	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	<b>SP-MF</b>	1,000	1,664	4,485	4,140	1.4 <sup>1)</sup>	1.0	2,000	76
	<b>SP-H</b>	600	635	1,750	3,250	–	–	600	< 70
	<b>SP-EM</b>	1,000	1,664	2,460	3,390	1.4	1.0	2,000	< 70
	<b>SP-FPO</b>	1,600	2,264	3,930	4,280	6.3	4.4	1,000	< 70
	<b>TS-T5</b>	1,200	1,864	2,618	4,450	2.8	2.4	1,200	79
	<b>SP-FPU</b>	1,200	1,864	2,618	4,530	2.2	1.7	1,200	79
	<b>SP-DX</b>	1,600	1,864	2,150	3,110	0.5 <sup>1)</sup>	0.4 <sup>1)</sup>	1,200	< 70

1) without fans

## Tuft blending

TUFT BLENDING INSTALLATIONS		Frame width	Total width	Total length	Total height 1)	Installed power	Consumed power	Production up to approx.	Noise level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	<b>BL-BO</b>	1,600	2,464	7,010	3,000	5.2	3.6	1,000	74
	<b>BL-HF</b>	1,600	2,064	1,900	4,500 5,000	5.8	4.0	800	<70
	<b>BL-PF</b>	1,600	2,064	1,900	4,500 5,000	5.8	4.0	200	<70
	<b>BL-WP</b>	1,600	2,000	1,320	1,900	-	-	1,000	<70
	<b>BL-TO</b>	1,200	1,664	2,275	1,000	6.4	4.4	2,000	<70
	<b>BL-TC</b>	1,200	1,664	7,750 <sup>2)</sup>	1,000	0.3 <sup>3)</sup>	0.2 <sup>3)</sup>	2,000	<70

1) without trunk feeding

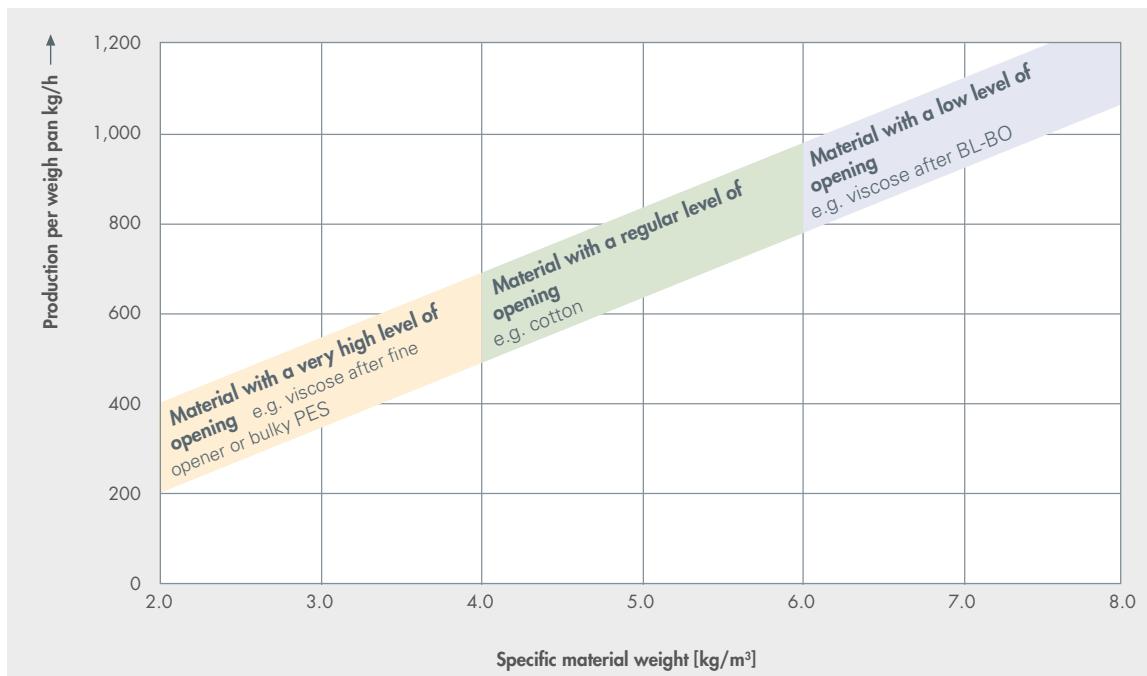
2) With 3,500 mm centre distance and 2 feedings. For every additional feeding (up to 6) 3,500 mm additional length

3) With 2 feedings. For each additional feeding (up to 6) +0.15 kW installed power. +0.1 kW power consumption

SERIES/OPTION	BALE OPENER BL-BO
○	Automatic material supply is made possible with a Feeding Unit BR-FU.
○	The feed table can be extended with one to three Feed Table Extensions BR-TE by 2 m, 4 m or 6 m.
○	Maintenance platform.

• = Series    ○ = Option

## Data for power calculation



## Special controls for a wide range of applications

Trützschler offers a series of controls and special components in the control field for planning customised installations in this area as well:

### INSTALLATION CONTROLS

<b>LC-I</b>	LINECONTROL	Control for every Trützschler installation
<b>LC-CU</b>	Conversion of control	Conversion of existing controls
<b>LC-BC</b>	BLENDCONTROL	For tuft blending installations as integrated feature in LC-I

### SUBDISTRIBUTIONS

<b>LC-DC</b>	Subdistribution for cards
<b>LC-DD</b>	Subdistribution for draw frames
<b>LC-DCO</b>	Subdistribution for combers

### MACHINE-SPECIFIC

<b>LC-CF2</b>	Conversion to CONTIFEED 2	Continuous material flow control for existing Trützschler machines
<b>LC-IK</b>	Connection set	Connection and installation set for the cards for installation of Nep Sensor TC-NCT





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# GETTING FIBERS INTO SHAPE – SINCE 1888



Fiber preparation installations: Bale openers · Mixers · Cleaners/Openers  
Foreign Part Separators · Dust separators · Tuft blenders  
Waste cleaners | Cards | Draw frames | Combing machines

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Openers/Mixers | Card feeders | Cards/Crosslappers | Wet laying lines | Needling machines  
Hydro entanglement | Chemical and thermal bonding lines  
Finishing lines Dryers | Heatsetting | Winding | Slitting

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Staple fiber lines | Filament lines: Carpet yarns (BCF) · Technical yarns

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Metallic wires: Cards · Cards long staple · Cards nonwovens · Open-end spinning  
Flat tops | Fillets  
Carding segments | Service machines | Service 24/7