Blow Room

TRÜTZSCHLER
SPINNING

Quality, value creation, life cycle costs

SPECIFIC STRENGTHS OF TRÜTZSCHLER

COTTON QUALITIES CHANGE, BUT YOUR DEMAND ON CONSISTENT YARN QUALITY REMAINS THE SAME.

Cotton qualities vary; sometimes this is due to seed coat fragments, other times due to honeydew. The challenge is to achieve first-class fiber preparation with intelligent solutions. Trützschler blow room solutions combine leading edge technology, innovative power and quality. This allows you to pay attention to your requirements instead of changing cotton qualities.

FIBER PRICES ARE INCREASING – HOW ABOUT YOUR VALUE CREATION?

An optimal value chain is the prerequisite for maximum success. The following applies: With increasing raw material prices each individual fiber becomes more valuable. Hence, your blow room should provide minimum waste quantities and maximum raw material utilisation, helping you to achieve higher profits. Trützschler supports you in this – with plant concepts that represent compactness, production capacity, product quality and efficiency, and whose numerous modules can be individually combined.

THE BEST PRICE BECOMES APPARENT AT THE END, NOT AT THE BEGINNING.

Admittedly: At first glance, Trützschler system technology seems to be high-priced. However, it offers intelligent multiple use and the investment pays off very quickly. Many of our blow room machines perform several tasks at once, thus eliminating the significantly higher initial outlay for conventional individual machines. The bottom line is that Trützschler technology is definitely a good value, also regarding maintenance and energy consumption – keyword 'Life cycle costs'.

Trützschler blow room lines are always made-to-measure. Whether processing man-made fibers, a few hundred or several thousand kilos per hour, Trützschler offers an efficient solution for every application.

There is more to it than the purchase price

TRÜTZSCHLER TECHNOLOGY OBTAINS CONVINCING RESULTS ON LIFE CYCLE COSTS

Trützschler installations have a short RETURN ON INVESTMENT. Reasons for this are our intelligent designs, more than 120 years of experience with sophisticated customers and continuous improvement efforts. This has made Trützschler the innovation leader, benefitting our clients throughout the world. In fact, when raw material prices are high, Trützschler installations are the prerequisite to produce top-quality products and market them at a profit.

To demonstrate the savings potentials that are possible with Trützschler technology as close to practice as possible, we have defined a fictional "spinning mill example".

This cotton mill features 14 cards, each card producing 140 kg/h during 8,000 operating hours per year, which corresponds to a raw material use of approx. 15,680 t. All of the following preinvestment analyses are in reference to this "spinning mill example".

The savings in this spinning mill example start already with the investments in building, machines and filter system: **426,000 US$.**

Concerning operating costs, annual savings of up to **226,000 US$** can be realised.

Space savings

Two comparison installations with 1,000 kg/h each require about 1,200 m². A Trützschler compact installation with 2,000 kg/h requires about 840 m².

1. *Investment in building*
   Savings of 360 m² building area á 560 US$ = 202,000 US$
2. *Running costs for building*
   The running costs (maintenance/ lighting, etc.) are also reduced by 14,700 US$/year

Machine savings

For 2,000 kg/h usually 2 – 3 blow room lines are needed. With Trützschler, one compact line with one bale work-off is sufficient. This reduces investment by 210,000 US$ and more.

Filter capacity savings

The Trützschler compact installation requires about 30 % less filter capacity. With the demand-controlled fan of the Multi Function Separator SP-MF it is thus possible to save 3,000 m³/h and with the direct coupling of cleaner and mixer an additional 4,000 m³/h, for instance. This saves about 14,400 US$ in investment costs and 9,940 US$/year in operating costs.

Optimal use of raw material

Just 0.4 % less waste on the cleaner results in annual savings of 107,000 US$ at a cotton price of 94 USct/lbs and consideration of revenue generated from the waste. Thus, the Trützschler blow room pays for itself in a short time. *(see page 32)*

Electrical energy savings

A compact blow room requires less machines and therefore less electrical energy. Added to this are the reduced consumption of demand-controlled fans on the SP-MF and the elimination of condensers for cleaner feeding. In our installation example, this adds up to about 36,200 US$/year

Other savings

In addition, there are savings that are not so easy to estimate. What is the cost of a claim from foreign fibers?

- *Trützschler offers the best protection against foreign fibers with its Foreign Part Separator SP-FPU – which is equipped with three different sensors.*

What is the cost of a claim from blending errors?

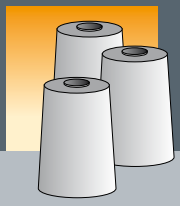
- *Trützschler fiber blending installations guarantee +-1 % accuracy.*

What is the cost of a claim from excessive neps in the yarn?

- *Trützschler compact installations perform gentle fiber cleaning.*

Sometimes it is not about money, but rather about losing customers due to such unnecessary claims

The spinning mill example is identified on the following pages by this symbol:



Perfect quality
IS NOT A MATTER OF SIZE

The unique Trützschler compact concept realises high performance with minimum space requirement. Thus you can produce 1,200 kg/h or 2,000 kg/h with only one line even during 365-day operation. Whether you are planning to expand production in existing facilities or in a new building, the reduced space requirement of our compact blow room will definitely save space costs.

On smaller dimensioned new buildings, this naturally also applies to subsequent running costs.

The „secret" of the tremendous space economics of Trützschler compact installations lies in four components:

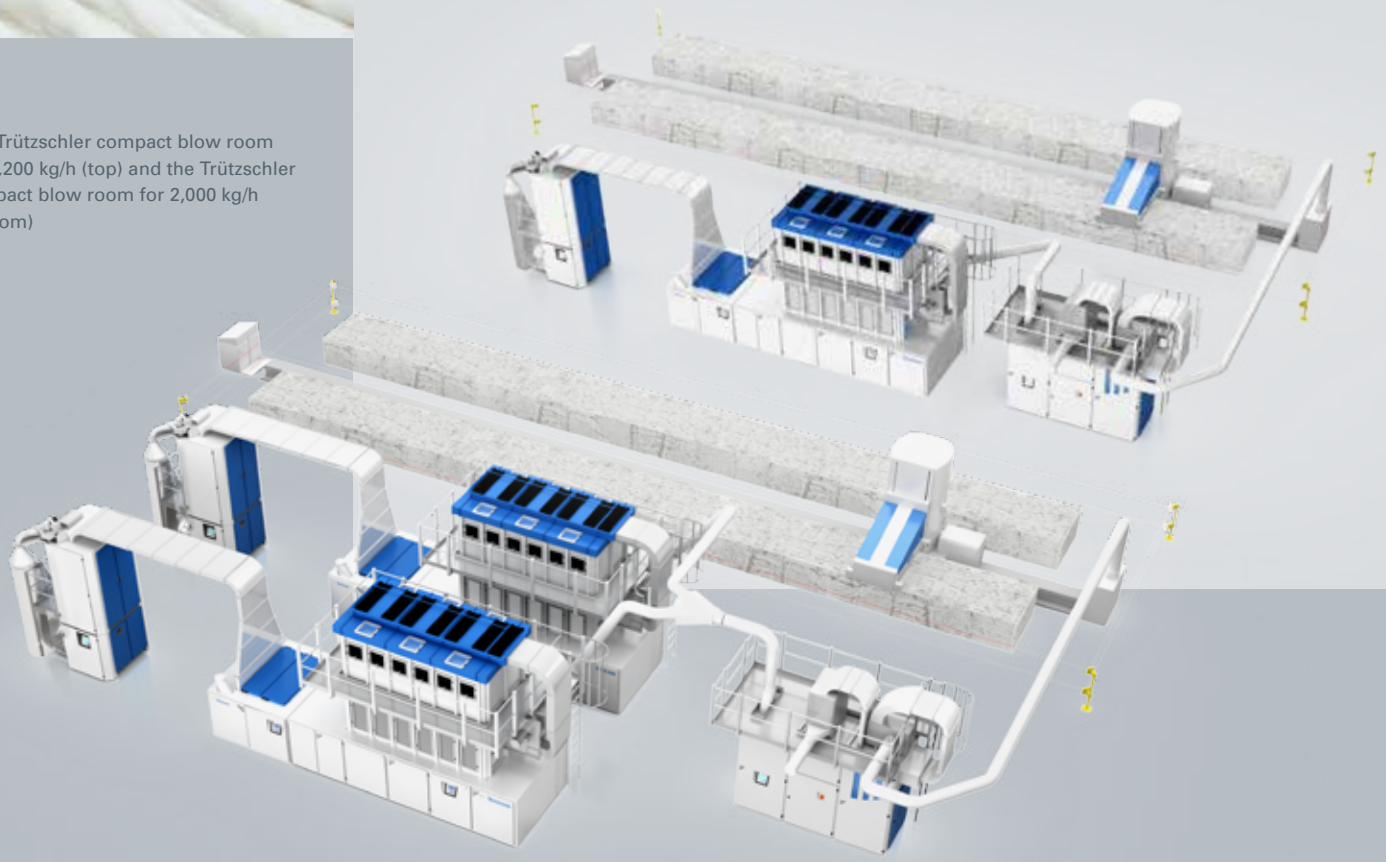
1. Bale opening (page 26)
Gentle bale opening is the prerequisite for a homogeneous tuft flow, and thus for optimal downstream processing. With two opening rolls, the reliable Automatic Bale Opener BLENDOMAT BO-A is particularly gentle to the fibers. The possibility of planning the unit with a single or double row bale lay-down enables perfect adaption to the spatial conditions. Just one single BLENDOMAT BO-A can feed up to three cleaner or opening lines.

2. Installation protection (page 28)
The protection of the installation is a central aspect of production. The Multi Function Separator SP-MF removes hazardous heavy parts and metal parts from the product flow. Simultaneously, it takes care of the suction of BLENDOMAT BO-A and initial dust removal. The advantages of this new exclusive Trützschler concept are noticeable savings concerning space, operation and maintenance costs, as well as lowered energy consumption due to demand-controlled fan speed.

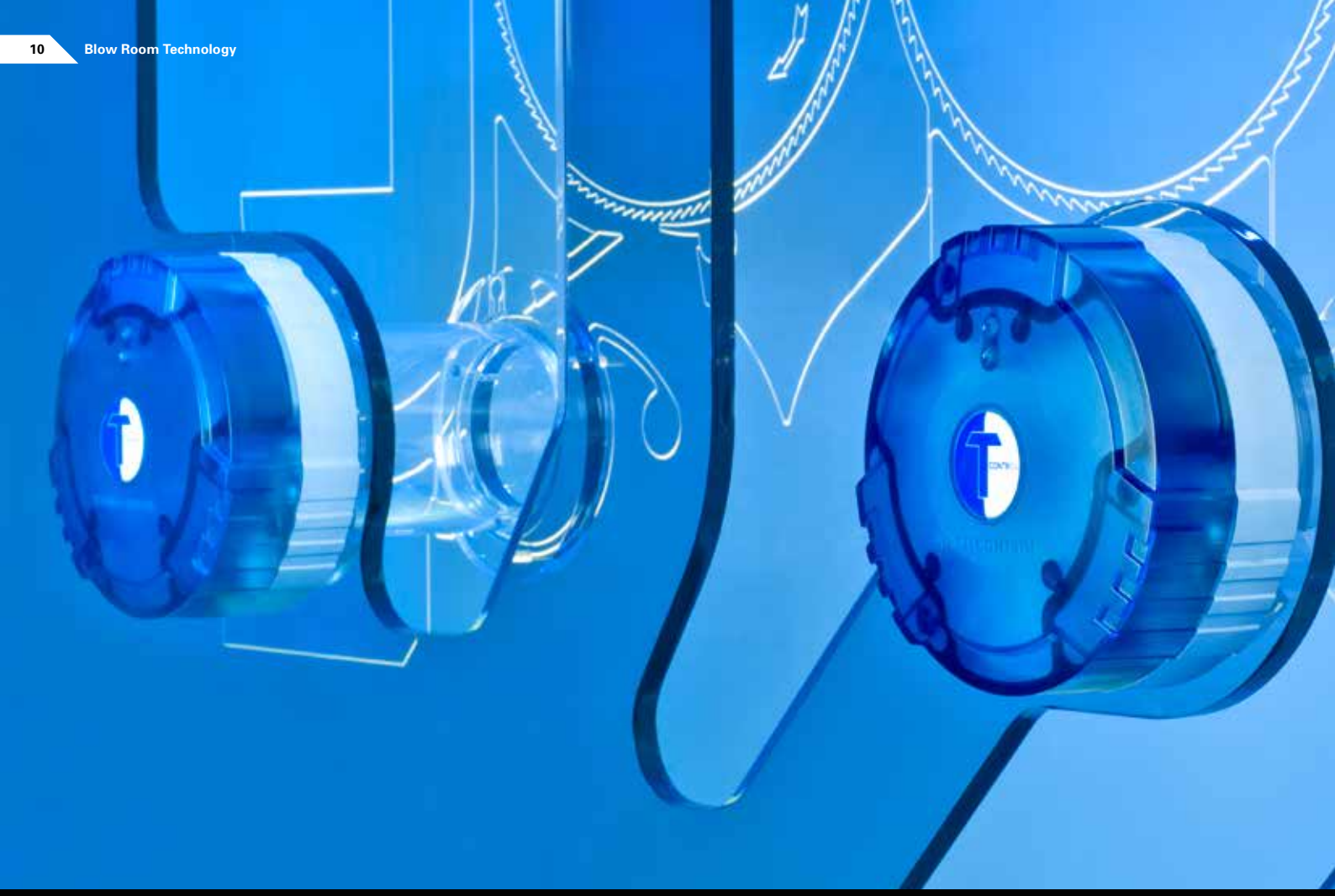
3. Mixing and cleaning (page 34)
In the compact line, the Integrated Mixer MX-I directly feeds the Cleaner CLEANOMAT CL-C 3. Otherwise required condensers and feeding units are eliminated. This means lower power consumption. The use of transport air and the associated increased filter loading are also eliminated. Depending on the material, the CLEANOMAT Cleaner has two to four cleaning points.

4. Foreign part separation and dust removal (page 36)
The foreign part separators of the SECUROPROP series use polarised light to clearly detect previously "invisible" objects such as foils or PP parts. Foreign parts and, in particular, foreign fibers in the raw material are detected at an early stage and separated from the material flow.

The Trützschler foreign part separators are perfectly integrated in the compact line. For fine dust removal, the SECUROPROP SP-FPO is equipped with a dust removal unit. The Foreign Part Separator SECUROPROP SP-FPU can be coupled with Dust Separator DUSTEX DX.



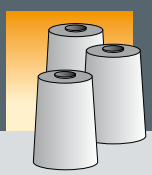
The Trützschler compact blow room for 1,200 kg/h (top) and the Trützschler compact blow room for 2,000 kg/h (bottom)

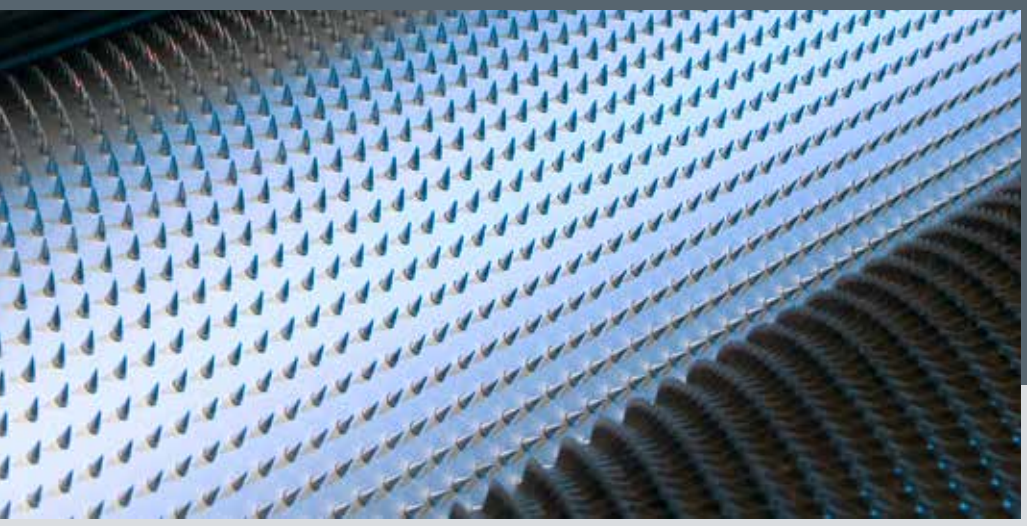


Small + intelligent –
THIS IS HOW THE CLEAR LINE TOWARDS SUCCESS LOOKS

A world-exclusive innovation from Trützschler gives you access to optimum raw material utilisation: the Waste Sensor WASTECONTROL BR-WCT.

It is another milestone for Trützschler in cleaning technology: Since its introduction, the WASTECONTROL has brought about a surge in productivity in leading spinning mills around the world. Using WASTECONTROL with a Cleaner CLEANOMAT ensures minimum fibers in the waste. Its optical measuring system determines the waste quality and sets the deflector blades of the cleaner in such a way that optimal cleaning is achieved with minimum loss of good fibers. Just a 0.4 % increase in good fiber yield when processing 20,000 t/year of raw material allows WASTECONTROL to save about 250 bales of raw material/year. At a cotton price of 94 ct.lbs, this corresponds to savings of 108,800 US$ (page 30).





WASTECONTROL can be operated in three basic settings:

Economy: Minimum fiber loss – maximum efficiency
Balance: Best compromise between efficiency and quality
Intensity: Maximum degree of cleaning – highest quality

See more, discover more –
THIS APPLIES ALSO TO FOREIGN PART SEPARATION

White or bleached fibers and transparent foil residues from packaging represent a great quality risk: The further these parts get into the production process, the greater the damage to the value creation achieved thus far.

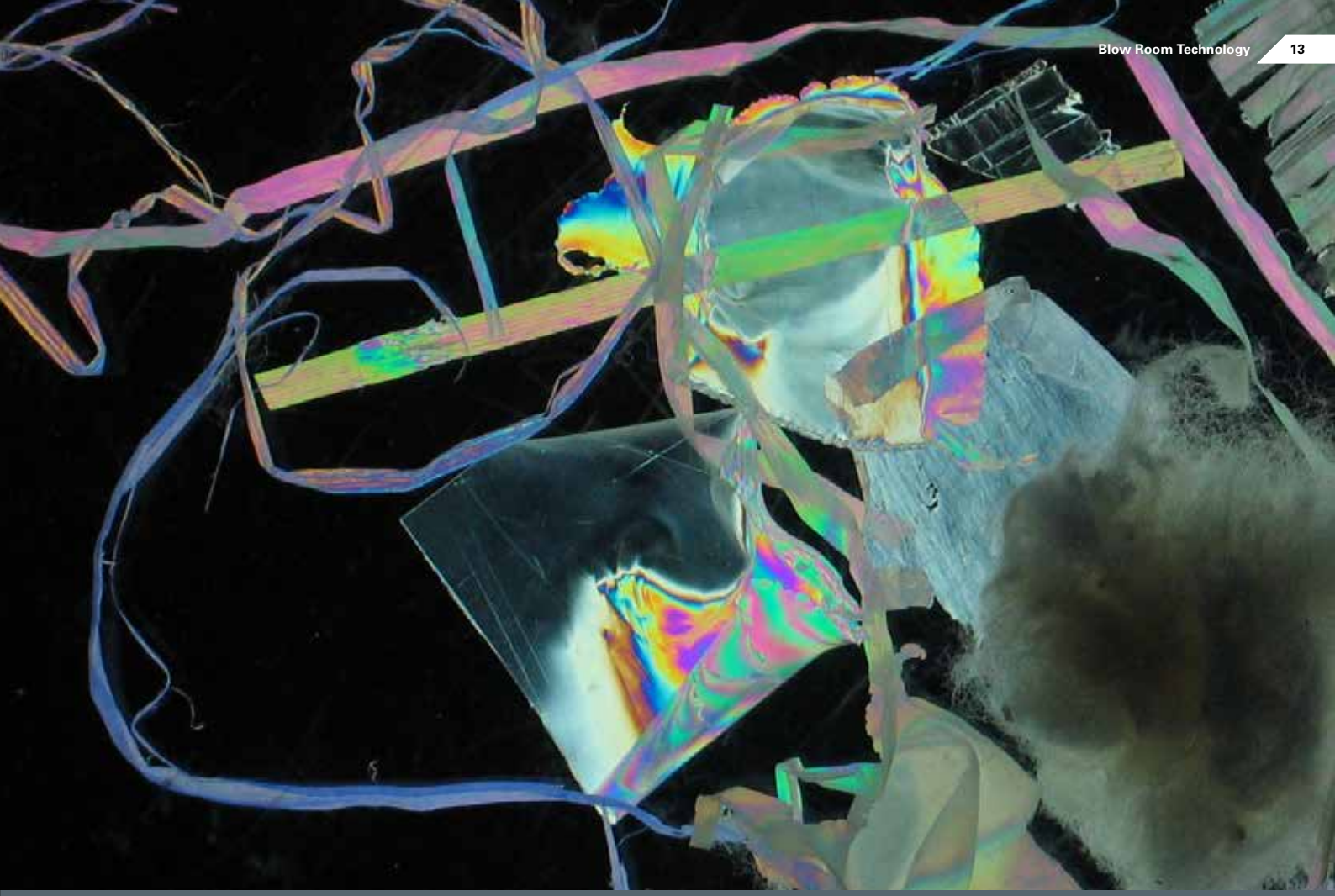
Therefore, whoever has the ability to detect more than just coloured objects during foreign part separation has a clear economic advantage.

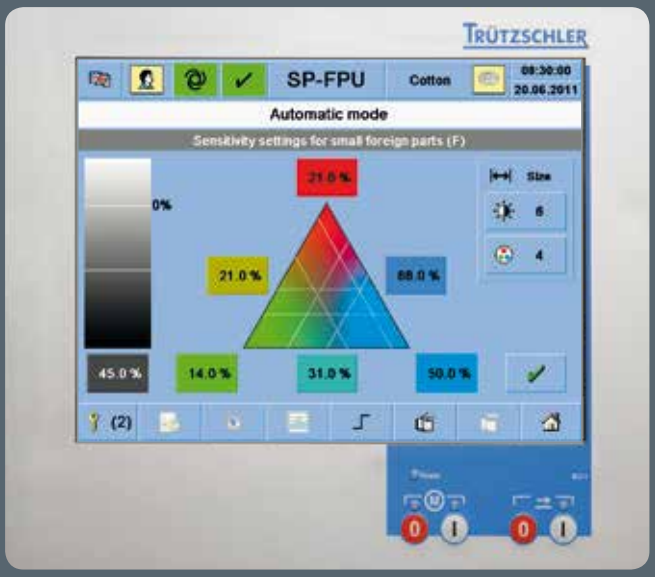
This is precisely what the foreign part separators of the SECUROPROP series have to offer you. They detect and reliably separate even white and transparent particles. This applies to:

- PP
- PE foil
- PES
- Bleached cotton threads

This patented Trützschler technology is based on polarised light. It creates a colour distortion that enables the cameras to clearly identify previously "invisible" objects. (Page 36)

The interaction of this P module with polarised light, the colour module and UV module is unique and results in the high detection rate.





The touch screen allows simple optimisation of the settings and adaptation to the corresponding cotton quality.

4 x 3 x 1 x 3 x 4 x 5 x 4 x 3 possibilities*

AFTER ALL, EVERY CUSTOMER IS UNIQUE

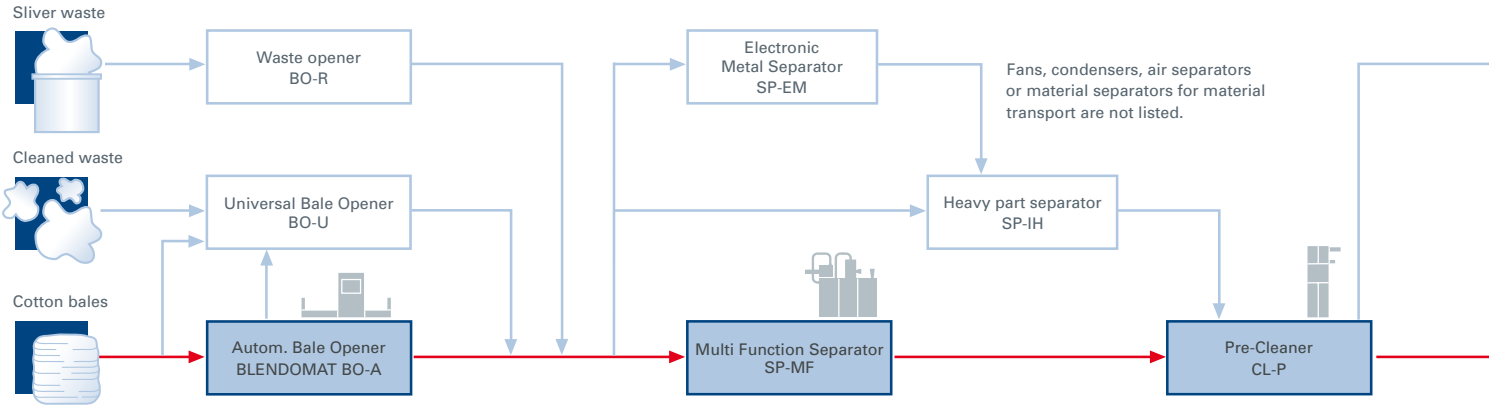
When deciding on your individual blow room there is one thing you can definitely do without: technical restrictions that require you to adapt to technology rather than the other way around. Trützschler uses a different approach. Within our blow room line we offer you several options for each individual stage:

- **Opening bales**
- **Protecting machines**
- **Cleaning and opening**
- **Mixing**
- **Feeding**
- **Separation and dust removal**
- **Control**

We will be happy to show you the combination that is ideal for you. On the following pages we have planned typical installations by way of example.

*) 4 Bale openers
3 Separators
1 Pre-cleaner
3 Mixers / storage
4 Feeding units
5 Openers / cleaners
4 Tuft blenders
3 Foreign part / dust separators

The perfect cotton installation – as large as necessary, as short as possible



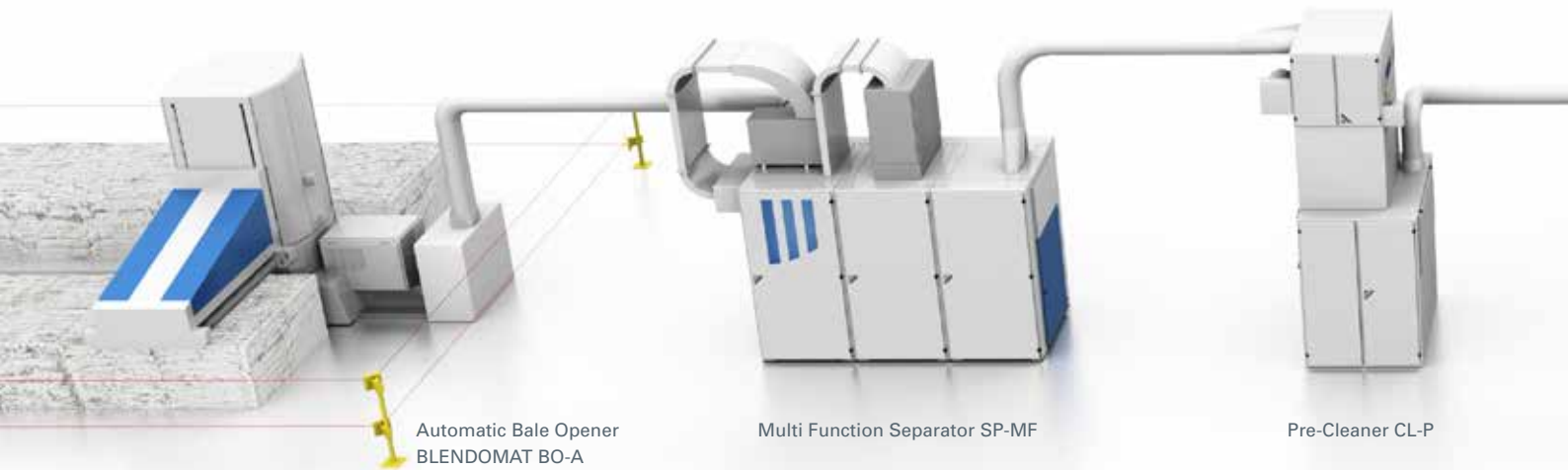
A cotton installation should only have machines that are actually necessary. Any surplus aggregate has a negative impact on nep numbers. On Trützschler installations, cotton is always gently opened in small steps. All machines are carefully coordinated. Selecting the correct cleaner or a combination of two cleaners depends on raw material and production output. In addition to the primary task of cleaning, Trützschler blow rooms naturally provide protection against metal or heavy parts, ensure high performance dust removal and separation of foreign parts.

Quality right from the start

In terms of bale laydown and work-off, the Automatic Bale Opener BLENDOMAT BO-A allows virtually any setup option. The Universal Bale Opener BO-U is ideal 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 perfectly and finely metered.

The All-Rounder

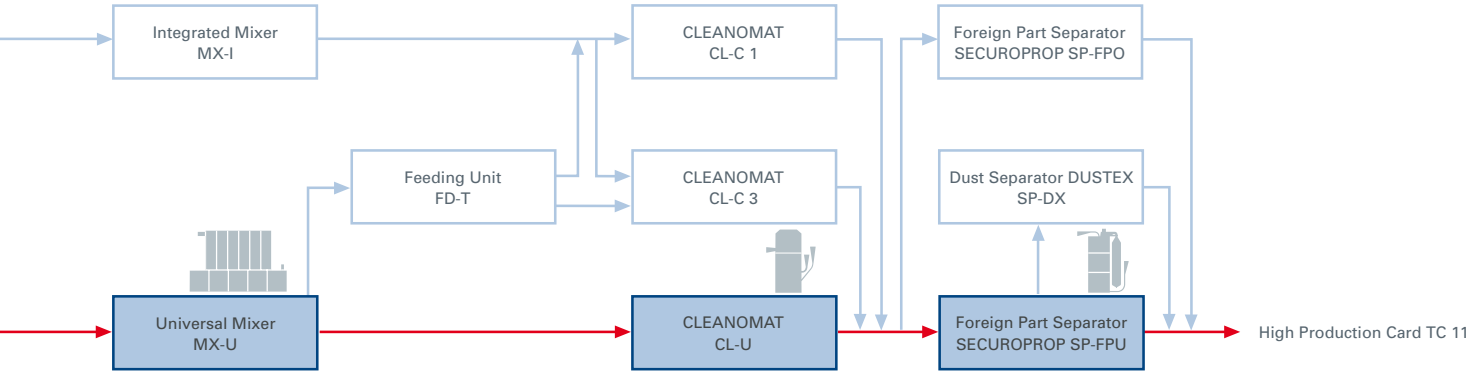
The Multi Function Separator SP-MF combines all relevant protection functions, including initial dust removal. Thus, the subsequent cleaning line is safely protected even at production rates of 2,000 kg/h. In exceptional cases the special separators are recommended.



Automatic Bale Opener BLENDOMAT BO-A

Multi Function Separator SP-MF

Pre-Cleaner CL-P



Fiber-friendly pre-cleaning

When gentle removal of coarse contaminants from the raw material is required, the Pre-Cleaner CL-P is an ideal addition to the compact line. Positioned in front of the mixers and fine cleaners, the coarse-structured cleaning rolls provide a very gentle initial cleaning.

Powerful mixer

The Integrated Mixer MX-I is ideal for compact installations since it connects the mixer directly to a cleaner. If two cleaners require parallel feeding, the Universal Mixers MX-U are also a good option. Both mixers feature the same mixing concept that ensures perfect homogenisation of the tufts.

Cleaning – intensive and gentle

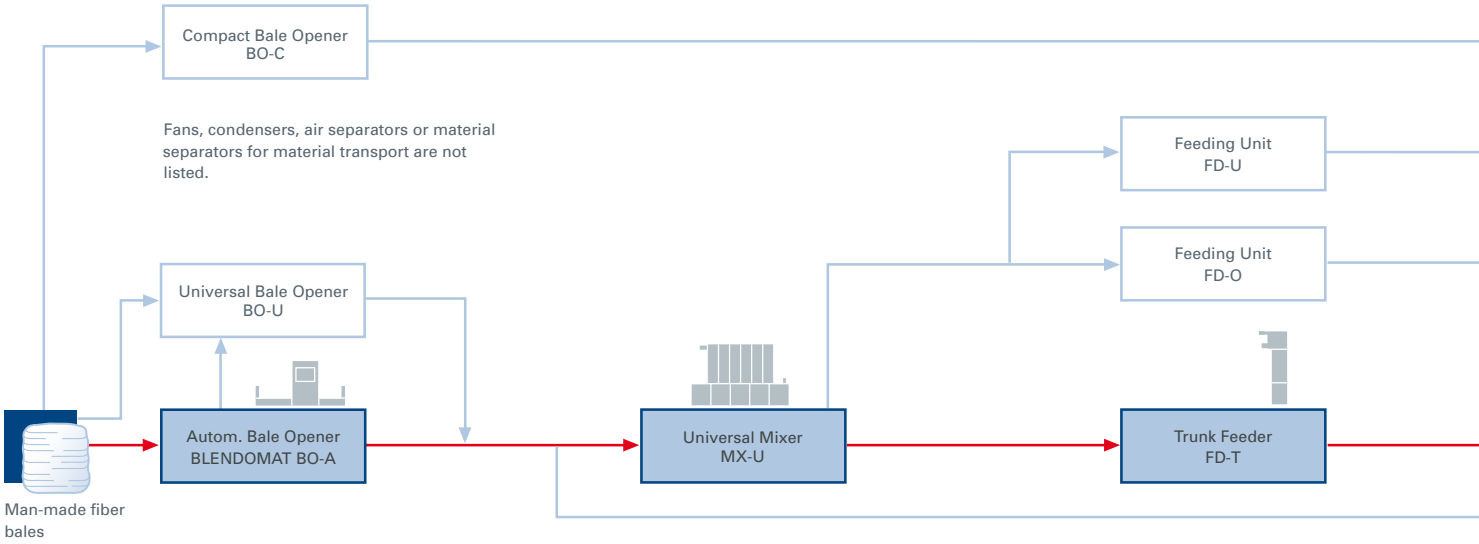
With its open needle roll that is gentle to the fibers, the CL-C 1 is a specialist for medium to extra long staple cottons. At the same time it achieves a high degree of cotton opening. When it comes to strongly contaminated cottons, the CLEANOMAT CL-C 3 presents the optimal solution, whilst the Universal Cleaner CL-U can show off its strengths in all standard applications.

Safe detection and safe separation of foreign parts

The Trützschler SP-FPU is a universal system with colour module, UV module and PP module. It presents the most economical complete solution for many installation configurations, particularly ring spinning. Depending on further processing, the high performance Dust Separator DUSTEX SP-DX can be connected downstream. The dust removal function is already integrated in the Foreign Part Separator SP-FPO, particularly for use in rotor spinning mills.

Universal Mixer MX-U | Cleaner CLEANOMAT CL-U | Foreign Part Separator SP-FPU | Card TC 11

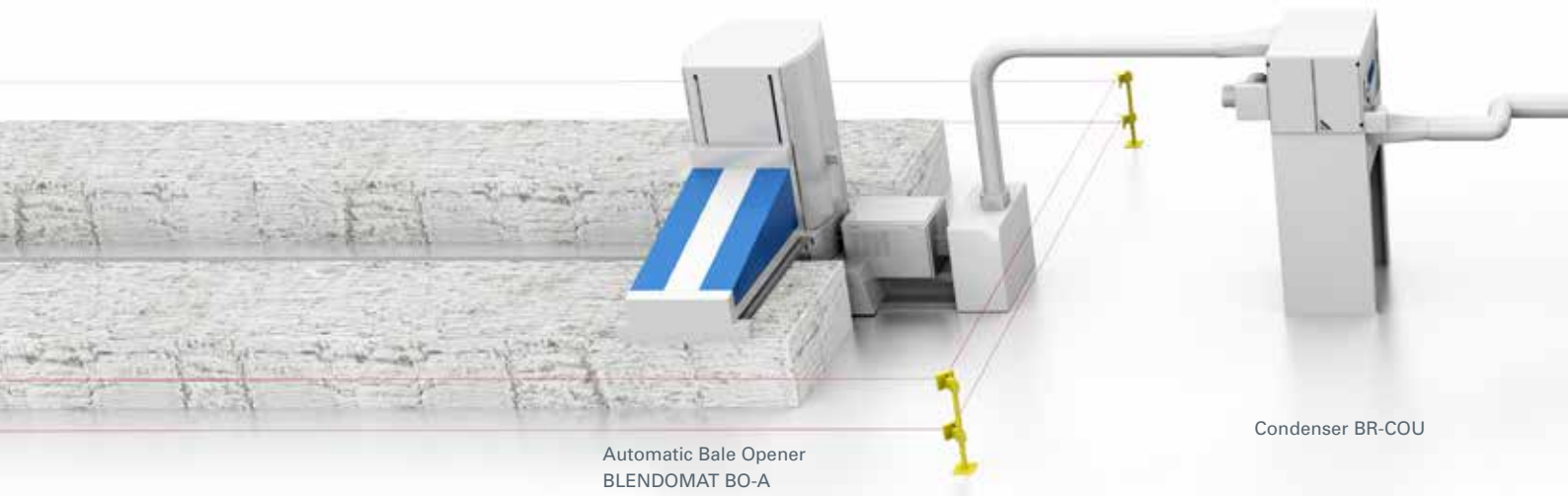
Man-made fiber opening – customised preparation for the perfect carding result



The share of man-made fibers in short staple spinning increases. So does the number of available fiber types. The variety of applications ranges from the small line to feed a single card to the high production line with more than thousand kilogramme per hour. Trützschler modules provide a customised solution for each application.

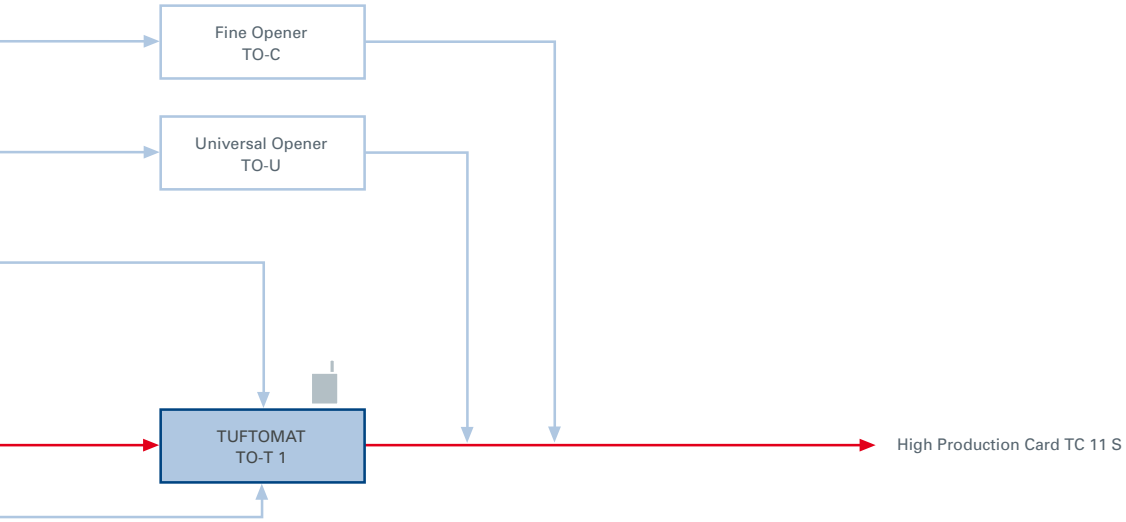
Manual or automatic

For large continuous lots, the Automatic Bale Opener BLENDOMAT BO-A is the preferred choice. A large bale lay-down ensures good blending, even if the corresponding bales have variations in material moisture or applied reviving agent. For medium-sized productions the Universal Bale Opener BO-U is ideal. For small productions, e.g. when feeding only one or two cards, the Compact Bale Opener BO-C is the most efficient solution.



Automatic Bale Opener
BLENDOMAT BO-A

Condenser BR-COU



Good blending for uniform card slivers

During processing of man-made fibers, the homogenisation of the material is often neglected. The moisture content in Viscose varies from bale to bale. To produce perfectly uniform card sliver, this must be compensated by a mixer, for instance the Universal Mixer MX-U.

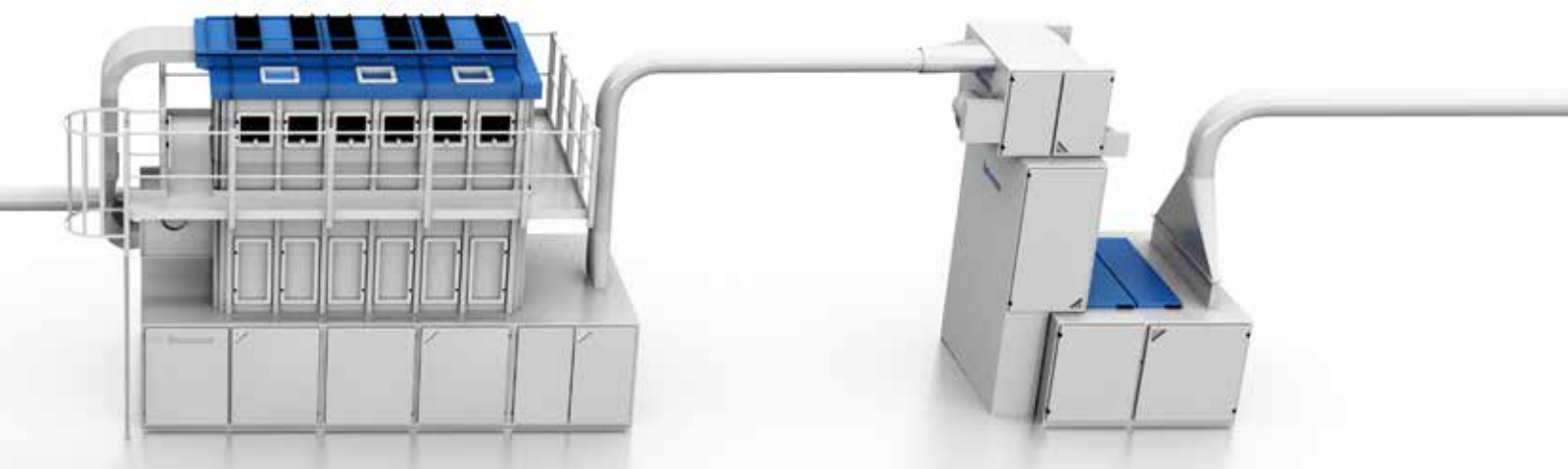
Feeding units with and without additional opening

Three different feeders are available to feed the Trützschler openers. Fibers requiring additional opening can be perfectly prepared for the fine opening process with Feeding Unit FD-O.

All other man-made fibers are transported to the corresponding fine openers either via Trunk Feeder FD-T or Feeding Unit FD-U.

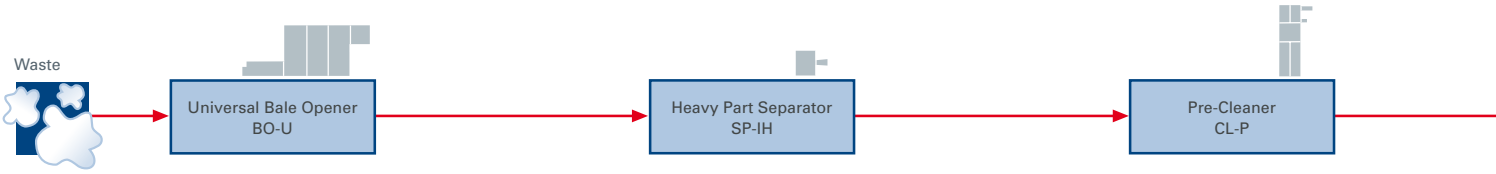
Selectable degree of opening

The selection of the fine opener determines the degree of opening. A smooth or siliconized polyester fiber or a tencel fiber requires 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.



Universal Mixer MX-U Trunk Feeder FD-T TUFTOMAT TO-T 1 Card TC 11 S

Recycling waste means saving costs



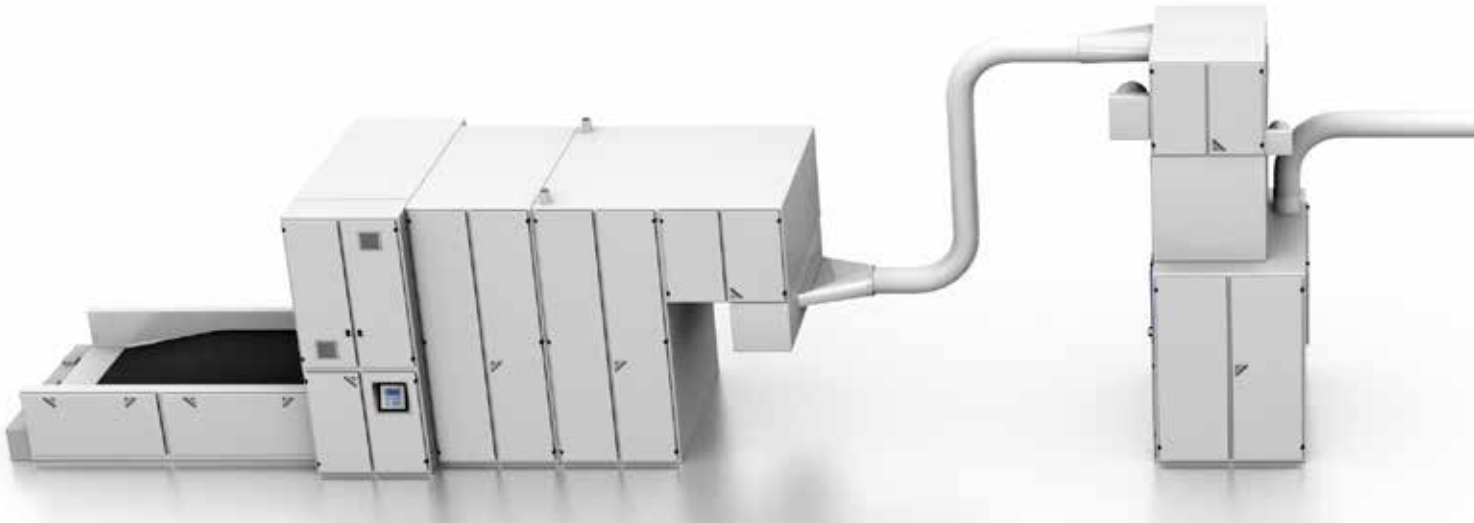
The recovery of good fibers from blow room and card waste can significantly increase the overall efficiency of the spinning mill, especially in times of high cotton prices. Trützschler offers small compact installations, integrated in a single spinning mill, but also large high-performance installations for central waste processing.

Flexible from the beginning

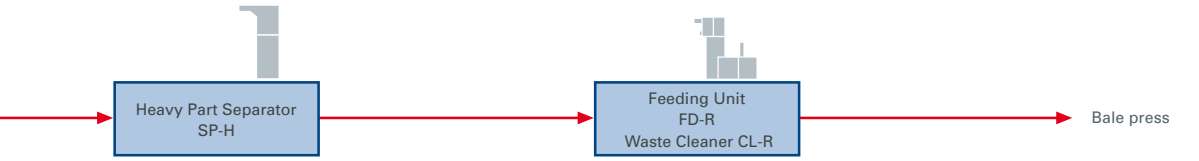
On integrated installations the waste is usually directly sucked off the prefilter of the central filter systems and forwarded to the recycling system. On autarkic, central installations a Universal Bale Opener BO-U is used. It also ensures pre-blending of the various waste.

Reliable heavy part separation

Protecting the installation from heavy parts is of particular importance during waste processing. Hence it is absolutely necessary to provide a heavy part separator, such as SP-H.



Universal Bale Opener BO-U | Heavy Part Separator SP-IH | Pre-Cleaner CL-P



Fans, condensers, air separators or material separators for material transport are not listed.

Waste cleaning technology

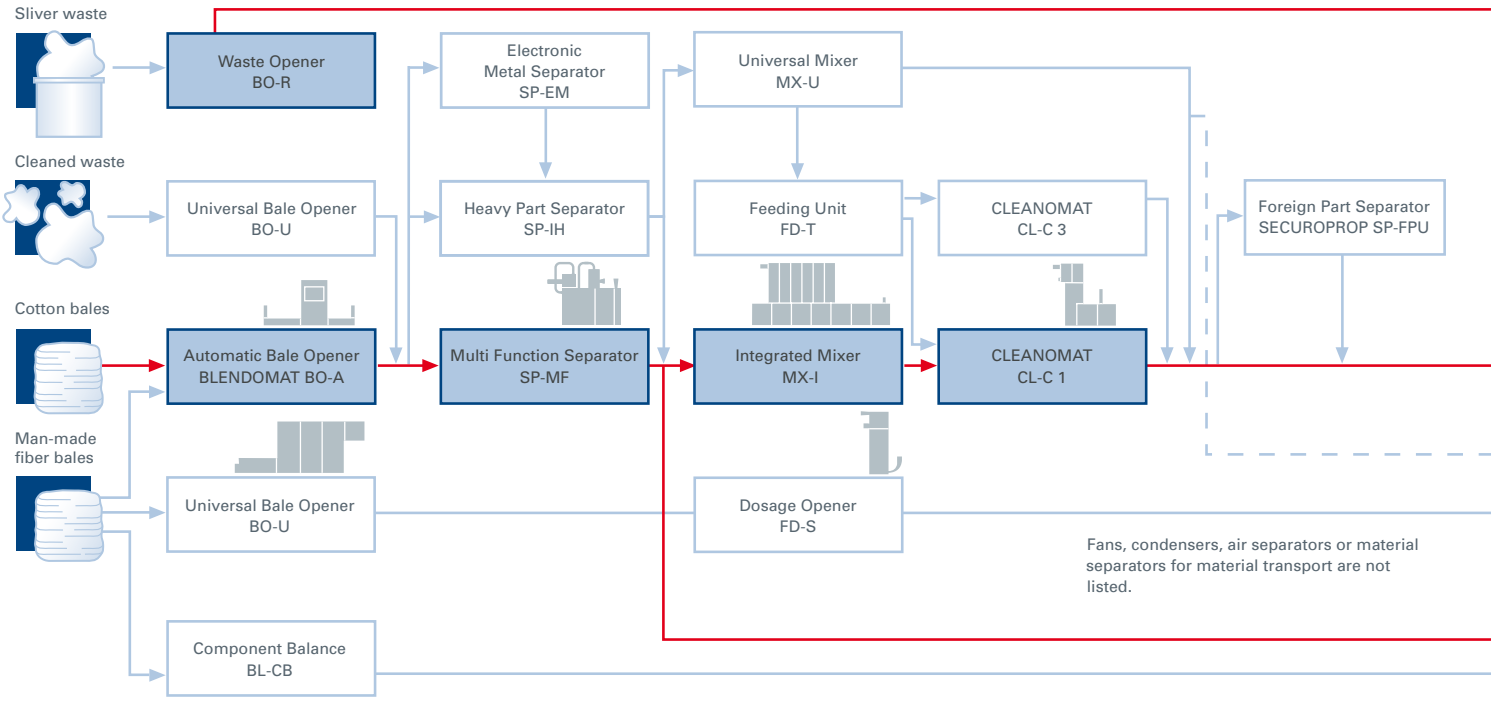
The technology of waste cleaning is inherently different from cotton cleaning. The use of cotton cleaners presents therefore only an alternative option. Taking quality and efficiency into consideration, the preferred option is always the Trützschler Waste Cleaner CL-R, fed by a Feeding Unit FD-R. Initial pre-cleaning takes place already in the feeding unit. Additional cleaning is performed by four opening rolls connected to each other.

Smart use of valuable fibers.

In theory the possibility exists to feed the cleaned fibers back into the process online. In practise, however, pressing the fibers into bales has proven successful. They can either be sold, used in another product line or in the bale lay-down of the same product line.

Heavy Part Separator SP-H Feeding Unit FD-R Waste Cleaner CL-R Bale Press

The fine art of tuft blending



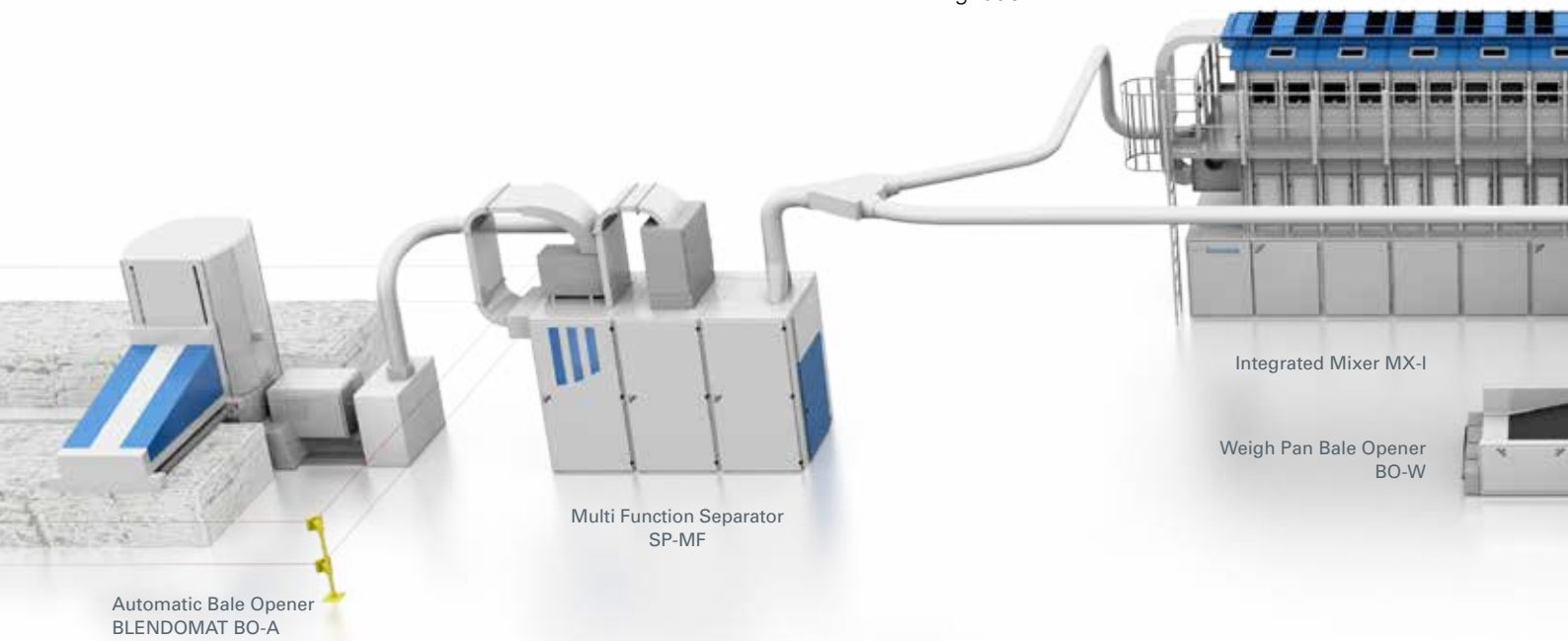
True art lies not only in producing a perfectly homogeneous tuft blend, but also in achieving efficiency. These requirements cannot be met by a standard installation. Whether small limited lots with 5 or 6 colours are required or continuous polyester/cotton blends, the corresponding tuft blending installations must be highly flexible.

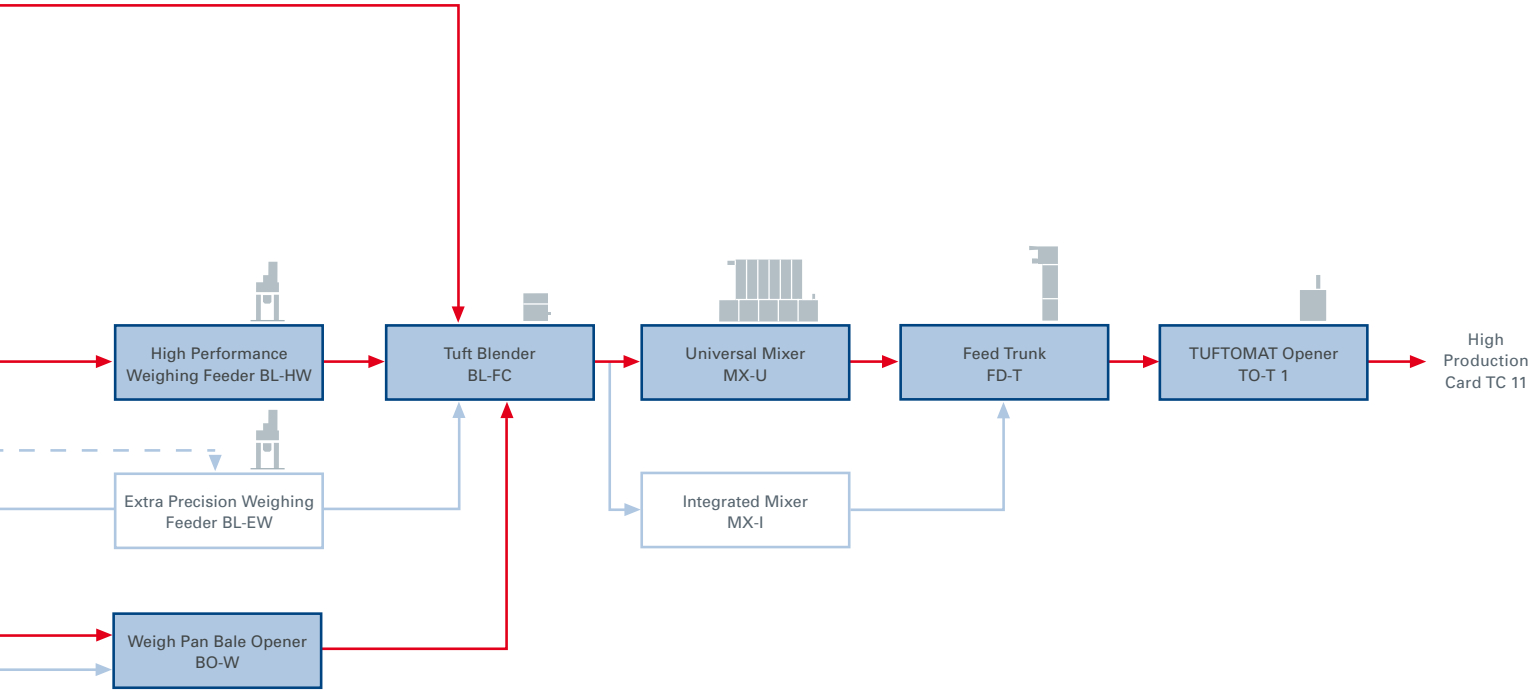
Flexible fiber preparation

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 with man-made fibers is performed.

Flexible dosing

The first step in tuft blending is the exact dosing of the blending components. This applies to a 99% blending ratio the same as to a 1% blending ratio.





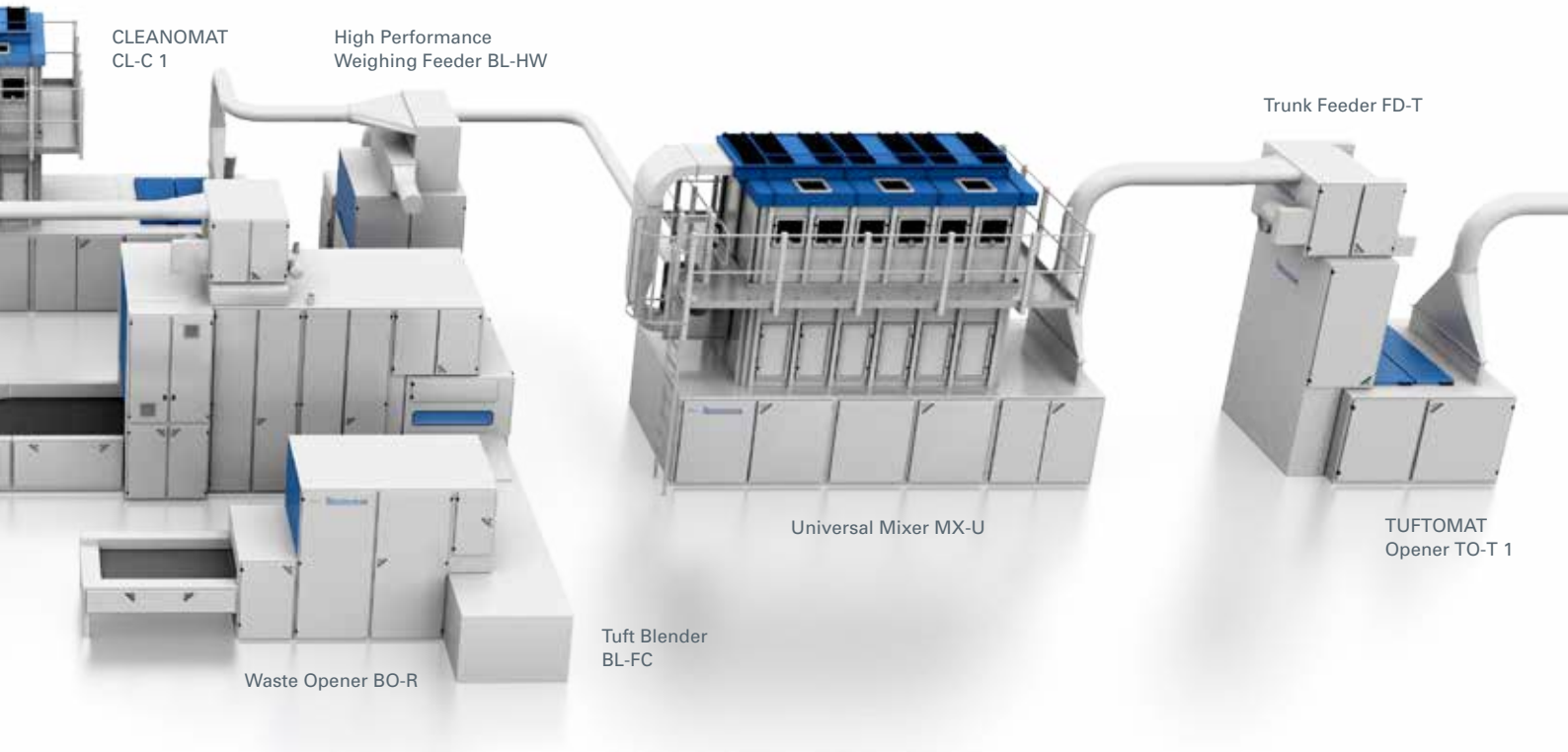
For high production rates there is a choice between the automatically fed High Performance Weighing Feeder BL-HW and the manually fed Weigh Pan Bale Opener BO-W. The Extra Precision Weighing Feeder BL-EW is used for low blending ratios. For very small lots or very low production rates, the Component Balance BL-CB is the most economical solution. It is also suited for pre-blending.

Flexible homogenisation

The second step is homogenisation of the tufts. This is best done with controlled mixing. Depending on downstream machine, the Universal Mixer MX-U or the Integrated Mixer MX-I are used. Both are based on the principle of trunk mixers.

Flexible fine opening

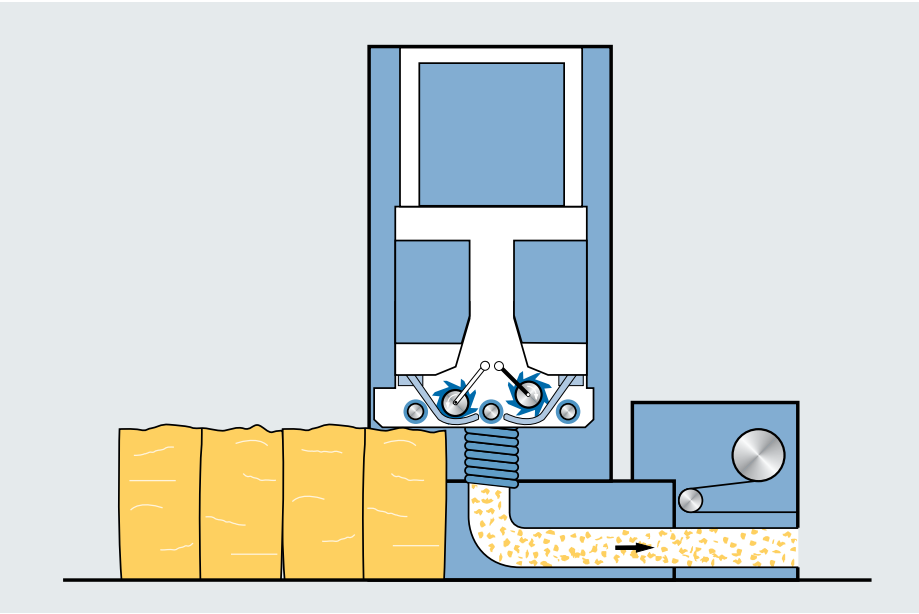
In principle, all Trützschler opening variants can be used here. The preferred choice, however, is the TUFTOMAT Opener TO-T 1.



Basis for economic success and high yarn quality:

Technical details and intelligent solutions

Flexibility has a name: Automatic Bale Opener BLENDOMAT BO-A

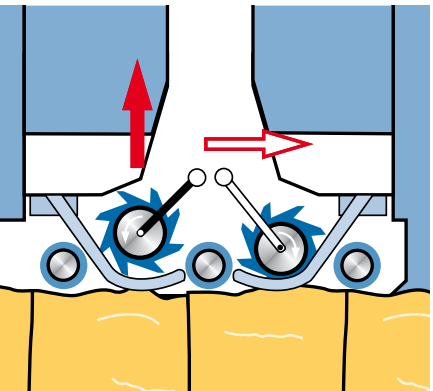


Automatic Bale Opener BLENDOMAT BO-A

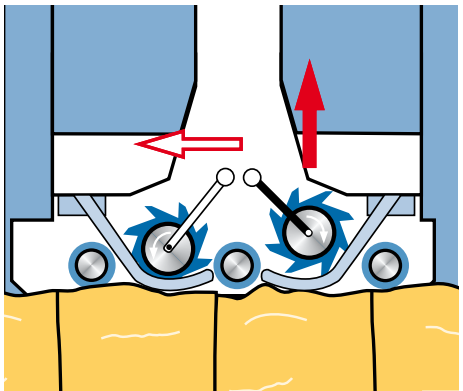
In terms of bale lay-down and work-off, the BLENDOMAT BO-A ensures maximum flexibility when processing:

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

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



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



Opening with optimum quality chain

- Two opening rolls ensure uniform production and tuft size
- Separate lay-down of different cotton qualities in different lines is possible
- Direct work-off of components with tuft-blended qualities

Simple and secure operation

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

Automatic switch-over of opening rolls

Depending on the travel direction of the machine, the opposed opening rolls are lifted, thus allowing the teeth to work once in and once opposite the travel direction of the machine. This results in consistent tuft sizes and uniform production distribution between the rolls. To achieve this gentle work-off and uniform degree of opening, the BLENDOMAT BO-A uses an automatic switch-over only offered by Trützschler. Bonus benefit: reversing the rotational speed of the opening rolls prevents wear-intensive braking and acceleration after each bale passage.

Large bale lay-down with flexible setup

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

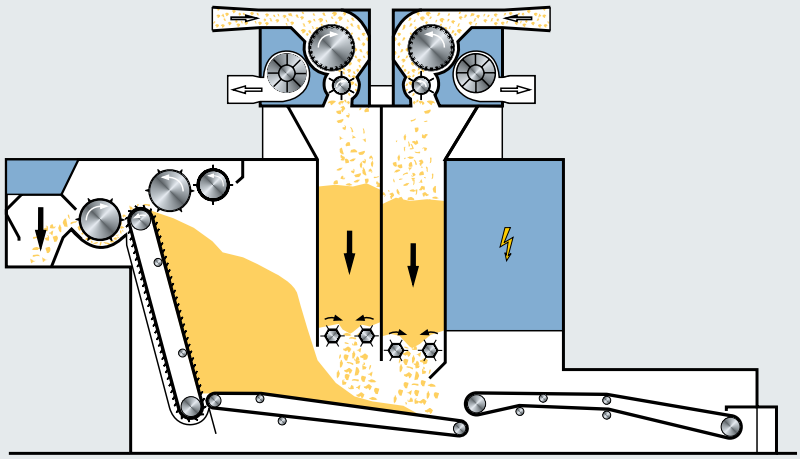
Compact and economic: Hopper Feeder Bale Opener

Regardless of whether natural or man-made fibers are opened – the Trützschler Hopper Feeder Bale Openers BO-U and BO-C impress with their appropriate flexibility and high economy in a compact structure.

Universal Bale Opener BO-U

Whether as supplement to Bale Opener BLENDOMAT BO-A or as independent alternative for smaller lots – the Bale Opener BO-U combines powerful performance with economic efficiency:

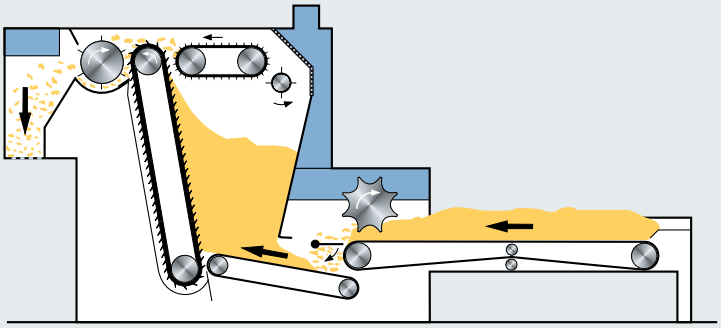
- Specific mixing of different material flows by means of additional feeding units
- Dosed addition of cleaned waste and re-feeding of sliver waste
- Selective lay-down of bale layers/bales
- Easy to combine with cleaners and openers



Universal Bale Opener BO-U (shown here in version with two trunks)

Waste Opener BO-R

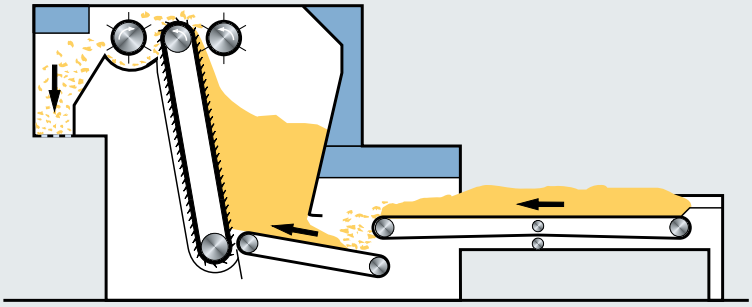
The Waste Opener BO-R is ideally suited for feeding small amounts of waste, such as card and draw frame slivers. Its specially designed technology ensures uniform feeding even when reducing production to 5 kg/h.



The BO-R reliably opens sliver waste as well.

Compact Bale Opener BO-C

The Compact Bale Opener BO-C is specifically designed for opening of man-made fibers at low and medium production rates up to 300 kg/h. It allows highest flexibility on smallest space by direct feeding of individual cards/small card groups.

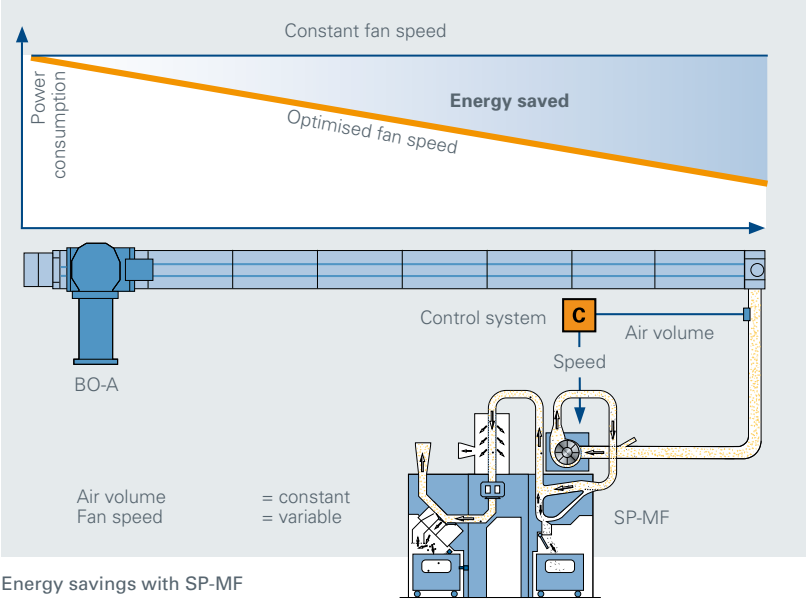


The Compact Bale Opener BO-C is ideal for feeding a small man-made fiber installation and can directly feed an opener.

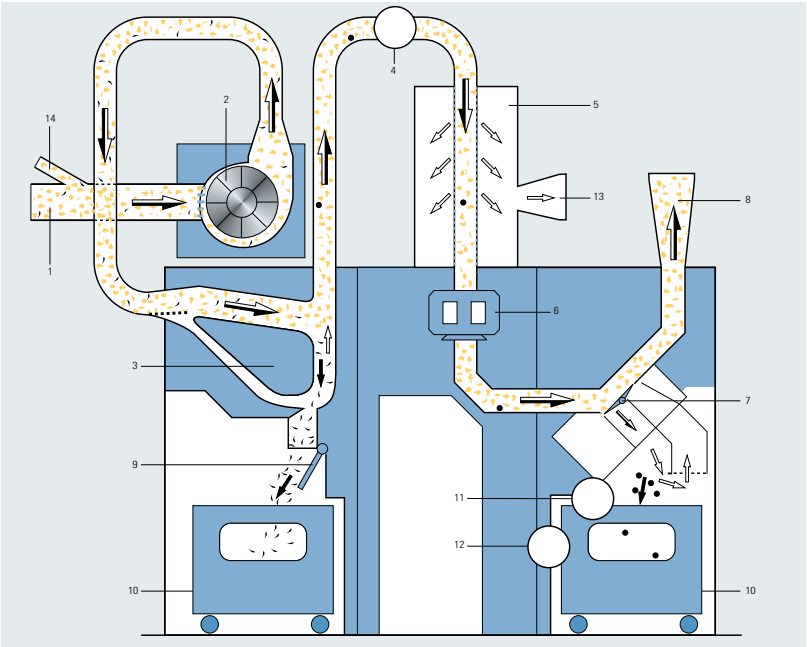
An economic installation protection assures production

The modular Trützschler system begins at the decisive process stages: upstream from the cleaners to protect the machines and at the end of the cleaning line to improve fiber purity (page 36-39). This is where the key to optimal utilisation of the material lies and therefore to securing economic advantages. The ideal combination can be selected from the large selection of Trützschler separators:

- Metals and heavy parts
- Coloured, white, transparent foreign fibers



Energy savings with SP-MF



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

Reducing running costs with the Multi Function Separator SP-MF

The Multi Function Separator SP-MF – which works reliably even at production rates up to 2,000 kg/h – is positioned at the transition from Automatic Bale Opener (BO-A) to cleaning line. An integrated micro-computer control system controls all functions:

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

1. Suction

The Automatic Bale Opener BLENDOMAT BO-A is directly sucked off. Energy costs are also considerably reduced compared to conventional solutions: They require condenser and booster fan to operate at highest output level to ensure reliable material transport even at the furthest point of a bale cutter. With Trützschler, a single fan is sufficient to reliably generate an air flow that is always within ideal limits – independent of where the BLENDOMAT is currently working.

2. Heavy part separation

A special fan speed control allows the heavy part separator to reach an optimal efficiency level at minimal good fiber loss. The heavy parts are automatically extracted and fed into a waste container under constant working conditions.

1 The material is sucked off 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) sucks off material
9 A flap conveys the separated heavy parts into the waste carts
10 Both waste carts are generously dimensioned
11 The extinguishing device can be integrated here
12 Here the heat sensor 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

Special machines and components

3. Air separation
The integrated air separator contributes considerably towards increasing the economic efficiency: in conventional systems, the entire air flow is forwarded from bale opener to filter system. Trützschler passes the main air current on to the next machine. Only a small part of the air passes through the air separator into the filter; thus it can be reduced by approx. 3,000 m³/h.

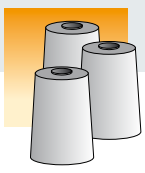
4. Fire protection
The Multi Function Separator SP-MF is prepared for the installation of individual fire protection devices.

5. Material separation
The Multi Function Separator SP-MF reliably protects cleaners and cards from metal particles: A sensor that surrounds the rectangular fiber channel detects the metal particles. The subsequent extraction flap is a special Trützschler development. It reacts very quickly in both directions, because it is actively moved. In addition, the customary wear-intensive spring pre-tensioning is no longer required.

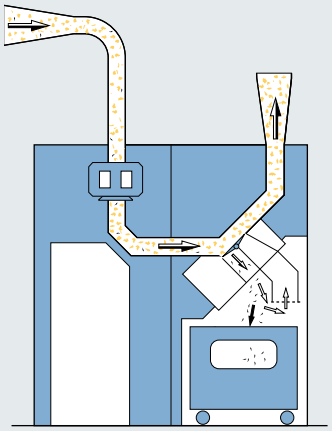
6. Waste feeding
The so-called soft waste, such as opened card and draw frame slivers, can easily be fed back without the usually required fan: It is sucked up together with the main material flow. Thus, it passes through the entire machine and is also checked for heavy parts and metal particles.

Savings potentials of the SP-MF
With the Multi Function Separator SP-MF, the air conditioning system can be reduced by 3,000 m³/h. This saves about 6,480 US$ in investments.
The demand-controlled fan of the Multi Function Separator SP-MF saves about 4,350 US$ in energy costs per year.

– 8,400 operating hours/year
– 0.17 US$/kWh
– 2,160 US$ filter costs/1,000 m³/h
– 1 kWh per 1,000 m³/h

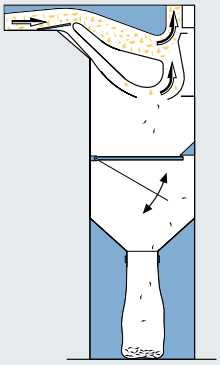


Reliable metal separation: SP-EM
The electronic Metal Separator SP-EM supports the protection of cleaners and cards from metal particles. It is installed directly at the interface between bale work-off and mixers/cleaners. Material transport is then taken over by the downstream machine. Advantage: It has no exhaust air and does not require any filter capacity.



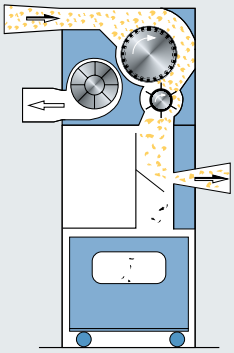
Electronic Metal Separator SP-EM

Heavy parts separation: SP-H
The Heavy Part Separator SP-H separates heavy parts from the tuft flow and conveys them into a waste container. It is maintenance-free and requires no electricity. The SP-H combines good protection against heavy parts with a minimum of effort and no additional operating costs.



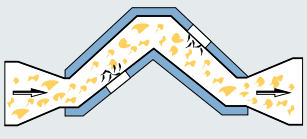
Heavy Part Separator SP-H

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. Suction occurs at a right angle so that the heavy parts fall straight down. There is no simpler and cheaper way.



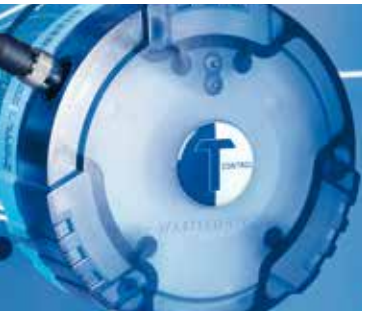
Condenser BR-COU and Integrated Heavy Part Separator SP-IH

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



Principle of Magnet Trap BR-MT

Intelligent cleaning: WASTECONTROL saves up to 450 bales/year



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

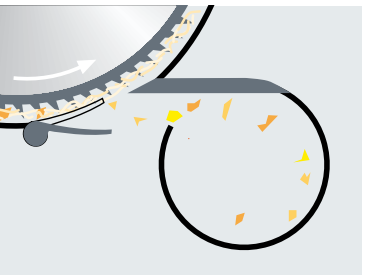
The world-exclusive innovation from Trützschler gives you access to optimum material utilisation: the Waste Sensor WASTECONTROL BR-WCT in connection with the Cleaner CLEANOMAT. Its optical measuring system determines the waste quality and automatically sets the cleaner in such a way that optimal cleaning is achieved with minimum loss of good fibers.

Perfect cleaning is the key to efficient production

Cotton quality characteristics have changed enormously in recent years: While the pure trash content dropped somewhat, the percentage of neps has risen. Cottons containing honeydew require an appropriately adapted cleaning technology without neglecting fiber protection. Trützschler has designed its CLEANOMAT system precisely for these new requirements.

The strengths of the CLEANOMAT system:

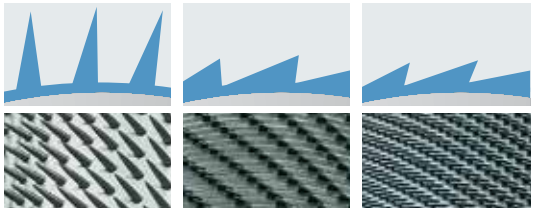
- Optimal opening and cleaning combined with extremely gentle fiber treatment even at 1,000 kg/h and more
- Optimum cleaning at all times: Individually adjustable deflector blades for freely selectable degree of cleaning – even at running production
- Perfect adaptation to every cotton by means of specially developed needle and saw tooth rolls
- Rapid raw material adaptation with infinitely variable roll drives (1 and 3 roll cleaners)
- Clean machine due to direct suction allows even trouble-free processing of sticky cotton
- Greater yarn quality and improved running behaviour in OE and ring spinning through specific permanent dedusting of the cotton
- Reduced maintenance outlay with belt drives and maintenance-free motors
- Precise control and permanent monitoring with integrated Trützschler micro-computers



The unique technology of the adjustable deflector blades controls the waste quantity.

Economically optimal point

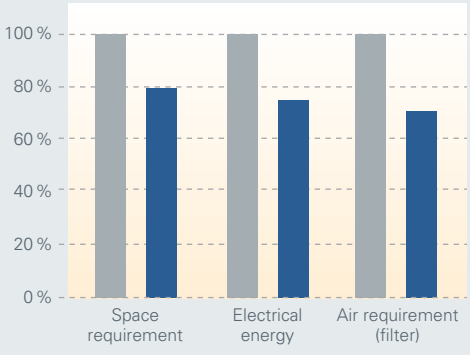
When the economically optimal point needs to be achieved between degree of cleaning and fiber protection, the CLEANOMAT cleaners lead the way in three aspects: First of all, the clothing fineness increases from roll to roll. Secondly, the angle of the clothing teeth increases with each roll. Thirdly, the speeds between the first and last roll increase continuously. This configuration is only offered by the CLEANOMAT system.



Increasingly finer clothing and steeper angles of the clothing teeth from roll to roll

Save 35,000 US$ in energy costs

At 140,000 US$ annual costs for electricity, the savings produced by the CLEANOMAT system in comparison to a conventional cleaning line amount to 25 %.



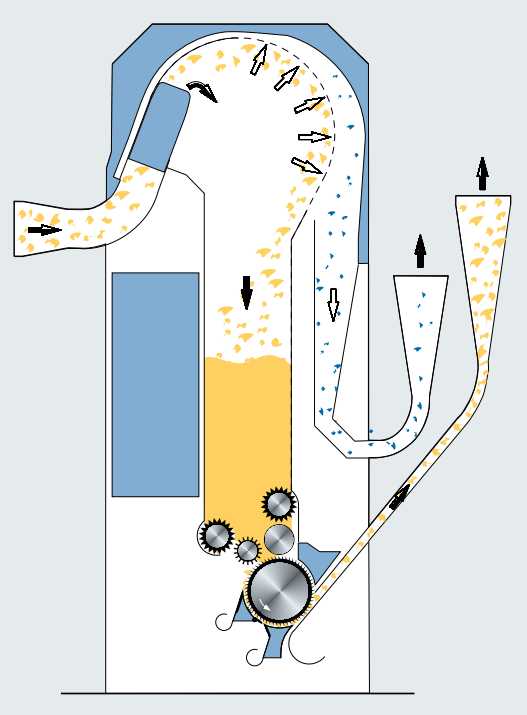
Production and quality increase due to CONTIFEED LC-CF

To fully utilise the potential of a cleaner or opener line requires the special control module CONTIFEED. For instance, greater cleaning efficiency can be achieved in CLEANOMAT cleaners, even at higher productions.

Specialists for clean work

Unparalleled efficiency: CLEANOMAT Universal Cleaner CL-U

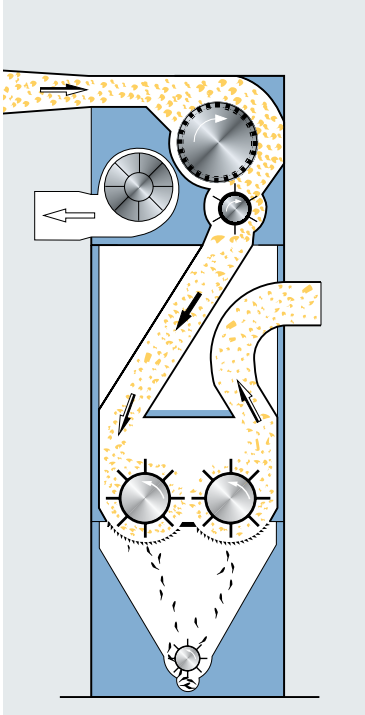
As the name suggests, the new Universal Cleaner CL-U is universally applicable. It covers all standard applications and allows particularly gentle fiber processing thanks to the 4-roll feed unit that is free from tight clamping. Initial dust removal takes place already during feeding. The desired degree of cleaning can be simply and quickly set.



Universal Cleaner CL-U

The first fiber-friendly cleaning: CLEANOMAT Pre-Cleaner CL-P

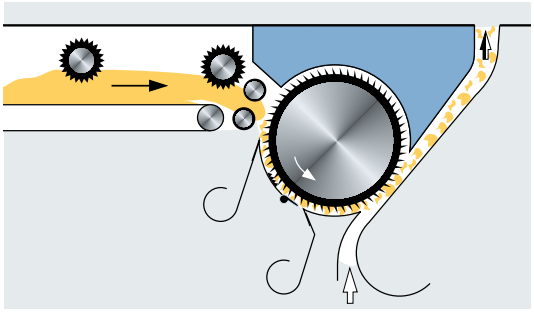
When gentle removal of coarse contaminants from the raw material is required, the Pre-Cleaner CL-P is an ideal addition to the compact line. For processing ELS cotton, one CL-P in the line is sufficient for complete cleaning.



Pre-Cleaner CL-P

Cleaning and opening in one: CLEANOMAT Cleaner CL-C 1

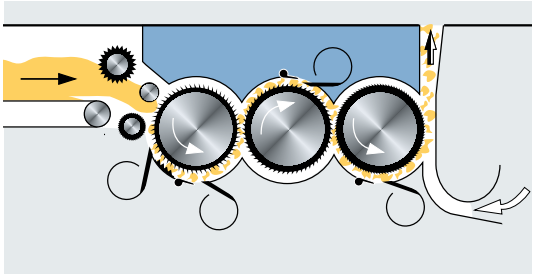
With its open needle roll that is gentle to the fibers, the CL-C 1 is also a specialist for the cleaning of long staple cottons. At the same time, it achieves a high degree of cotton opening, whereby the opening degree is optimally suited to gentle carding.



Cleaner CL-C 1

The universal fine cleaner: CLEANOMAT Cleaner CL-C 3

The CL-C 3 is a stand-alone cleaner designed for medium and 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.



Cleaner CL-C 3

Recycling waste means saving costs

Gaining 297,000 US$ from waste

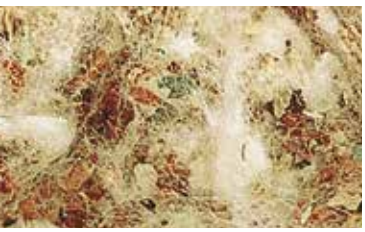
Recovering just 1.0 % of fibers in the case of our spinning mill example results in savings of 581.000 US$ at 94 ct/lbs. per year.

Since the raw material cotton is the main cost factor in a spinning mill, efficient fiber recycling technologies increasingly decide the economic success.
The Waste Cleaner CL-R is a true asset for fiber recovery: It distinguishes itself from the CLEANOMAT cleaners in the form of tray feed, clothing selection and roll speed. The result is an increase in opening and cleaning. The setting for the optimal cleaning degree corresponds to that of the CLEANOMAT series. The performance of the CL-R can be increased via the feeding unit FD-R: It opens and pre-cleans the material, removing coarse dirt particles.

Installation concepts for waste cleaning:

1. If waste cleaning is directly integrated into the production, the waste is fed back into the process for instance from a central filter system via a Heavy Part Separator SP-H and the Waste Cleaner CL-R. It can either be fed to a bale press or the lay-down of a current lot.

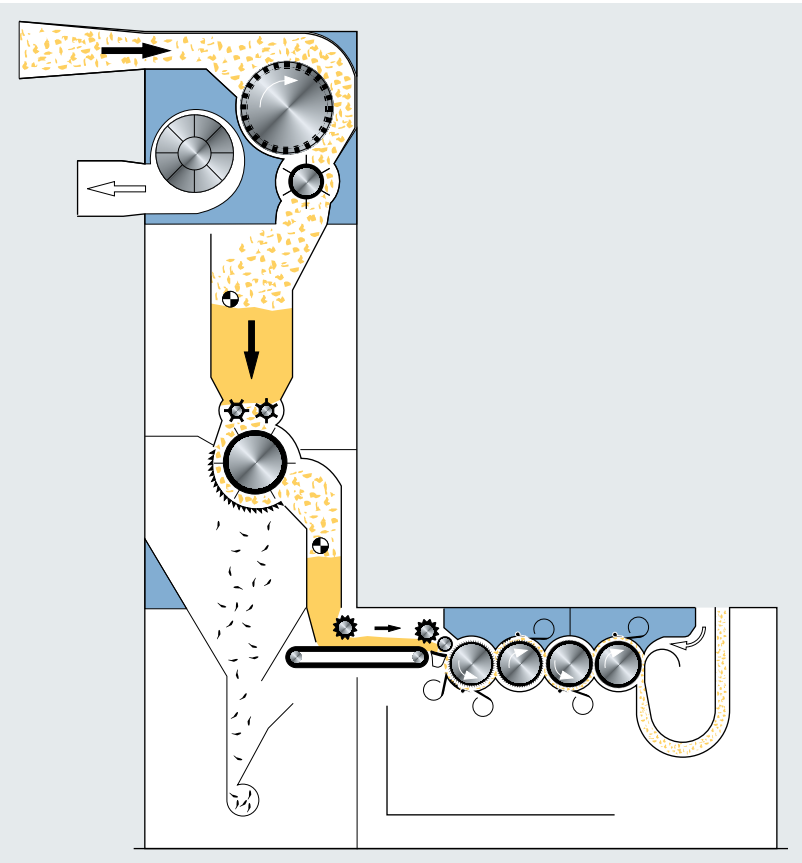
2. Waste cleaning as separate line consists of a Universal Bale Opener BO-U and a Pre-Cleaner CL-P, which removes coarse contaminants. This creates ideal conditions for downstream cleaning in Waste Cleaner CL-R. Next, feeding into a bale press takes place.



Blow room waste

Fiber yield after pre-cleaning

Good fibers after waste cleaner

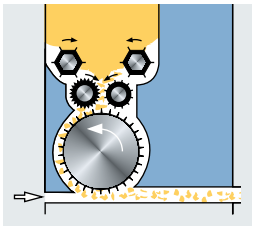


Feeding Unit FD-R – Waste Cleaner CL-R

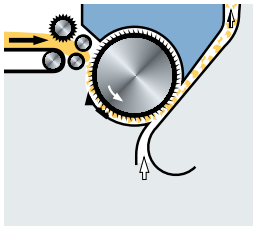
The tailor-made opener range

TUFTOMAT system

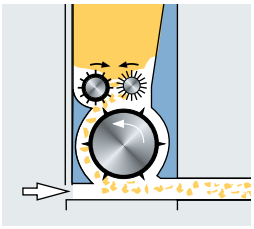
From universal opener for all fibers up to 130 mm to special openers for PES/viscose/acrylic and other man-made fibers, the TUFTOMAT system offers the perfect solution for virtually every production. Other individual requirements can be realised by different opening rolls.



Universal Opener TO-U



TUFTOMAT TO-T 1



Fine Opener TO-C

Universal Opener TO-U

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

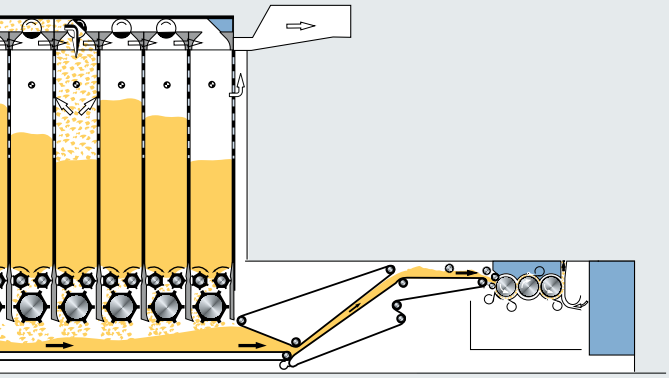
TUFTOMAT TO-T 1

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

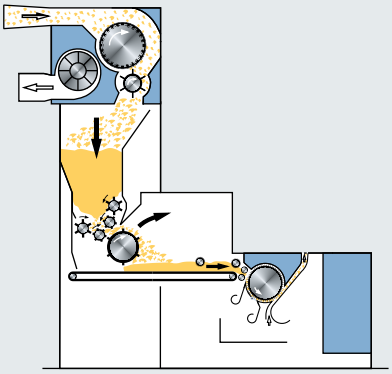
Fine Opener TO-C

- Man-Made fibers
- Direct feed with a Universal Bale Opener BO-U
- Ideal for feeding 1 or 2 cards for instance

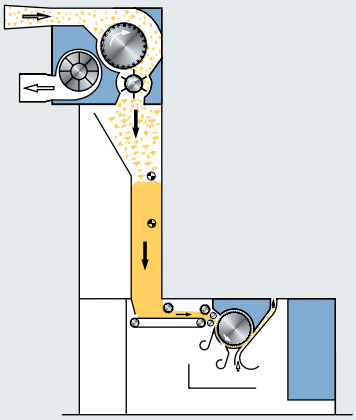
Feeding can look this good



Integrated MX-I mixer



Opening Feeder FD-O



Trunk Feeder FD-T

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

Integrated MX-I mixer

The combination of cleaner and mixer is the best space and energy saving solution, specially designed for cotton processing. It produces a very homogeneous lay-down for the cleaner.

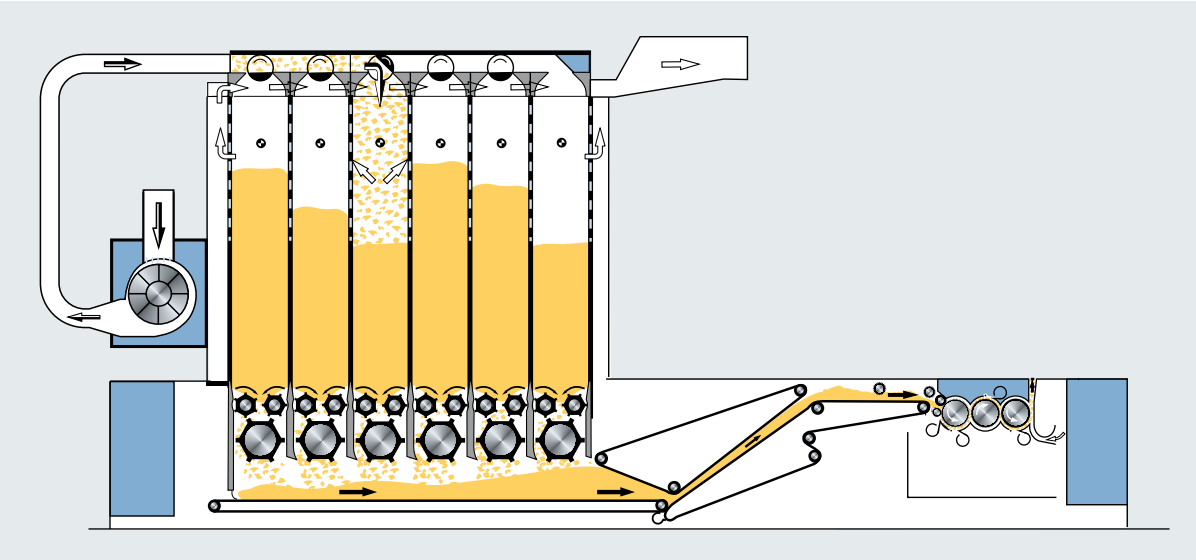
Opening Feeder FD-O

With its intelligent construction, the FD-O provides the cleaner or opener with a clear increase in performance.

Trunk Feeder FD-T

The most cost-efficient feeding option is the Trunk FD-T in combination with a Cleaner CLEANOMAT CL-C 1 and a Condenser BR-COI.

Controlled mixing instead of mixing by chance



The Integrated Mixer MX-I is coupled to a CLEANOMAT Cleaner CL-C 3

Trützschler mixing systems offer individual solutions for every spinning mill and every task in the area of single component staple fiber mixing.

- Improved economic efficiency due to direct coupling of cleaner and mixer
- Tailor-made mixer sizes for every application
- Maximum homogeneity due to controlled, reproducible mixing
- Uniform product appearance by optimising the mixture

Two powerful trunk mixers ensure maximum homogeneity:

- Ideal for compact installations: Integrated Mixer MX-I (direct coupling of mixer with a cleaner or opener)
- Ideal for feeding two parallel cleaners: Universal Mixer MX-U (material is sucked off by downstream machine)

Depending on requirement, six or ten trunks are sequentially filled from the top and simultaneously emptied at the bottom. This principle guarantees maximum homogeneity of the mix. In case of highest requirements on blending, two mixers are set up in series (tandem mixing).

MX-I: The ideal cleaner feeding unit

In the Integrated Mixer MX-I, the material passes through the directly attached fan into the mixing chamber from above. Low-maintenance rotating flaps forward the material – starting at the last trunk – in sequence to the individual trunks in several stages. In the lower section of the trunks the material is passed to the mixing conveyor belt via delivery rolls and large dimensioned opening rolls.

At the end of the conveyor belt, material from all the trunks lies in layers in a sandwich format, which ensures ideal feeding of the CLEANOMAT Cleaner.

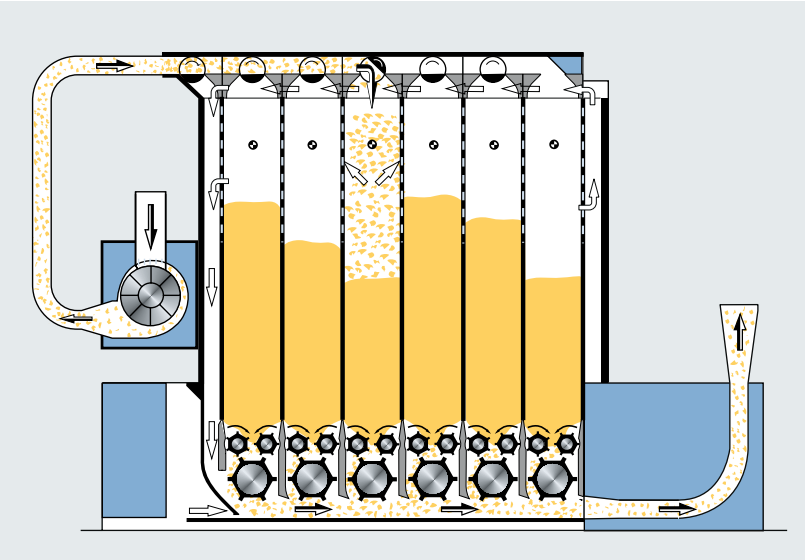
The Integrated Mixer MX-I can be equipped with 6 or 10 trunks. The smaller variant is sufficient for up to 600 kg/h, otherwise the larger design should be used.

MX-U: Flexible integration in every system

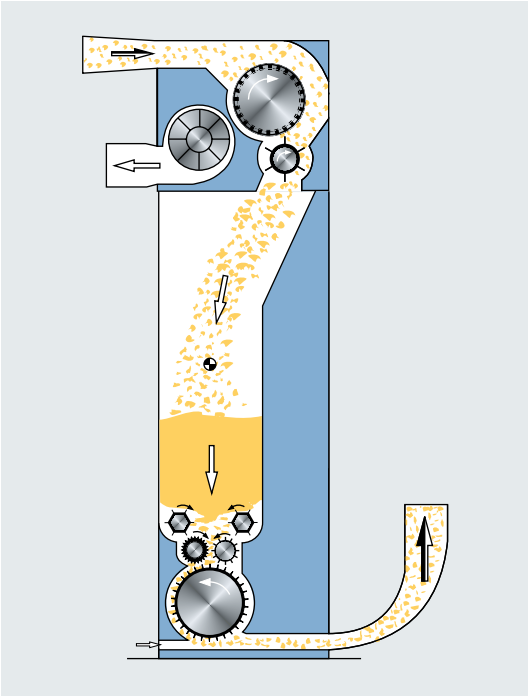
When using the Universal Mixer MX-U (6 or 10 trunks), the tufts also reach the mixer via a fan. The difference to Mixer MX-I lies in the direct suction of the mixing duct under the opening rolls. The Universal Mixer MX-U works with a closed air circulation: The injected transport air is simultaneously used for conveying the tufts to the downstream machine.

FD-S: Small dosing opener for great uniformity

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



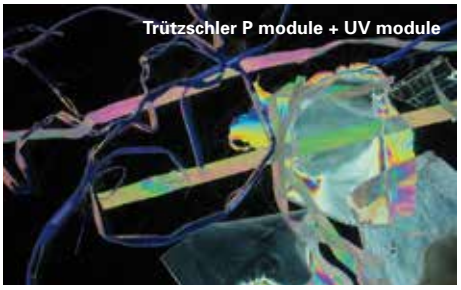
The Universal Mixer MX-U is ideal for feeding two parallel installations.

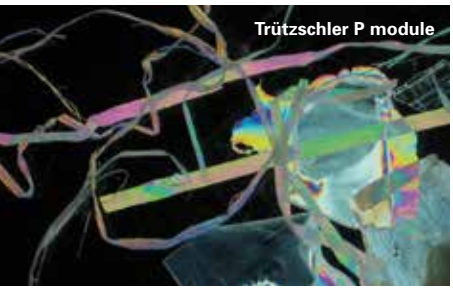


The Stock Trunk FD-S buffers small material amounts and releases them in doses.

The Integrated Mixer MX-I 10 is directly coupled to a CLEANOMAT Cleaner CL-C 3

Reliable separation of white and transparent foreign parts and fibers





Each of the four pictures shows the same foreign parts. By using different sensors and lighting systems, the different parts are detected.

In addition to natural contamination, white and transparent particles (e.g. PP or PE foil) often cause quality problems in the blow room. The further foreign parts get into the production chain, the greater the damage to value creation. Foreign parts and foreign fibers must be divided into two completely different groups: One group consists of parts that differ significantly from cotton by colour, contrast and structure and that are reliably detected by special Trützschler cameras. The other group is made up of bright and transparent foreign parts that hardly differ in colour from cotton and therefore are invisible to conventional separators (e.g. polypropylene (PP) or PE foils). Not so the Trützschler foreign part separators of the SECUROPROP series. To achieve maximum efficiency, up to five special modules can be combined and integrated:

- Colour module
- P module
- UV module
- Dust removal module
- CONTIFEED module with opener roll

The special cameras developed and produced by us for the detection of coloured, light, semi-transparent and transparent materials.

Detection principles

The modular design is based on three Trützschler modules that are integrated in different machines individually or in combination.

1. Colour module

Thanks to very high-resolution 3-CCD cameras, the colour module can also detect white, nontransparent PP parts. The high resolution of the camera also ensures the safe detection of yarn-type and ribbon-type foreign parts.

2. P module

The Trützschler P module reliably detects transparent and semi-transparent parts due to its patented method with polarised transmitted light. This makes sense when packing residues from PP fabric are contained in the cotton.

3. UV module

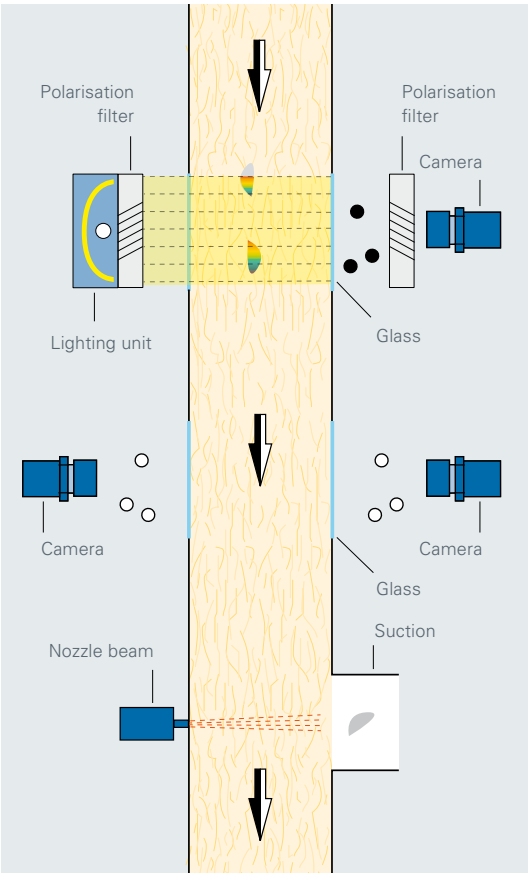
The Trützschler UV module complements the other two systems in case of contamination with fluorescent parts from bleached cotton threads, PP or PES in the cotton.

The separator series SECUROPROP

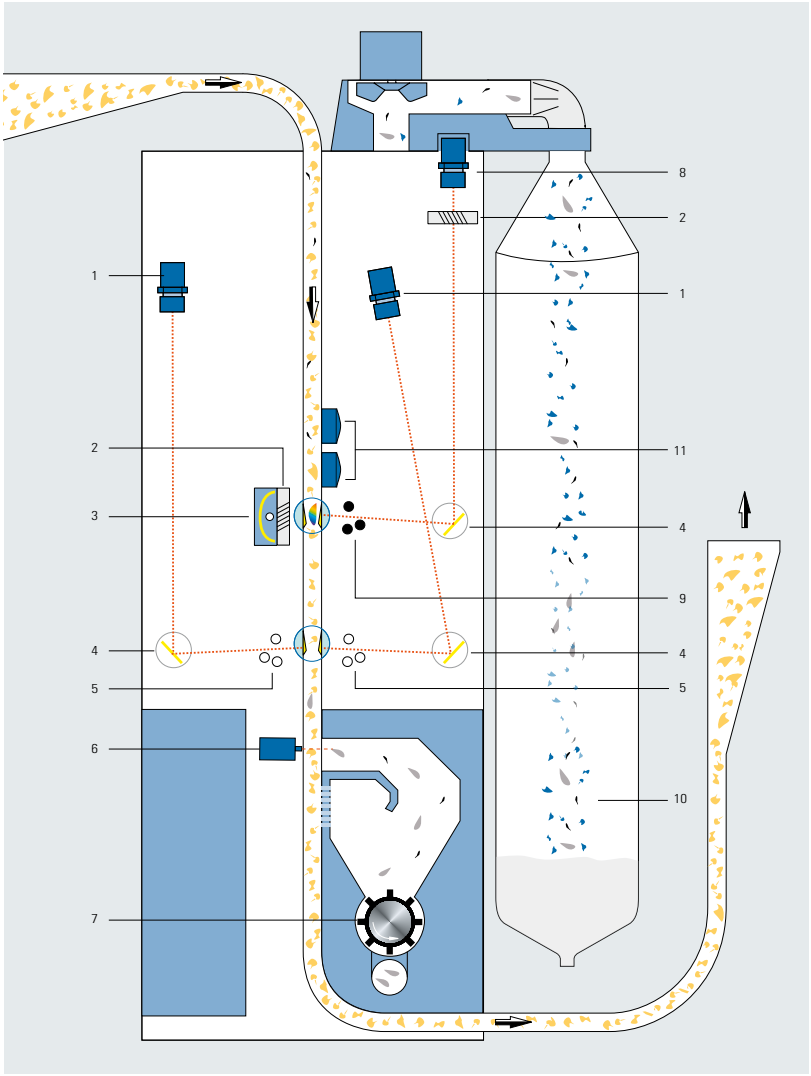
The patented process of the SECUROPROP Separators uses the physical properties of plastics which make them appear coloured in polarised light. Within a field of polarised light and UV light, one or two special cameras located in a rectangular fiber channel scan the tufts that fly past. The cameras detect the distorted colours or contrasts generated by the polarisation in light polypropylene and transparent or semi-transparent PE foils. For reliable detection, colour effects of just a few pixels are sufficient.

Selection of optimal configuration

An optimal cleaning line is more than just stringing together individual units. It is based on an overall concept that requires intelligent integration of the foreign part separation.



Principle of PP detection and separation



Foreign Part Separator SECUROPROP SP-FPU

1 Cameras for the colour module
2 Polarisation filter for the P module
3 Lighting unit
4 Deflection mirror
5 Lighting units
6 Nozzle beam
7 Bucket wheel lock for extraction of foreign parts
8 Camera for the P module and the UV module
9 Lighting unit for the UV module
10 Large-volume collection bag for foreign parts
11 Speed sensors

Efficient separation

Sensors measure the speed of the foreign parts. Thus, the 64 blow points distributed over the working width require only extremely short activation. This reduces fiber loss and compressed air consumption.

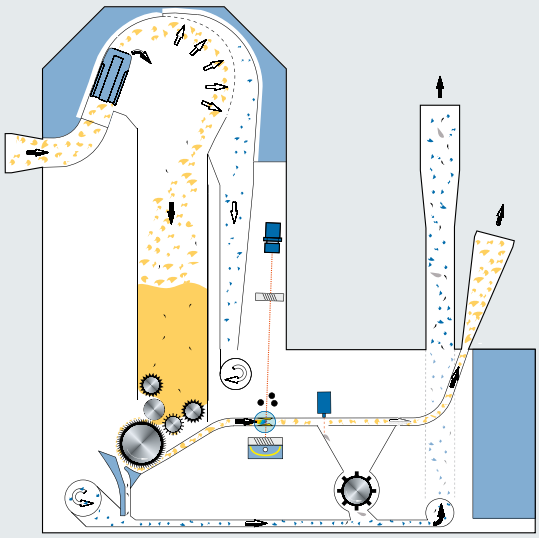
Easy retrofitting

The patented SECUROPROP has a modular structure. This makes it also suitable for retrofitting cleaning lines from Trützschler and other manufacturers. Thus, the quality advantages for production can also be utilised in older installations.

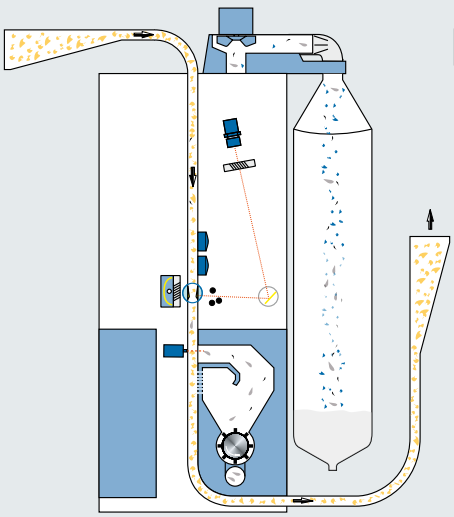
The newly developed nozzle beam with up to 64 x 3 individually controllable blow points.

Foreign Part Separator SECUROPROP SP-FPO
The SECUROPROP fights PP contamination in an optimal manner. The integrated high performance dust removal makes this solution the first choice in rotor spinning mills. The combination of 3-CCD colour cameras and coordinated light colour allows the detection of transparent and semi-transparent PP parts as well as fluorescent parts.

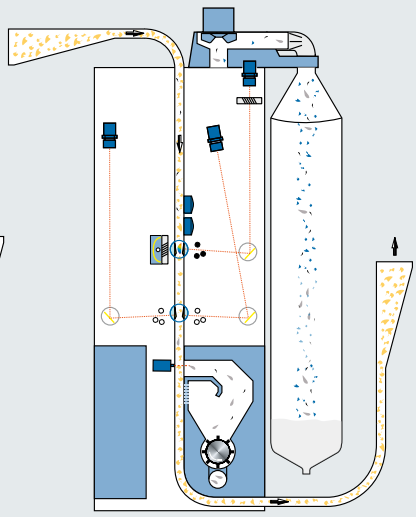
Foreign Part Separator SECUROPROP SP-PU
The Trützschler SP-PU is a universal system with PP module and UV module. This machine, for instance, can usefully complement existing separators with pure colour detection.



SECUROPROP SP-FPO
Colour/P module with 3-CCD cameras
UV module
Dust removal module
CONTIFEED module with opener roll



SECUROPROP SP-PU
(for retrofitting)
P module with 3-CCD camera
UV module



SECUROPROP SP-FPU
Colour module with 3-CCD camera
P module with 3-CCD camera
UV module

Foreign Part Separator SP-FPU

The Trützschler SP-FPU is a universally applicable system with colour module, UV module and P module. It presents the most economical complete solution for many installation configurations, particularly ring spinning.

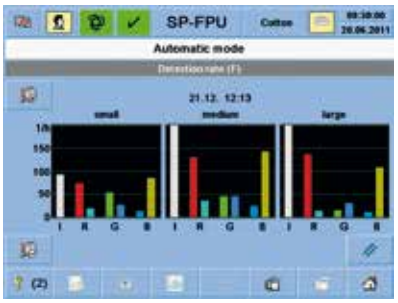
Simple use of optimisation potential

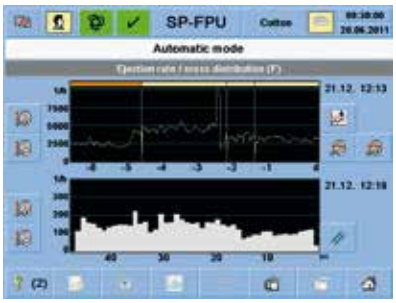
The objective of maximum foreign part separation at minimum fiber loss can only be achieved with individual machine optimisation. The control of the Trützschler foreign part separator offers maximum efficiency due to:

- Comprehensive functional analyses and status analysis
- Separation statistics
- Simple operation on familiar Trützschler touch screen
- Easy to understand screen masks for individual optimisation

The clearly arranged displays on the large colour monitor facilitates operation and maintenance.

This screen mask is used to activate the basic setting at the touch of a button. Customer-specific optimisation as to part size, contrast and colour are simple to perform.





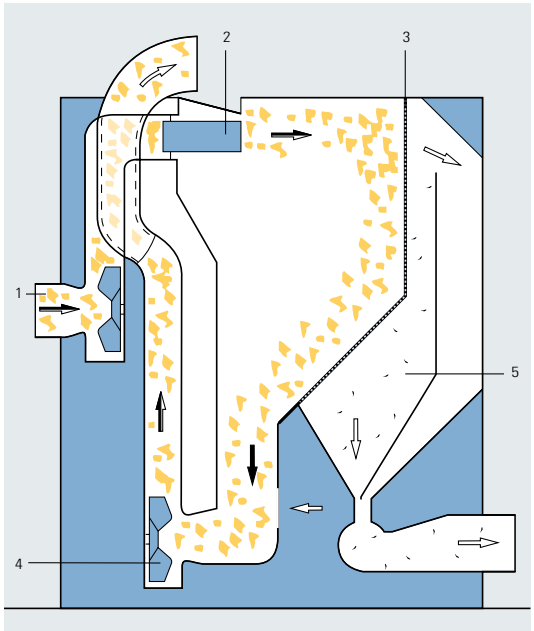
Coloured diagrams show statistics on separation function. Divisions according to size of parts, colour or distribution over machine width facilitate further optimisation.

Maximum dust removal for all production stages

If an integrated solution (e.g. 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 overall installation
- Clean ambient air

This is of particular advantage to downstream processing: Thoroughly dedusted slivers ensure optimised 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.

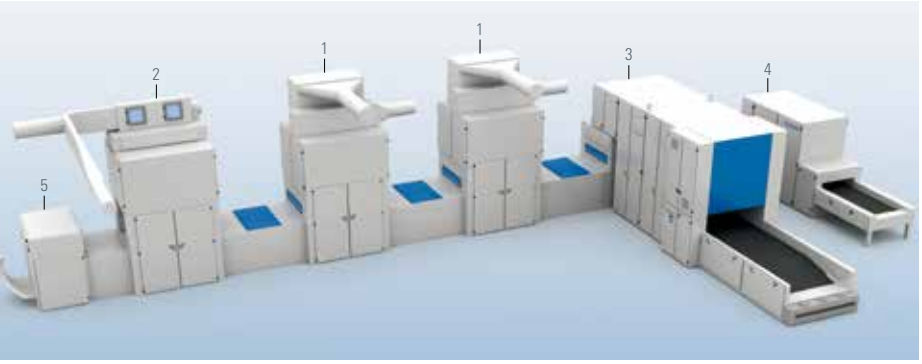


Dust Separator DUSTEX SP-DX

1 This fan sucks the material off the CLEANOMAT
2 The distribution flaps distribute the tufts over the working width of 1,600 mm
3 Major dedusting is effected 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

An optimal tuft blending installation produces reproducible, accurate fiber blends

Modern tuft blending installations hold a key position in the value chain, because blending faults often become obvious only after finishing. A loss of product at this advanced production stage makes all previous production expenses pointless and is thus a "full cost". That is why the Trützschler tuft blending concept relies on reproducible top blend quality. The self-monitoring system ensures the perfect speed when blending natural and synthetic fibers of different lengths, finenesses and colours.



Tuft blending installation for 4 components with waste feeding

1 The High Performance Weighing Feeders BL-HW are fed automatically
2 The Precision Weighing Feeder BL-EW is intended for an exact addition of tiny components
3 With the manually fed Weigh Pan Bale Opener BO-W it is possible to feed an additional component via a condenser
4 Sliver waste of already blended material is fed to the tuft blending conveyor belt by the Waste Opener BO-R
5 The Feed Conveyor BL-FC 5 is designed for up to six feeding positions

Mix six components in one process step and achieve optimal CV values

The decisive advantage of Trützschler tuft blending installations lies in their flexibility – 2 to 6 different fibers can be mixed together. 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). The resulting blend shows reproducible high-end quality: For example, when adding only 2 % acrylic fibers to 98 % cotton, the Trützschler system achieves a CV value of less than 1 % (measured over 40 weighings).

Only Trützschler can offer this:

- 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, simple calibration
- Recipe memory for quick lot changes
- Quality control by means of lot reports

Combining maximum blending quality with high production

Each Tuft Blender BO-W produces 400 kg/h and more. This high throughput is made possible due to the large weighing hopper and the short weighing cycles. A high degree of blending homogeneity is ensured by electronic precision scales that measure down to the exact gram.

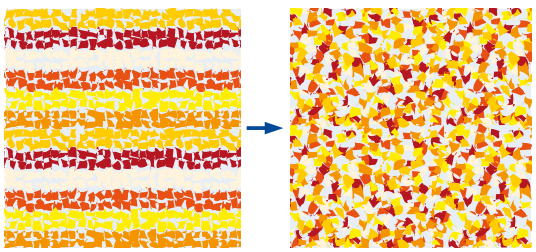
Perfect product appearance during blending

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:

- Items dyed tone in tone
- Items where only one blending component is dyed

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

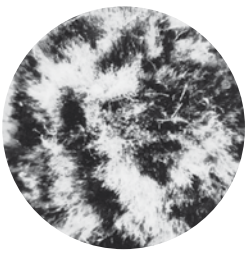
The principle of Trützschler tuft blending technology: Creation of precisely dosed layers of different raw materials and perfect blending of all these layers



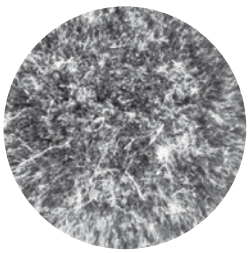
1. Dosing 2. Homogenisation

Comparison of draw frame blend and tuft blend

Cross sections of draw frame slivers (20x magnification) dark areas: Viscose 35%; light areas: cotton 65%



2. Draw frame passage draw frame blend



2. Draw frame passage tuft blend

The Trützschler tuft blending concept

Electrical weighing cells provide the installation control with the actual values for continuous comparison with the target values already during filling of the weigh pans. As soon as the target weight is reached, the closing flaps above the weighing container are shut and stop the filling process. Final weighing occurs only after the weighing containers have settled. The settings for the subsequent weighing cycles are based on the results of this final weighing. An optimisation program compensates any possible differences between target and actual weight during the course of the next weighing.

Discharge from a weighing container of the Weigh Pan Bale Opener BO-W

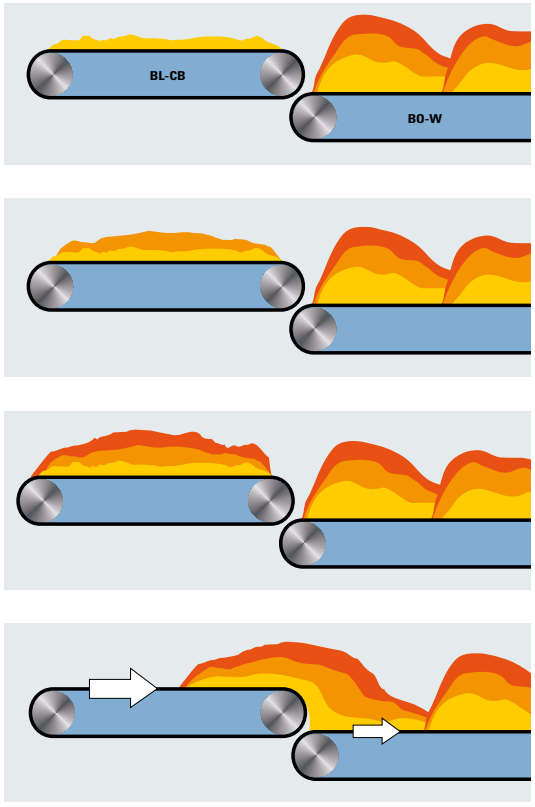
Automatic taring prevents weighing errors

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

A seamless system with individual combination options

Optimal preparation: Component Balance BL-CB

This belt weigher for manual pre-blending is used before feeding into a Universal Bale Opener BO-U or Weigh Pan Bale Opener BO-W. If more components are to be added to the pre-blended material of several Weigh Pan Bale Openers BO-W, an additional Component Balance BL-CB can be positioned upstream.
A pre-blend of several components is manually produced on this electronic belt weigher. The required weight of the individual components is shown on a digital display. This allows compliance with the blending ratio as well as storage and later retrieval from the recipe storage. The component balance delivers straight to the feed table of the weighing bale opener.



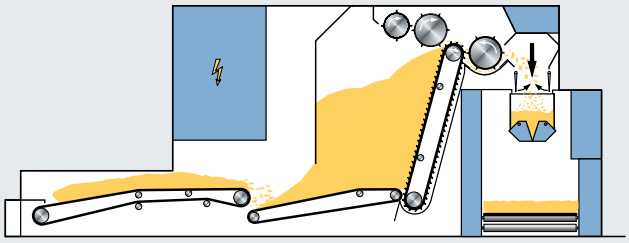
1. Feeding fiber type 1 onto the component balance
2. Feeding fiber type 2 onto the component balance
3. Feeding fiber type ....n onto component balance
4. Transfer of pre-blended components onto feed table of a weighing bale opener

Function cycle of the Component Balance BL-CB

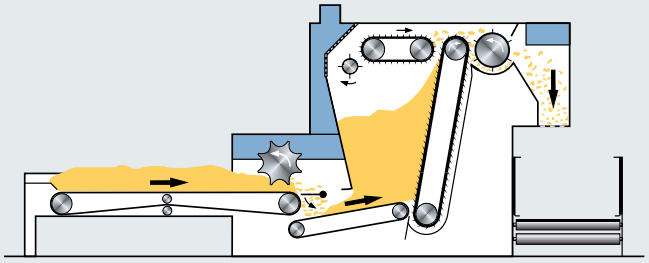
Customised tuft blending installations

Precise weighing:
Weigh Pan Bale Opener BO-W
The Weigh Pan Bale Opener BO-W is fed by hand via the feed apron. Optionally, additional feeding via a Condenser BR-COI is also possible.

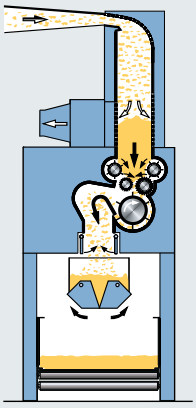
Specific waste feeding:
Waste Opener BO-R
The feeding unit for accurate addition of spinning waste, e.g. card or draw frame slivers, allows optimal raw material utilisation.



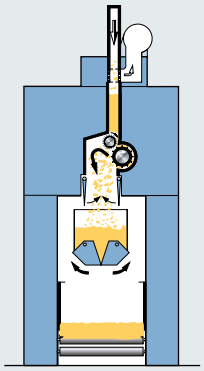
Weigh Pan Bale Opener BO-W



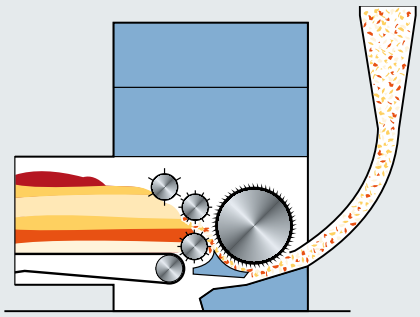
Waste Opener BO-R



High Performance Weighing Feeder BL-HW



Precision Weighing Feeder BL-EW



Tuft Blender BL-FC

High Performance Weighing Feeder BL-HW
Pneumatically fed automatic weighing feeder for high productions.

Precision Weighing Feeder BL-EW
Pneumatically fed weighing feeders for very high accuracy (CV <1 %) at small blending ratios and low production rates.

Homogenous blending:
Tuft Blender BL-FC
This tuft blender takes over the tufts from all weighing feeders and weighing bale openers and blends them. Material suction is performed by the downstream machine (e.g. by a mixer). The tuft blending conveyor belt can be designed in various lengths for 2 -6 feeds.

Tuft blending installations: consistent approach of quality and economic efficiency

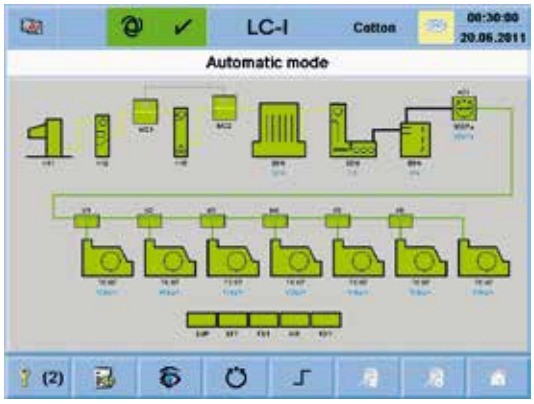
Precise calibration and fully automatic taring

Electronic scales can be calibrated quickly and precisely by inserting a standard weight. The electronics calibrate automatically; operator-based errors are almost completely excluded. During operation, taring takes place fully automatically at set intervals as required or after every weighing between the discharges.
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.

Quality control by means of lot reports

Quality evidence is more important than ever today. With the lot report generated by the WEIGHTCOMMANDER, it can be proven to the customer at any time that the blending ratio meets his requirements.

LINECOMMANDER and WEIGHTCOMMANDER simplify operation by means of a formula-library or – as can be seen on the picture – by shift assignment of data.



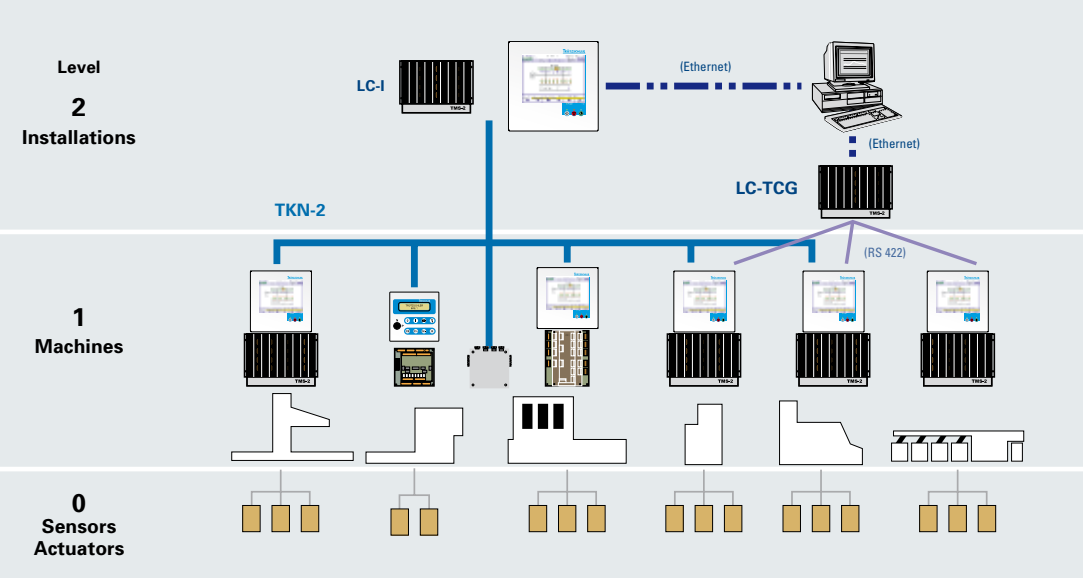
The visualisation of the installation shows the current operating condition of all machines at a glance.

More flexibility, speed and clarity: WEIGHTCOMMANDER LC-W

The computer control system of the tuft blending installation WEIGHTCOMMANDER LC-W is integrated into the installation control. The new blending combinations, as well as the required settings (e.g. production rate) can easily be selected on the screen. As it is possible to store the lot data, a particular quality can always be reproduced at minimum operating errors. Thus, lot changes can be performed in a very short time.
In addition, the WEIGHTCOMMANDER improves accuracy: Slight upward or downward deviations

Simple operation and optimal data flow

Trützschler control hierarchy and communication



Detail view of machine

Trützschler sets four clear requirements for the quality and functionality of installation and machine controls:

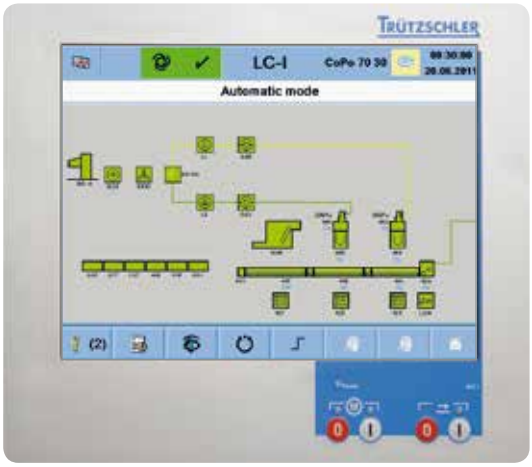
- Flexible adjustment to individual customer requirements
- Network capability
- Reliability even under extreme conditions
- User friendliness

To comply with all criteria, Trützschler develops and produces its own installation and control technology since many years.

Installation Control LC-I – a concept for the future

The Electronic Installation Control LC-I has been specially developed by Trützschler for use in spinning mills. Its electronics is insensible to dusty air, humidity and high temperatures. The LC-I coordinates the functions of the individual machines and controls the material transport of the entire installation fully automatically. 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; this ensures 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
- Simple operation with colour touch screen
- High amount of information in the displays
- Use of international standards
- Open system
- Telediagnosis via telecommunication
- Minimum cabling
- Same spare parts as for machine controls



Installation Control LC-I – operating unit with colour screen

Support via telecommunication

Installation Control LC-I can be equipped with a modem; this allows our specialists to also provide immediate support via telediagnosis. This reduces commissioning time and ensures competent analysis and a quick remedy for any future malfunction.

Monitoring and displaying 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.
Each machine is usually also equipped with an individual control, which offers many advantages:

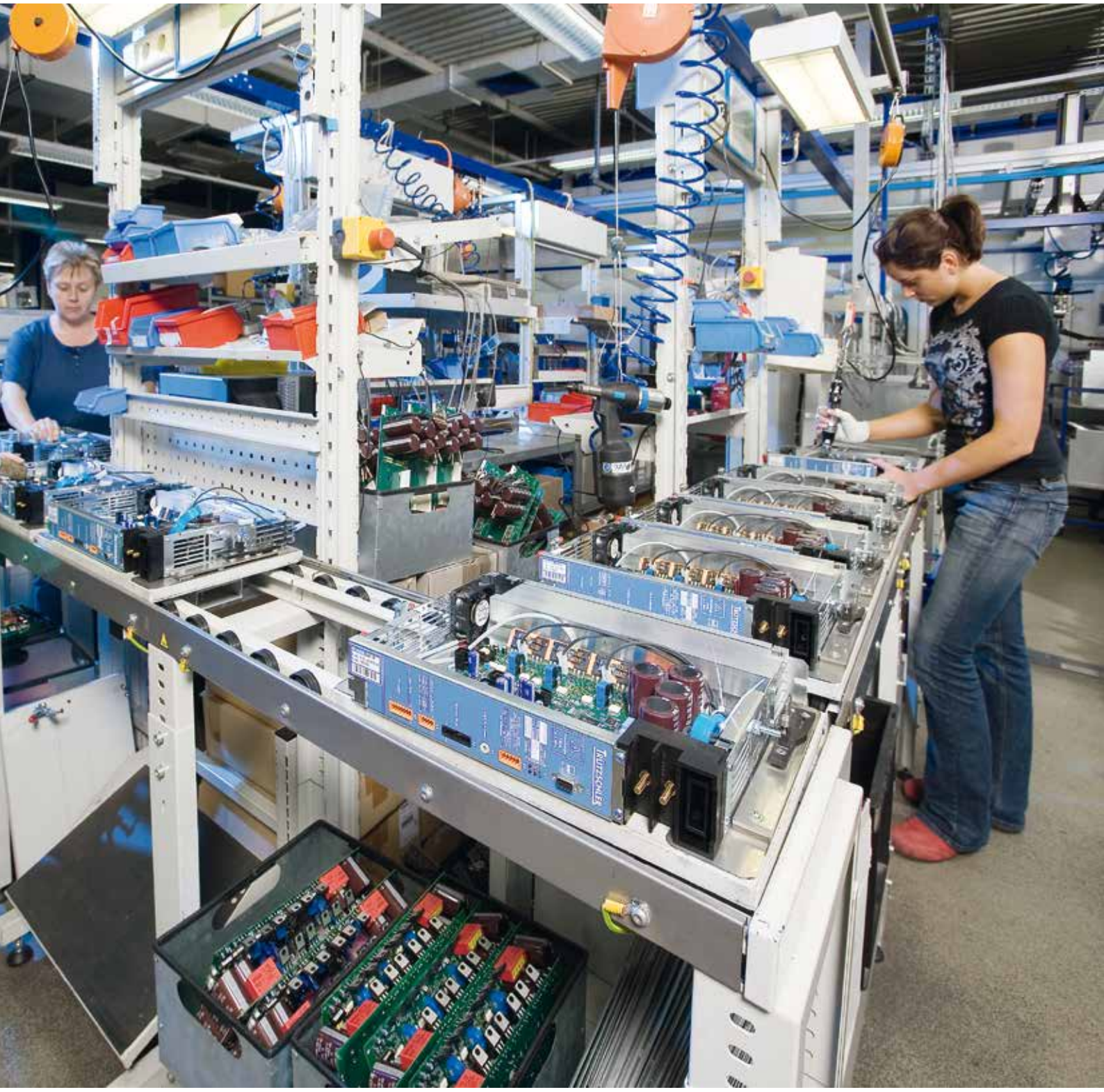
- Operation directly at the machine
- Significantly reduced cabling
- Simple planning
- Self-contained and completely tested functional units

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.

Convenient operation of all blow room machines

All machines in the cleaner and opener lines are equipped with independent machine controls. A network connects them to the central installation control. The machine controls consist of the same modules as those used for the cards and draw frames. This saves spare parts costs.
A special software automatically localises possible errors and shows them on the display. All production processes as well as possible malfunctions can be viewed and displayed on the screen in numerous languages. Simple symbols and functional keys facilitate operation, e.g. when quick adjustment of deflector blades is required for optimisation of cleaning efficiency.



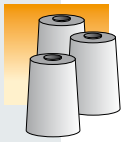
Assembly of digital controls at Trützschler headquarters in Mönchengladbach, Germany

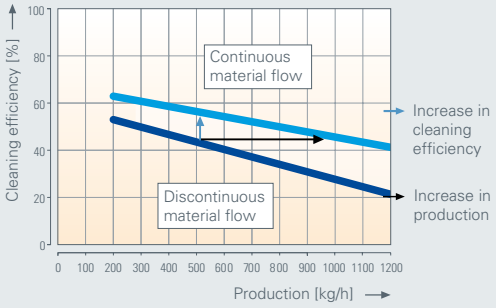
Continuous material flow means optimum cleaning performance

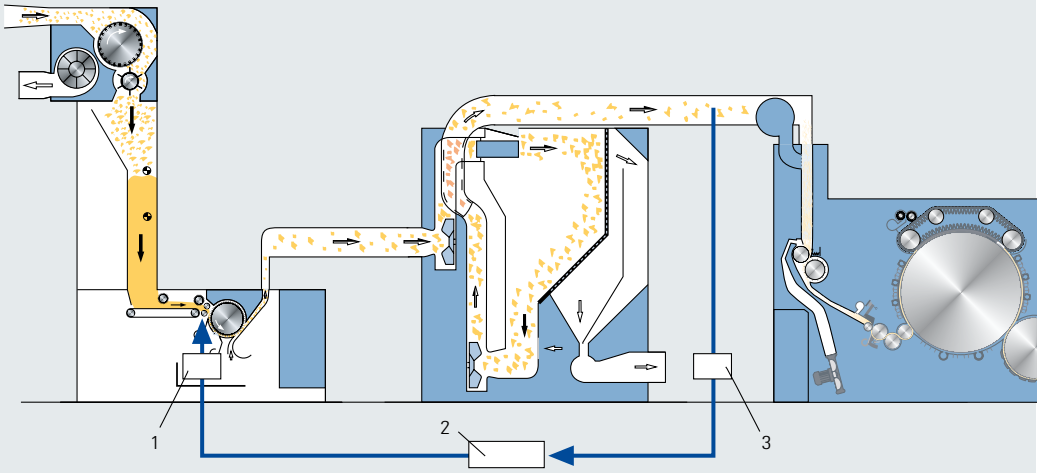
Conventional installations operate on a stop-and-go basis: the material transport is frequently switched on and off due to production fluctuations. Result: uneconomical production and increased quality risks.
To ensure continuous operation from the cleaners to the cards, Trützschler has developed the Universal Modular Control System CONTIFEED. 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 for the 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 LC-CF

The potential of a cleaner or opener line is boosted by CONTIFEED.
For instance, greater cleaning efficiency can be achieved in CLEANOMAT cleaners, even at higher productions.







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

1 Maintenance-free infinitely variable motor
2 Controller including adjustment for basic rotational speed and target value
3 Pressure transducer

Uniform feeding for uniform sliver

A typical CONTIFEED 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 feed pipelines 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 before the cards. Thus, the evenness of the card slivers is higher than with stop-and-go operation.

Special controls for many applications

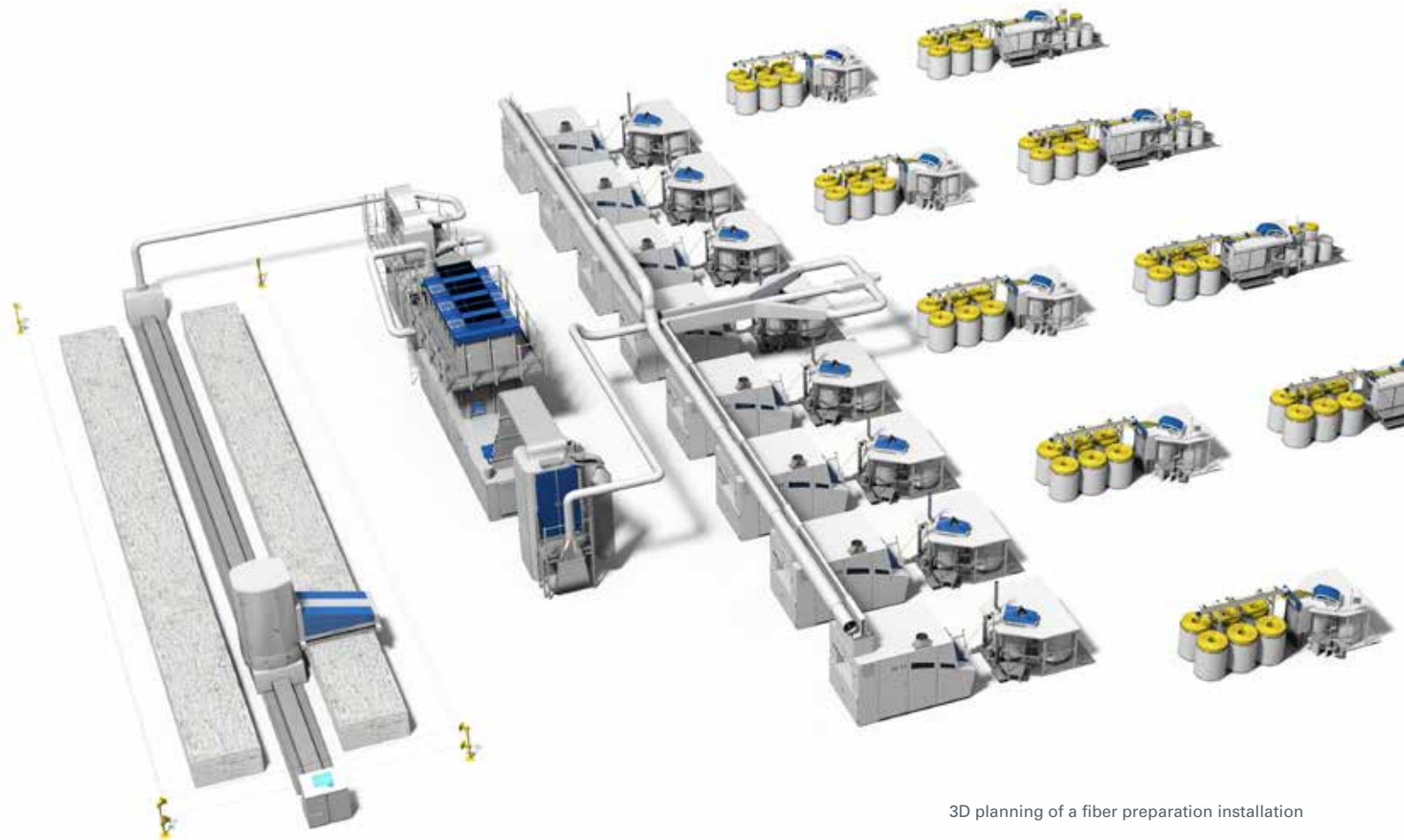
Trützschler offers a series of controls and special components in the control field for planning installations tailored to the requirements in this field.

Technical data

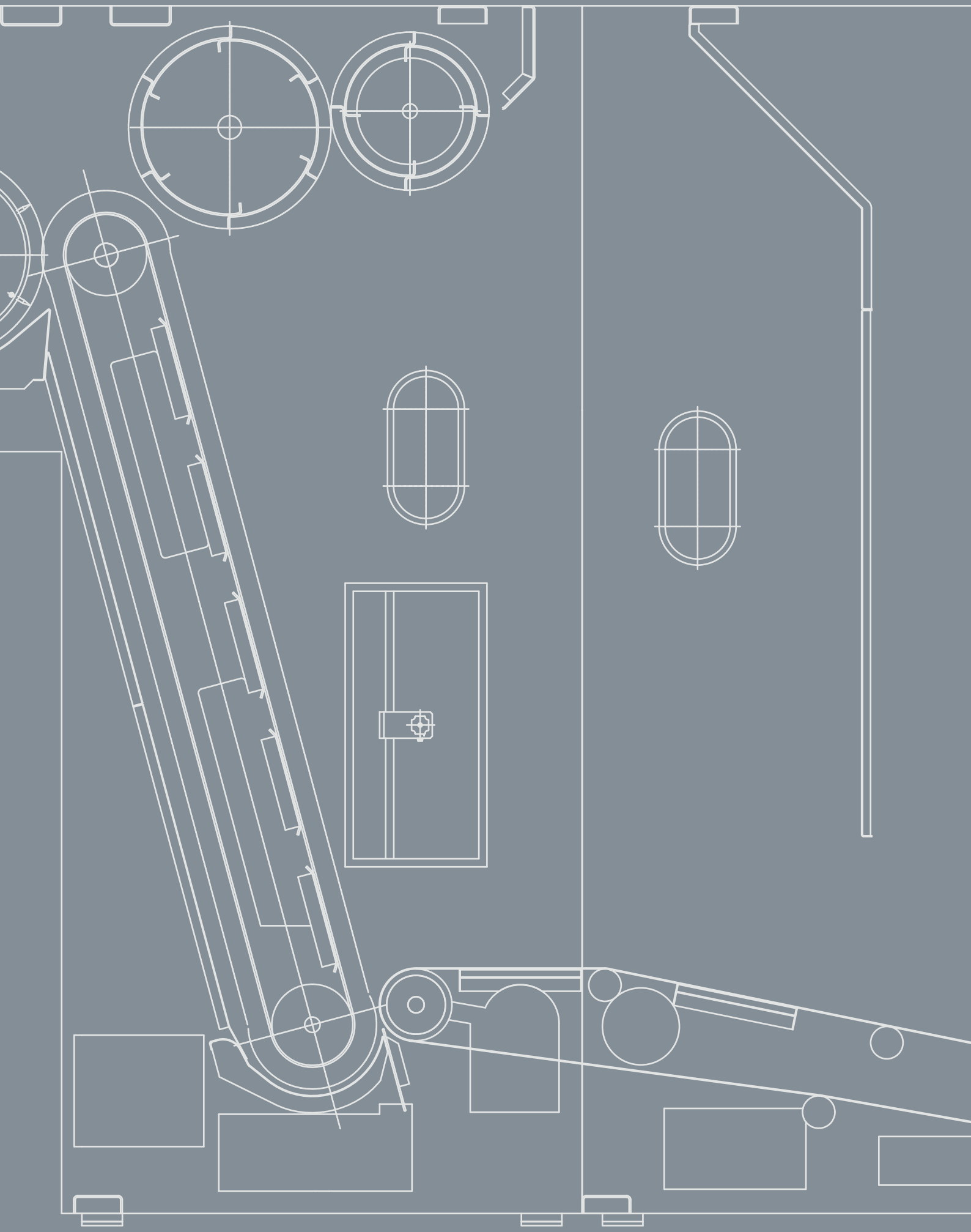
On the following pages we provide you with the most important technical data of Trützschler blow room machines. These tables will definitely be useful when planning a new installation.

Customised planning

This information is not intended to replace customised planning. Our specialists will be happy to implement your requirements for a new installation in a professional planning. Contact us.



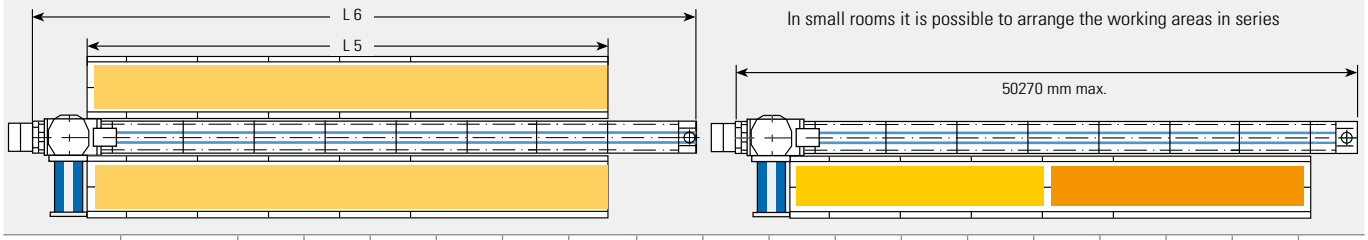
3D planning of a fiber preparation installation



Automatic Bale Opener

Automatic Bale Opener	Frame width	Height	Max. bale height	Machine length min.	Machine length max.	Installed power	Continuous power consumption at max. production	Max. continuous production	Sound pressure level
	mm	mm	mm	mm	mm	kW	kW	kg/h	db (A)
BLENDOMAT BO-A	1720/2300	2900	1700	10670	50270	11.2/18.2	7.8/12.7	1200/2000	< 70

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



BO-A 1720	max. no. of bales **	18	26	36	44	52	60	68	76	84	92	100	110	118	126	134	142	150
L 5		5810	8285	10760	13235	15710	18185*	20660	23135	25610	28085	30560	33035	35510	37985	40460	42935	45410
L 6		10670	13145	15620	18095	20570	23045*	25520	27995	30470	32945	35420	37895	40370	42845	45320	47795	50270
BO-A 2300	max. terminals bales **	26	36	50	62	74	84	96	108	120	132	142	156	168	180	190	202	214

* = Standard ** = Bale dimensions: L 1400 mm × B 600 mm

Bale Opener

Bale Opener		Frame width	Total width	Total length	Total height	Installed power	Power consumption	Max. cont. production[3]	Storage capacity	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	m³	db (A)
	BO-C	1000	1464	5265[1]	2250	2.9	2.0	300	1.5	71
	BO-R	1000	1464	5265[1]	2250	2.9	2.0	100	1.0	72
	BO-U	1600	2464	7010[1]	3000-4000[2]	6.7	4.7	1700	2 - 6	74

1) with one Feeding Unit BR-FU – with second Feeding Unit BR-FU 660 mm longer
2) without Condenser BR-COI
3) depending on material characteristics

Series/Optional	Automatic Bale Opener BLENDOMAT BO-A
•	The standard version of the BLENDOMAT BO-A (2300) has a length (L 6) of 23045 mm.
○	It can be extended up to 50270 mm with up to 11 Extension Units BR-EU of 2475 mm each.
	Universal Bale Opener BO-U
•	Feed table supply
○	One or two Feeding Units BR-FU enable automatic material supply.
○	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 directly fed, then the possibility exists to install a Reversing Flap BR-RF for temporary bypass of the opener.
○	Maintenance scaffold
	Compact Bale Opener BO-C / Waste Opener BO-R:
•	Feed table supply
○	The feed table can be extended with one to three Feed Table Extensions BR-TE by 2.5 m, 5 m oder 7.5 m

• = Series ○ = Optional

Cleaners

CLEANOMAT Cleaner		Frame width	Total width	Total length	Total height	Installed power	Power consumption	Max. continuous production	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	CL-P *	1300	1964	1485	3250	8/11.4	5.5/8.0	800/1000	< 70
	CL-C 1	1600	2264	2165	1250	6.0	4.0	1000	< 70
	CL-C 3	1600	2264	2455	1250	12.4	9.0	1000	< 70
	BR-COI/ FD-R/* CL-R	1600	2264	3265	4230	14.5	10.1	1000	72
	CL-U	1600	2264	1512	3900	6.0	4.0	1200	< 70

Opener

TUFTOMAT Opener		Frame width	Total width	Total length	Total height	Installed power	Power consumption	Max. continuous production	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	TO-T 1	1600	2264	2165	1250	6.0	4.0	1000	< 70
	TO-U	1600	2064	1100	1250	5.9	4.1	1800	< 70
	TO-C	1000	1464	860	1250	2.4	1.7	250	< 70

Machine combinations

Machine combinations		CL-C 1	CL-C 3	TO-T 1
		Total length mm		
	with FD-O *	4030	4320	4030
	with FD-T *	2825	3115	2825

* Optional maintenance platforms are available for the Cleaner CL-P and the Feed Devices FD-R, FD-O and FD-T

Feeders

Feeders		Installed power	Power consumption	Sound pressure level
		kW	kW	db (A)
	FD-R	1.3	0.9	72
	FD-O	2.4	1.7	73
	BR-COI	6.6 – 8.6	4.6 – 5.8	77

Mixer *

Mixer		Number of trunks	Trunk width	Trunk depth	Width [1]	Length [1]	Machine height	Installed power	Power consumption	Max. cont. production	Max. filling weight [2]	Sound pressure level
			mm	mm	mm	mm	mm	kW	kW	kg/h	kg	db (A)
	MX-U 6	6	1600	500	2264	5500	4040	4.1	3.0	depends on the following machines	500	< 70
	MX-U 10	10	1600	500	2264	7500	4040	5.6	4.0		875	< 70
	MX-I 6	6	1600	500	2264	6000	4160	4.5	3.2		400	< 70
	MX-I 10	10	1600	500	2264	8000	4160	6.6	4.6		700	< 70

1) without working platform. without fan
2) depends on opening degree and material type

Dosage opener *

Dosage Opener		Working width	Width	Length	Height [1]	Installed power	Power consumption	Max. cont. production	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	FD-S	1200	1664	1100	2980 – 3980	5.8	3.2	1300	< 70
		1600	2064	1100	2980 – 3980	5.8	3.8	1800	< 70

1) With condenser BR-COI 1000 mm higher

* Maintenance platforms are available as options for the MX-U and MX-I mixers and for the Stock Trunk FD-S

Separators

Separators		Frame width	Total width	Total length	Total height	Installed power	Continuous power consumption	Max. continuous production	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	SP-MF	1000	1664	4485	4140	9.0	6.3	2000	76
	SP-H	600	635	1750	3250	–	–	600	< 70
	SP-EM	1000	1664	2460	3390	0.8	0.7	2000	< 70
	SP-FPO	1600	2264	3930	4280	6.3	4.4	1000	< 70
	SP-PU	1200	1864	2800	4130	1.6	1.1	1000	79
	SP-FPU	1200	1864	2800	4530	1.6	1.1	1000	79
	SP-DX	1600	1864	2150	3110	0.5 [1]	0.4 [1]	1000	< 70

1) without fans

Weighing feeder/Component balance

Weighing feeder/ Component balance		Frame width	Total width	Total length	Total height	Installed power	Power consumption	Production up to approx..	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	BO-W	1600	2464	7010 [1]	3000 [2]	6.5	4.6	400	74
	BL-HW	1600	2064	1735	4500	3.2	2.2	400	< 70
	BL-EW	1600	2064	1735	4040	3.4	2.5	200	< 70
	BL-CB	1600	1820	2230	1400	1.3	0.75	300	< 70

1) with trunk feeder
2) without condenser

Data for power calculation

Material	Level of opening	Frame width	Weigh pan volume	Weigh pan weight
Cotton	pre-opened	1600 mm	0.56 m^3	3.1 kg
	fine-opened	1600 mm	0.56 m^3	1.8 kg
Polyester	pre-opened	1600 mm	0.56 m^3	2.2 kg
	fine-opened	1600 mm	0.56 m^3	1.4 kg

Pre-opened means cotton after a pre-cleaner and polyester after the bale opener.
Fine-opened material is supplied by a multi-roll cleaner (cotton) or a fine opener (polyester).

Feed Conveyor

Feed Conveyor		Frame width	Total width	Total length[1)]	Total height	Installed power	Power consumption	Production up to approx.	Sound pressure level
		mm	mm	mm	mm	kW	kW	kg/h	db (A)
	BL-FC 2	1200	1464	8250	1750	6.7	4.7	800	< 70
	BL-FC 3	1200	1464	11750	1750	6.7	4.7	1200	< 70
	BL-FC 4	1200	1464	15250	1750	6.7	4.7	1600	< 70
	BL-FC 5	1200	1464	18750	1750	6.7	4.7	2000	< 70
	BL-FC 6	1200	1464	22250	1750	6.7	4.7	2000	< 70

1) at 3500 mm centre distance

Series/Optional	Weighing Bale Opener BO-W
○	One or two Feeding Units BR-FU allow automatic material supply.
○	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 ○ = Optional

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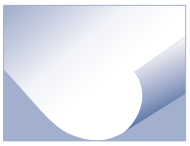

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- Cards/Crosslapping
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- Finishing
- Drying
- Heatsetting
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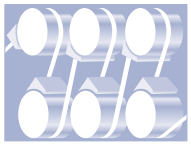

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