

DRAW FRAMES

GETTING FIBERS INTO SHAPE



TRÜTZSCHLER
S P I N N I N G





DRAW FRAMES

| | | |
|----|---|----|
| 4 | it's true | |
| 6 | Technology | |
| 10 | Drafting system | |
| 12 | Breaker draw frames | |
| | TWIN DRAW FRAME TD 9T | 12 |
| | BREAKER DRAW FRAME TD 9 | 15 |
| | BREAKER DRAW FRAME TD 7 | 16 |
| 18 | Autoleveller draw frames | |
| | AUTOLEVELLER DRAW FRAME TD 10 | 18 |
| | AUTOLEVELLER DRAW FRAME TD 10C | 26 |
| 28 | Integrated Draw Frame IDF 2 | |
| 36 | JUMBO CANS 1,200 mm | |
| 40 | Can changer | |
| 42 | SMART CREEL | |
| 44 | Operation | |
| 46 | T-DATA – My Production | |
| 48 | Technical data | |

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 emphasis on partner

Those who choose Truetzschler 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 Truetzschler in this quality.

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

SIBLE ACTION



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.

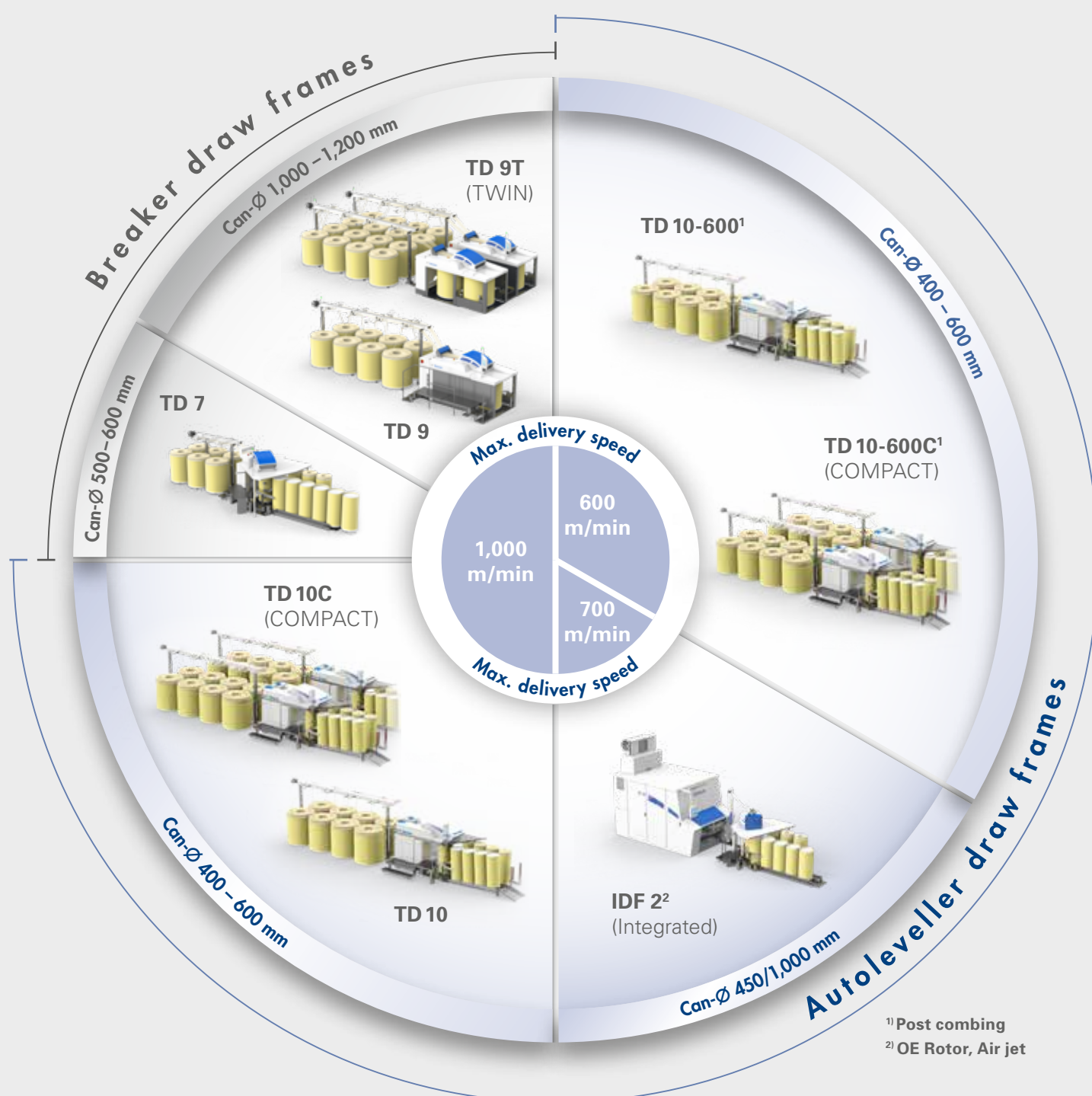
Long-term efficiency

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 Truetzschler customer.

THE RIGHT DRAW FRAME F

The Truetzschler draw frame types are as diverse as their applications. The one thing all Truetzschler draw frames have in common is a drafting system concept with optimized



OR EVERY APPLICATION

drives and pneumatically loaded top rolls, which are of great technological importance. Colour touch screens allow for simple and secure operation and maintenance by the user.

The new breaker Draw Frame TD 9T

The Truetzschler Draw Frame TD 9T is a twin draw frame with focus on reduced space requirement and efficient production. If required, it is also available as single TD 9 version. Thus, each even and uneven number of drafting heads is implemented.

The Truetzschler breaker Draw Frame TD 9T stands for efficiency and reliability. For the first time a new can format is introduced to short staple spinning. Cans with 1,200 mm diameter reduce the number of can transports and significantly improve the efficiency of the downstream machines. This holds true for the Superlap as well as the autoleveller draw frame.

The reliable breaker Draw Frame TD 7

If the operational organisation does not permit the use of large cans, the reliable Truetzschler breaker Draw Frame TD 7 is employed. Featuring a large can magazine, it is ideal for a space saving solution for cans with 500 or 600 mm diameter.

The successful autoleveller Draw Frame TD 10

The best autoleveller draw frame of all times convinces with consistently good sliver quality and excellent running behaviour. This draw frame is characterised by simple, intuitive operation and sophisticated optimization tools.

The special autoleveller Draw Frame TD 10-600 for combing

This version of the TD 10 was developed for use post combing. Optimization of the control algorithms to the typical application range of 450 – 550 m/min improves sliver quality. Selecting drives for a delivery speed of maximum 600 m/min reduces power consumption.

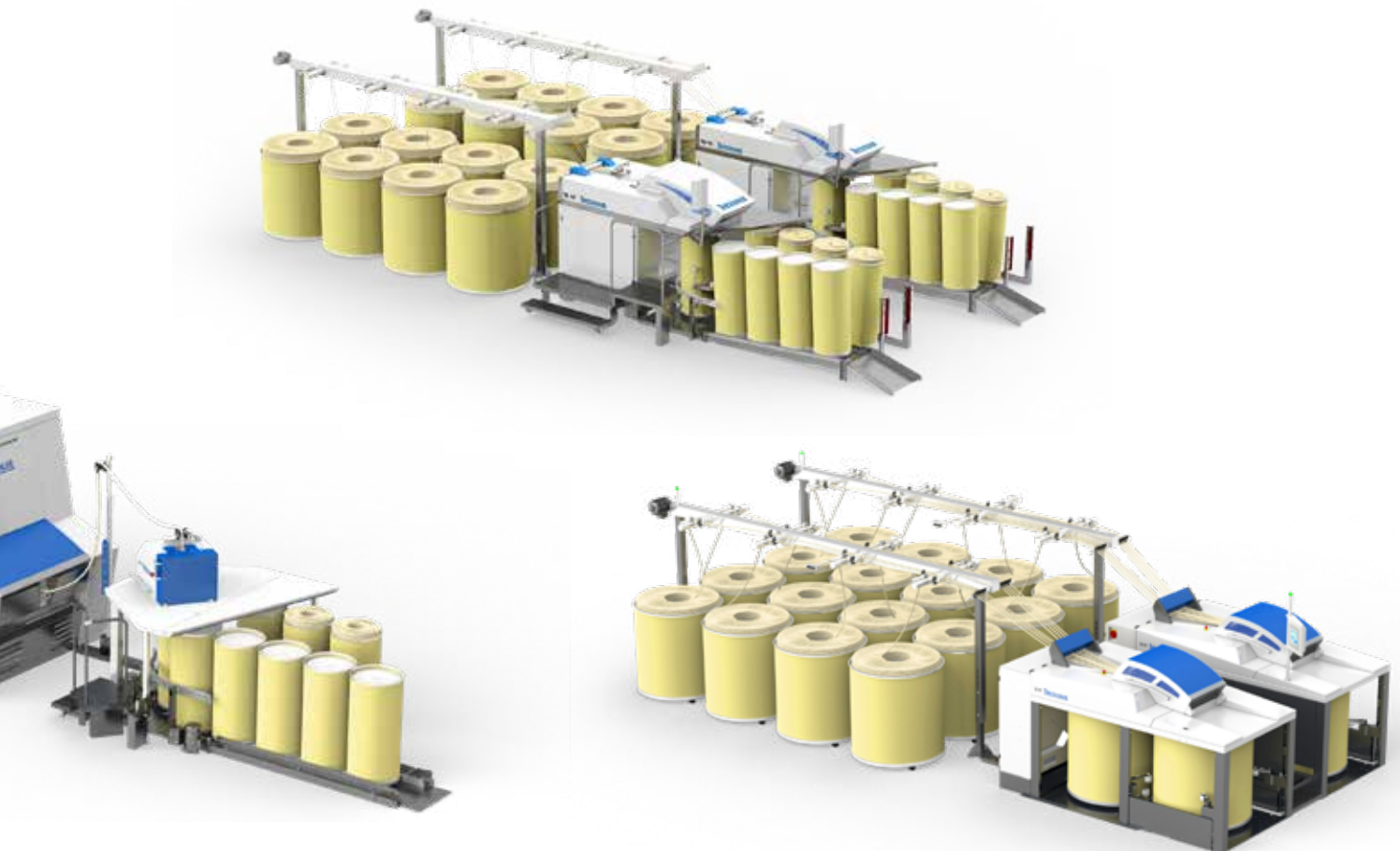
The Integrated Draw Frame IDF 2 for rotor spinning and Air jet

For rotor spinning, especially when processing cotton and any type of waste and secondary raw materials, there is no better solution than direct coupling of the Integrated Draw Frame IDF 2 with the card. Yarn quality and economic efficiency outperform any conventional process.

Viscose is the most widely used raw material in air-jet spinning. Traditionally, three draw frame passages are used here. When using the Integrated Draw Frame IDF 2 in connection with the TD 10, two draw frame passages can be eliminated. The savings in operating costs are substantial.

DISCOVERING TECHNOLOGY

It is the task of the Truetzschler draw frames to optimize the sliver after carding and before spinning. There is a matching machine type for every application: The autoleveller Draw Frame TD 10 is ideal for high productions up to 1,000 m/min. The TD 10-600 (600 m/min) was designed for combing mills. Due to their low energy consumption, breaker Draw Frame TD 7 without levelling and the newly developed TWIN Draw Frame TD 9T operate particularly economical. The advantages of the Integrated Draw Frame IDF 2 are low space requirement and a high level of efficiency.



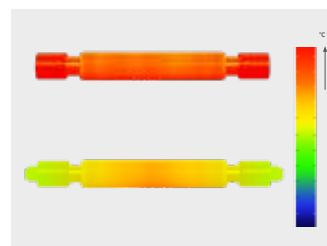
All draw frame models:



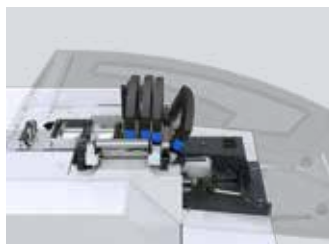
Online quality monitoring T-DATA:
Seeing great potential in small details
Page 46



SMART CREEL:
The SMART CREEL with intelligent single sliver detection
Page 42



Top roll bearings:
Lowest heat development, high process safety, minimal wear
Page 11



Drafting system technology:
Advancement of a proven technology
Page 10



Hydro-polished coiler tube:
For gentle sliver coiling
Page 41



Pneumatic top roll load:
Precise pressure settings via the display
Page 10

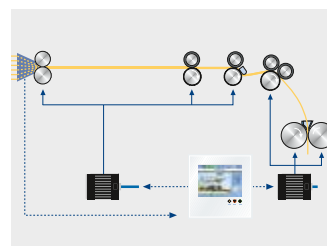
Autoleveller Draw Frame TD 10:



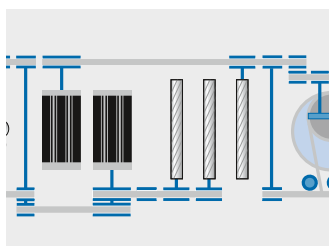
Filter:
6x larger filter area than competition sets a new standard
Page 24



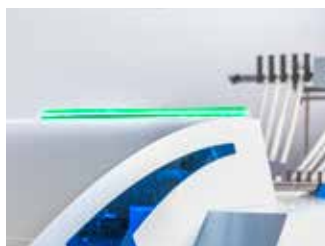
Space requirement:
20% less space requirement than competition
Page 25



SERVO DRAFT:
Increased levelling dynamics thanks to the latest digital levelling technology
Page 22



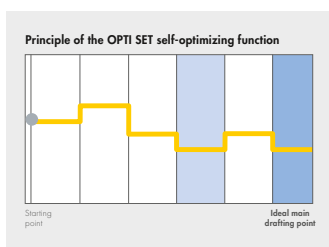
Latest drive technology:
The fewest drive belts
Page 23



T-LED:
Efficient machine operation via the Truetzschler remote display
Page 44



DISC LEVELLER:
The optimal levelling unit with perfect bearings - the heart of the autoleveller draw frame
Page 22



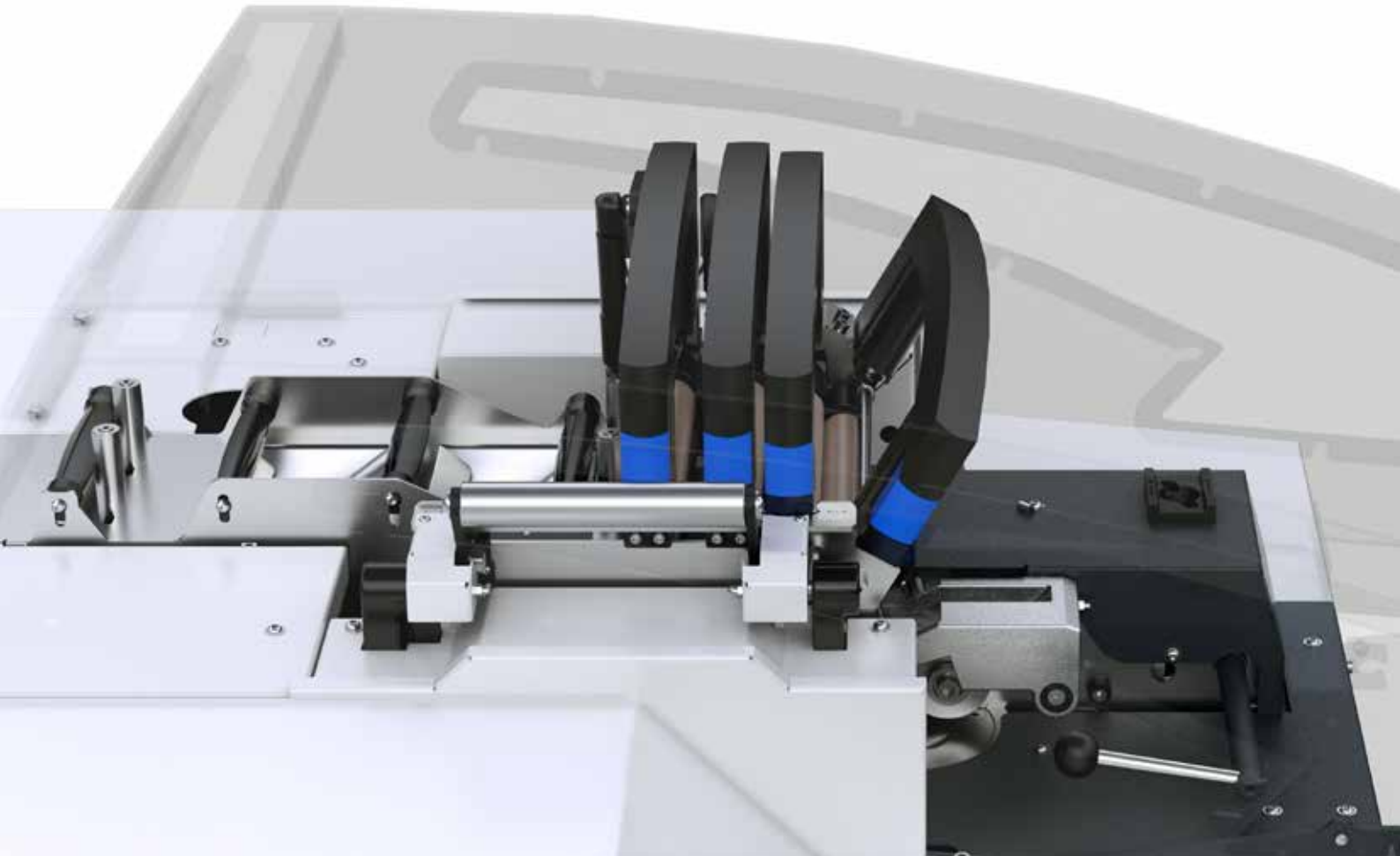
OPTI SET:
The standard self-optimizing function for best draw frame sliver quality
Page 21



AUTO DRAFT:
Automatic optimization of break draft and simple break draft setting
Page 20

Drafting system technology

Advancement of proven technology

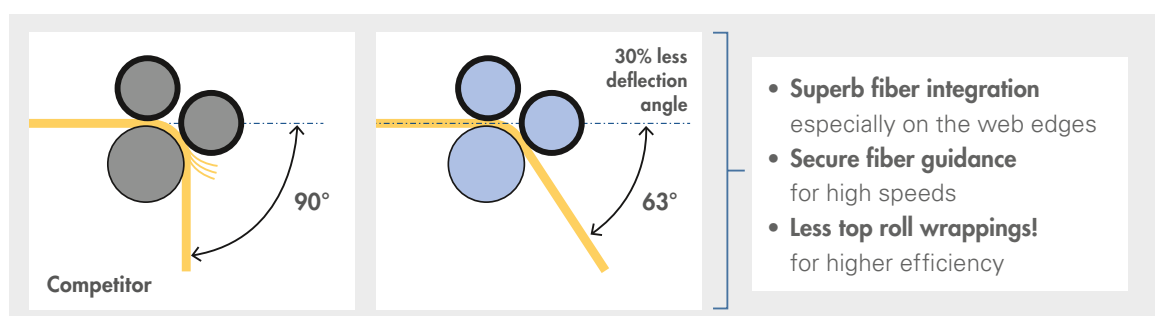


The drafting zone widths can be simply and quickly adjusted since top rolls, top roll supports and drafting cylinders form a unit that is automatically adjusted as well.

All Truetzschler draw frame types TD 7, TD 9T and TD 10 are equipped with the same reliable drafting system. In the main draft area of the 4-over-3 drafting system, the adjustable pressure bar provides controlled guidance of even short fibers.

The unique arrangement of the drafting system components with a 30 % smaller deflection angle results in optimal running behaviour even in case of very fine sliver weights. To prevent lapping on the top rollers, the complete edge fibre integration in the critical area of sliver formation in the web guide is of particular importance.

Optimal drafting system geometry for gentle fiber guidance and optimal running behaviour.



Pneumatic top roll load

Optimal individual and infinitely variable top roller load settings - adapted to various applications - are possible same as before. The TD 10 allows exact pressure settings via the display directly on the drafting system. Software limits prevent incorrect settings and thus improve the lapping behaviour. This, in addition to the automatic relief of the top rolls during standstill, preserves the coatings and extends the service life.



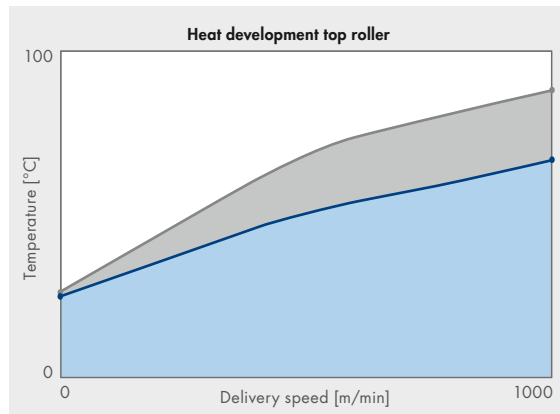
The simple reproducible settings result in demonstrably improved draw frame sliver quality.

Heat generation top rollers

Our patented top roll bearing systems have been in use successfully since 2008.

A typical Truetzschler development for the centre of every drafting system:

- high accuracy of fit for high power transmission
- high process safety, less downtime
- simple handling and gentle to the coatings
- extremely long service life



The significantly reduced process heat on the patented Truetzschler top roll bearing systems is clearly noticeable.

— Competitor
— Truetzschler

Dissipation of process heat



Top roller with standard ball bearing



Top roller with patented Truetzschler bearing



To dissipate heat from the drawing process over the bearings into the machine frame is only possible via these special bearings with minimal heat development.

TWIN Draw Frame TD 9T

"Think twice" for twice the benefit

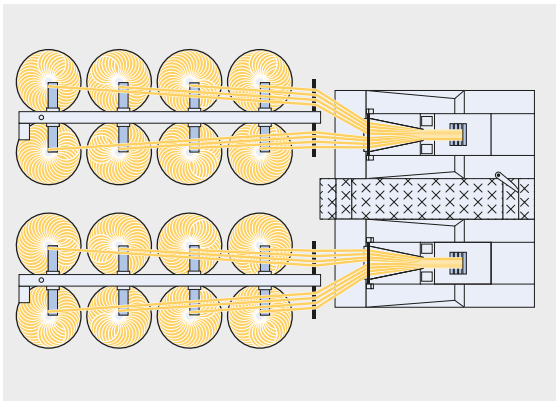


The Truetzschler TWIN Draw Frame TD 9T in the typical Truetzschler design is the space-saving solution and brilliantly easy to operate.

Truetzschler has developed a new concept for breaker draw frames. Thus, traditional classifications into single head and double head machines are outdated. The Truetzschler Draw Frame TD 9T is a twin draw frame without efficiency coupling. With the single version even and uneven number of drafting heads can be implemented.

The TWIN-concept is based on independent draw frame modules with common elements

Only elements without a negative influence on efficiency, such as control cabinet, control, screen, operator platform and filter, are shared.



Due to its intelligent concept, the TWIN version is compact and requires little space.

No efficiency coupling by means of separate drive technology

Conventional double head draw frames have a very poor efficiency. A standstill on one side stops the production on the other side as well. This is not the case with the Truetzschler TWIN-concept. Here the fault-free side continues with regular production.

On a conventional draw frame with a single efficiency of 85 %, only 72 % are actually realised. The single efficiency factors must be multiplied:

On the Truetzschler TWIN Draw Frame TD 9T, the single efficiency – as in this example 85 % – is fully maintained.

Depending on the size of the installation, one to two drafting heads can thus be eliminated.

The strict separation of the drives permits a very flexible use. Thus it is possible to process two different materials or two different sliver counts side by side on one machine without any problem.

The breaker draw frame with the elements of a modern autoleveller draw frame

The Truetzschler breaker Draw Frames TD 9 and TD 9T share a variety of technologically important elements with the reliable Truetzschler autoleveller Draw Frame TD 10:

- 4-over-3 drafting system with pressure bar
- Pneumatic load, separately controllable for each top roll
- Pneumatic threading aid
- Self-adjusting lap monitoring
- All creel versions incl. SMART CREEL
- Coiler plate with hydro polished tube

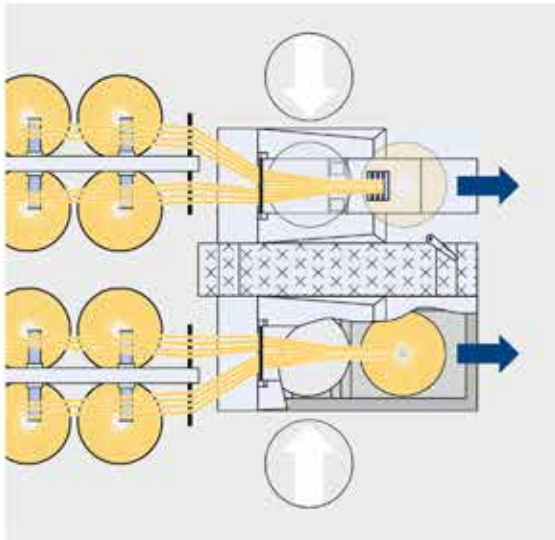
New can changer

Precise and easy can change in the smallest space

New can changer for the new draw frame

To ensure that the full potential of the space-saving TWIN-design is maintained, a new can changer was developed. The space it requires is little more than for two cans. The cans are moved by functionally reliable pneumatics.

The new linear changer with safe, three-sided can guide during the change process



Developed for the new Truetzschler can format

Naturally, both TD 9 versions are also available for the new 1,200 mm JUMBO CANS. These cans with 43 % more content compared to cans with 1,000 mm diameter show their advantages in the creels of the downstream leveller draw frames or Superlaps.

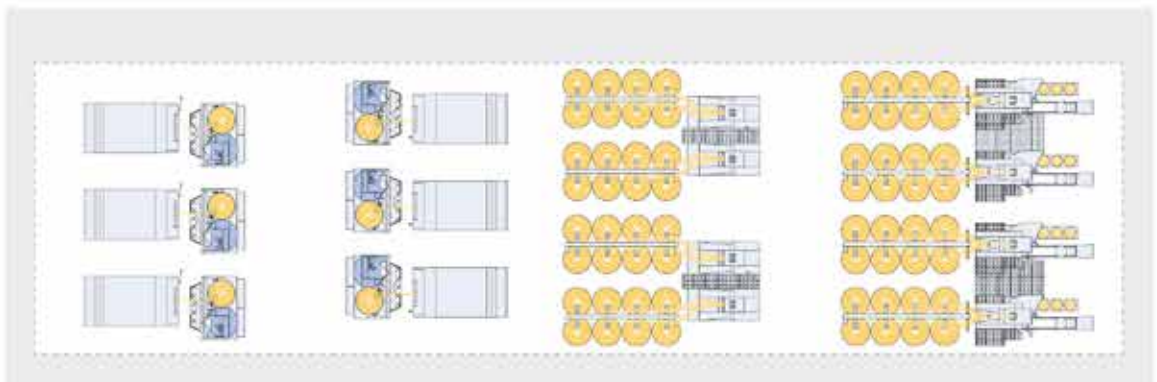
As standard, the can changer is installed under floor, but a version for above floor is also available.

Space-saving integration into modern lines

The strong increase in card production during the last few years has changed the ratio of number of cards to number of draw frames. The installation width of the TD 9 and TD 9T is adapted to the reduced number of cards.

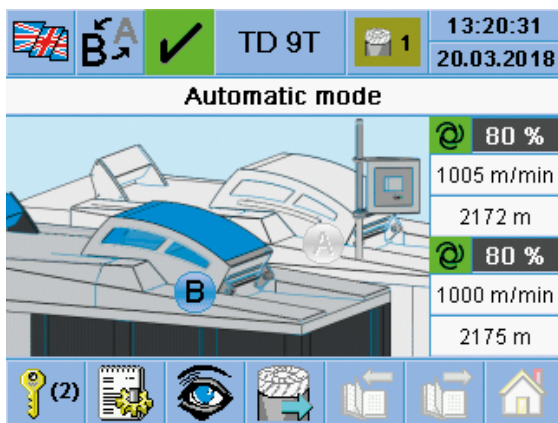


Even with 1,200 mm diameter cans, the new breaker draw frames use up no more installation width than the card group.



Sophisticated operating and control concept

Due to the size of the draw frames, can changers and creels, the operators have to cover long distances. This is at the expense of time and effectiveness. With the breaker Draw Frame TD 9T, both sides are operated from the middle of a shared platform. The operating elements of the drafting heads are therefore mirrored. From the platform, the creel as well as the can changer can be reached with just a few steps. The operator does not need to walk around the machines. Compared to competition, the distances are reduced by approx. 50 % for the operator. Both drafting system units have a joint display with



Operation becomes more transparent by using one touch screen for both sides.

coloured touch screen. The assignment of the machine sides is clear and unmistakable, thus simplifying operation. The machine status or the behaviour in the event of fault is shown by means of simple symbols and graphics.

As is customary with Truetzschler, all service aids such as logbook functions, lot data or sensor overviews are integrated. The left and right machine side can be operated independent of each other. This also applies to maintenance work and settings. However, optionally a synchronous setting of both sides can also be selected. For safety reasons, the emergency stop applies to both sides simultaneously.

Complete equipment for safe operation at high efficiency

Frequently, breaker draw frames are only equipped with the basics. Truetzschler can provide everything that increases operational safety, simplifies



Truetzschler breaker
Draw Frame TD 9
(single version)

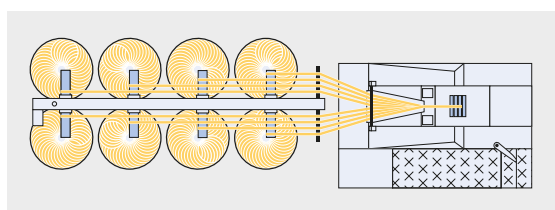
operation, promotes quality and increases economic efficiency.

In addition to the elements already described, this includes:

- Infinitely variable delivery speed
- High-performance drafting system
- Individual sliver monitoring in the creel
- High-volume filter or connection to a central suction system
- Very good accessibility to the control sections
- Safety panels for the protection of the operators
- Under floor can changer for easy can handling
- Coiler plate with hydro polished tube

The single Draw Frame TD 9

If an uneven number of drafting heads is required, a single draw frame can be added to the TWIN draw frames. This reduces investment and operating costs compared to a conventionally required additional double head draw frame.



The space requirement of
the Truetzschler breaker
Draw Frame TD 9 is
reduced to the minimum.

Breaker Draw Frame TD 7

Combination of economic efficiency and quality

Breaker draw frames in the first passage are often underestimated in terms of technology. However, these draw frames also contribute to a consistent and reproducible yarn quality. For this reason, Truetzschler has decided not to make any compromises concerning technology and quality. Thus, the TD 7 is also equipped with the high-end drafting system of the autoleveller Draw Frame TD 10 with all its advantages:

- 4-over-3 drafting system geometry
- Pneumatically loaded top rolls, separately controllable
- Speed-controlled drives
- Pressure bar in main draft area
- Pneumatic web threading

The two-in-one space concept

The drafting system is positioned directly on the can changer. Thus, the installation width required for the breaker Draw Frame TD 7 is not more than the can changer itself.

Reduced energy consumption

The concept for energy optimization starts in the most effective key areas:

- The perfect continuous suction works at a low, energy-saving negative suction pressure.
- Energy-intensive mechanical gears have been completely eliminated on the TD 7.
- The coiler plate is equipped with an individual drive and the main drive is infinitely variable.



Less maintenance – more productive time

Each hour spent on maintenance is an hour lost for production. Due to individual drives and elimination of complex gears, maintenance and cleaning have been reduced to a minimum. Cleaning work is facilitated by the opening of only a few large-space panels without the use of tools:

Convenient and simple operation

As is common with Truetzschler, the Truetzschler breaker Draw Frame TD 7 is equipped with its own microcomputer control. Operation takes place on the colour touch screen. This is also the place where, for instance, the drive speeds are set. The tension draft to the draw frame can be optimized in a very sensitive manner due to the individual drive. This also applies to the optimization of the sliver coiling geometry in the can, since the can plate features a separate drive as well.



The TD 7 can now also be equipped with the adjustable free individual sliver monitoring, without additional mechanical elements in the feed area of the draw frame.

As with the TD 10, operation takes place from the side. The drafting system opens up to the back from the position of the operator. The operator has optimal access to an unobstructed and ergonomic working area.



Autoleveller Draw Frame TD 10

The smart and easy way to draw: Truetzschler TD 10

Selfoptimizing features are the key in a spinning world of tomorrow, where a high operator fluctuation and thus also a lack of important quality knowhow is reality.

As a quality filter of the spinning mill therefore, the draw frame has an important function, because quality can no longer be improved after the draw frame.



The quality filter in the spinning mill

The autoleveller draw frame is the last quality-improving production step before spinning. Thus, high-precision draw frame sliver levelling in the last draw frame passage is largely responsible for the quality in the end product.

For this reason, Truetzschler has improved levelling in the new draw frame model TD 10 once more.

Today, in modern rotor spinning, this function is assumed by the Integrated Draw Frame IDF 2. It features levelling, same as the autoleveller Draw Frame TD 10.



TD 10 – a building block in the Smart Factory of the future

In combination with the machine networking system T-DATA, the quality sensors DISC MONITOR and DISC LEVELLER – checking every metre of draw frame sliver – are the cornerstones of a Smart Factory.

In addition, Truetzschler engineers took the first steps towards digitalisation and self-adjustment already many years ago. In 2003, the AUTO DRAFT option was developed – a self-optimization function for the detection and adjustment of the perfect break draft. Furthermore, the standard self-optimization function OPTI SET has already been introduced to the market in 2007. This function determines the main drafting point and thus the perfect timing to optimally compensate for defects in the drafting system.



The optimized DISC LEVELLER with new quick release fastener and drive technology SERVO DRAFT are the heart of the autoleveller draw frame.

AUTO DRAFT

Self-adjusting perfection

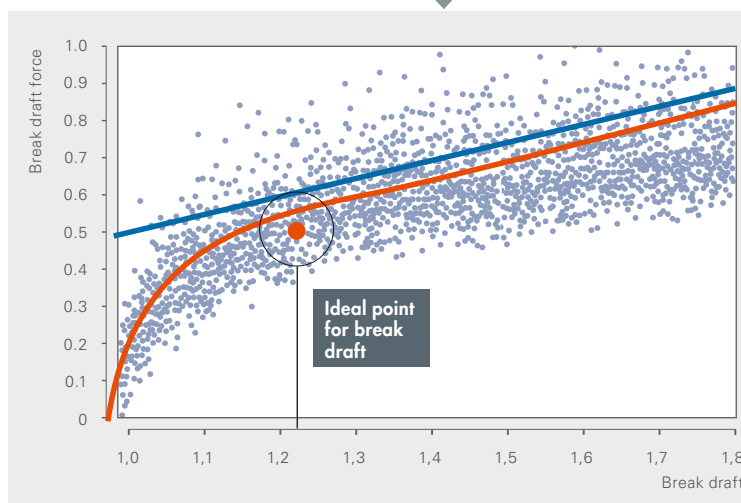
Start of the automatic break draft determination



Self adjustment at the touch of a button

At the touch of a button, the draft force is measured along the entire draft zone. Within 60 seconds, AUTO DRAFT has collected all the necessary information and determined the ideal degree of the break draft. As soon as the operator acknowledges this value on the screen, the optimization is finished.

The ideal point is calculated from a large number of single measurements



The principle of self-adjustment

AUTO DRAFT optimizes the break draft for the autoleveller draw frame fully automatically. In less than one minute the system, which can be optionally integrated into the Draw Frame TD 10, makes an automatic recommendation for the ideal material-specific break draft.

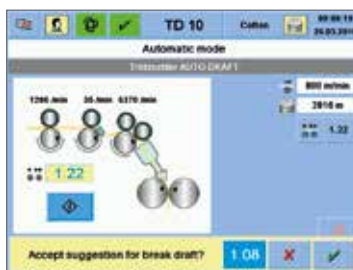
Duration of optimization:

60 sec

Material supply:

600 m sliver length

Result of the automatic break draft determination



Suitable for all materials

AUTO DRAFT is basically suitable for all materials since it takes all major factors into account:

- Fed fiber mass
- Fiber characteristics (e.g. crimping)
- Fiber-fiber friction
- Fiber-metal friction
- Machine settings
- Ambient atmosphere, etc.

The optimization potential of AUTO DRAFT is particularly high when drawing man-made fibers.

Trouble free lot change

When a spinning mill produces only one material it is sufficient to equip only one individual draw frame as "pilot machine" with AUTO DRAFT. This draw frame is used to determine the optimum break draft and to subsequently transfer it to the other machines. In highly flexible installations with different materials that are subject to frequent change it is practical to equip all draw frames with AUTO DRAFT.

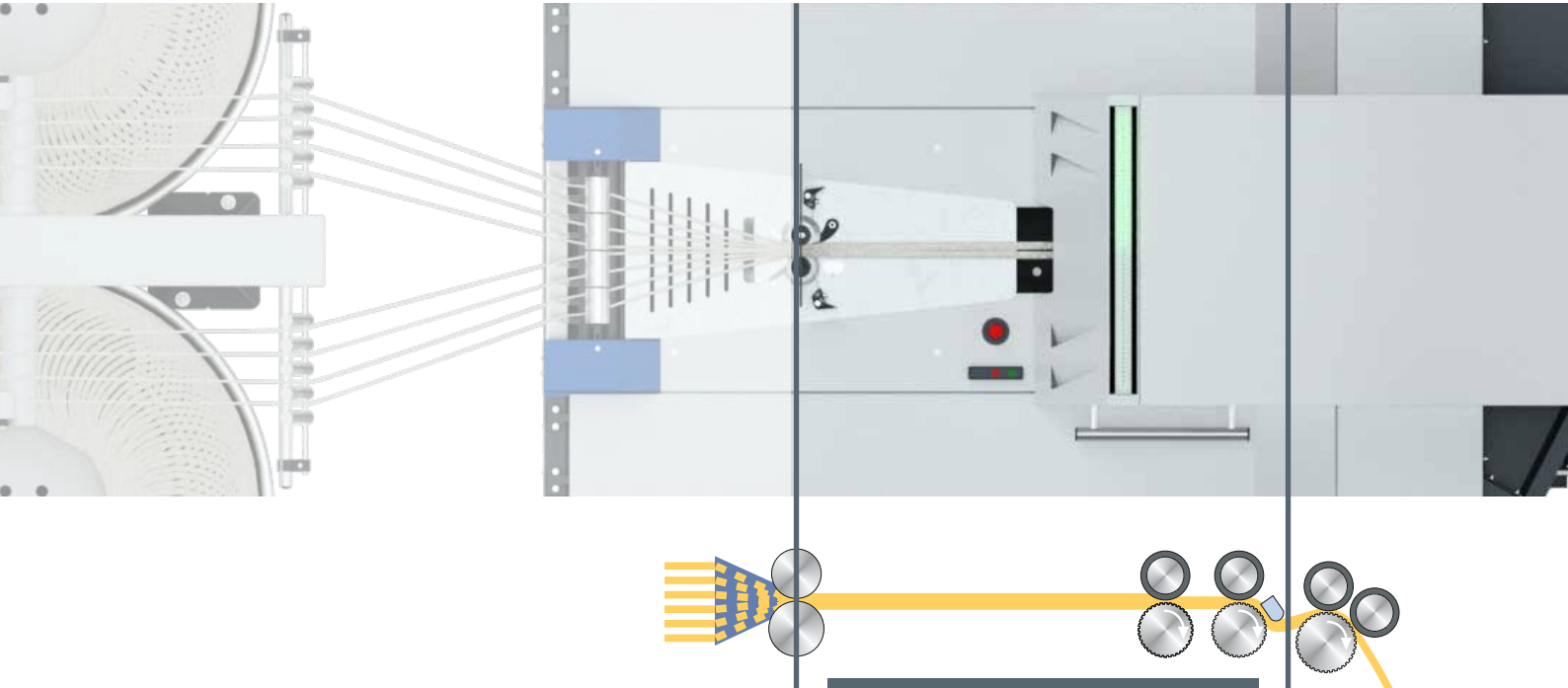
Better sliver quality – better yarn quality!

The degree of the break draft has a major influence on evenness and strength of yarn, number of imperfections and running properties of the spinning machine.

The break draft of the autoleveller draw frame is optimized fully automatically. Within one minute the optional AUTO DRAFT module automatically recommends the ideal, material-specific distribution of the entire draft between break draft and main draft.

OPTI SET

The main drafting point determines the quality



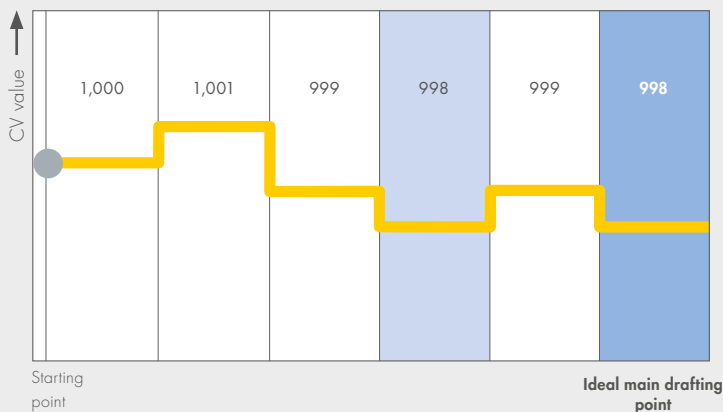
**The perfect length for regulation!
1,000 mm between sensor and
drafting zone.**

In the past, lengthy laboratory test runs with slivers were required to accurately establish the extremely important main drafting point. With the Truetzschler autoleveller Draw Frame TD 10, this is not necessary. The self optimizing function OPTI SET automatically determines the optimum value by considering machine settings, material characteristics and ambient atmosphere.

A sensor scans the fed slivers and initiates a corresponding time-delayed levelling action as soon as

the material has reached the main draft zone. This time delay between measurement and levelling action determines the main drafting point. Its exact position depends, among other things, on machine settings, material, ambient atmosphere and the distance between sensor and drafting zone.

Principle of the OPTI SET self-optimizing function



After input by the operator, the draw frame starts with a standard value and successively checks slightly deviating values. Parallel to this process, the CV values of the fed slivers and the CV values of the delivered draw frame sliver are measured and compared.

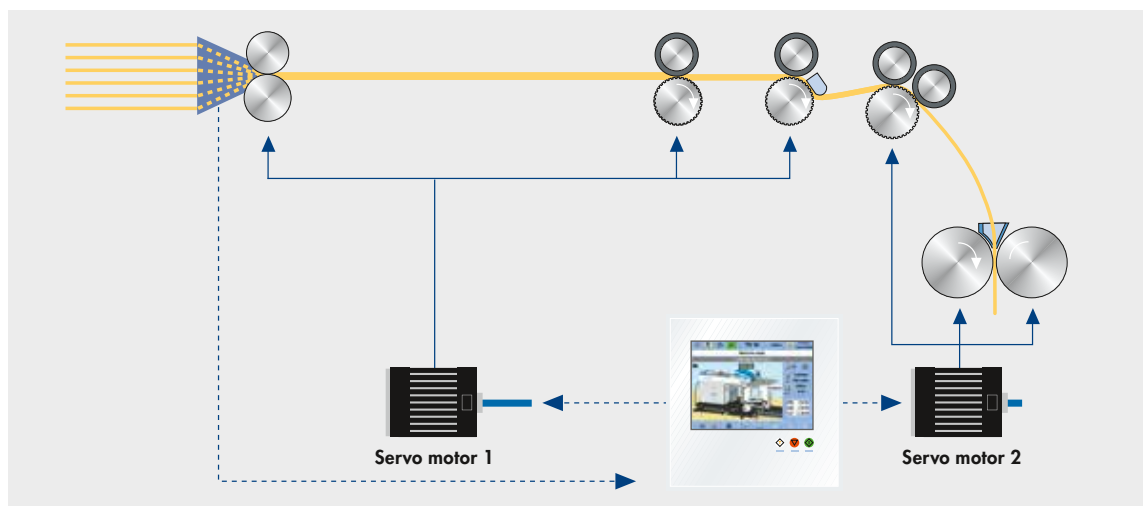
The thus determined optimal main drafting point is recommended to the operator who acknowledges the setting on the screen. This completes the setting process extremely fast, and the otherwise common sliver and laboratory tests are no longer necessary.

SERVO DRAFT

Increased levelling dynamics thanks to the latest digital levelling technology

With the TD 10, a modern autoleveller draw frame featuring the latest digital levelling technology comes to the market.

This leads to a significant increase in levelling dynamics and improvement of sliver quality.



TD 10 with SERVO DRAFT

Extended service life

Reducing the operating temperature of electronic power components by 10°C doubles the service life. Particularly spinning mills are often subject to extreme temperatures. The electronic components of the TD 10 have cooling fins that are in direct contact with the cooling airflow. This ensures optimally levelled sliver at maximum efficiency even in extreme situations.



Due to the new cooling technology, an additional ventilation of the electro cabinet is no longer necessary.

DISC LEVELLER

The groove and sensing roll unit DISC LEVELLER as already known from the TD 8, allows optimal sliver quality at maximum levelling dynamics. Together with the SERVO DRAFT it represents the heart of the draw frame. A thick or thin place passing this area undetected can no longer be compensated in the downstream process.

Therefore, the TD 10 also relies on the proven fastening system of the sensing unit, featuring a bearing that has been specifically designed for these high-precision requirements. This ensures minimum deflection and thus maximum accuracy of measurement - for best sliver quality!



The DISC LEVELLER - the heart of the autoleveller draw frame

Latest drive technology

Highly dynamic levelling and the fewest drive belts

Applying our own control electronics allows customized solutions for use in the field of spinning.

Thanks to the newly modified drive concept, the TD 10 has the smallest number of belts in the market. Maintenance points have been reduced to an absolute minimum. Only the bottom roll bearings in the drafting system require relubrication.

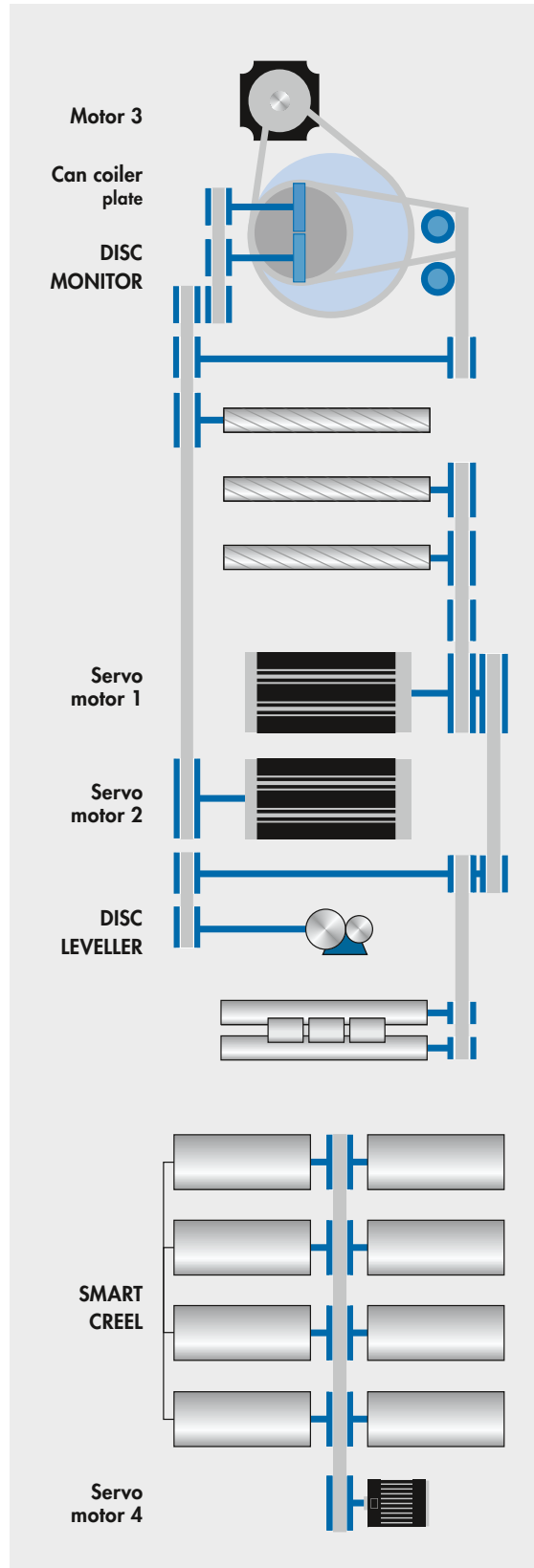
The separate drive for the can rotation allows uncomplicated optimization of sliver coiling for the respective application.

For the TD 10, Truetzschler also relies on the proven drive separation of creel and levelling. This unique feature supports the high levelling dynamics since there is no need for the leveller motor to further accelerate the slower creel.

In addition, the optional drive AUTO DRAFT for the automatic quick-optimization of the break draft allows simple break draft adjustment via the control, without change wheel replacement.

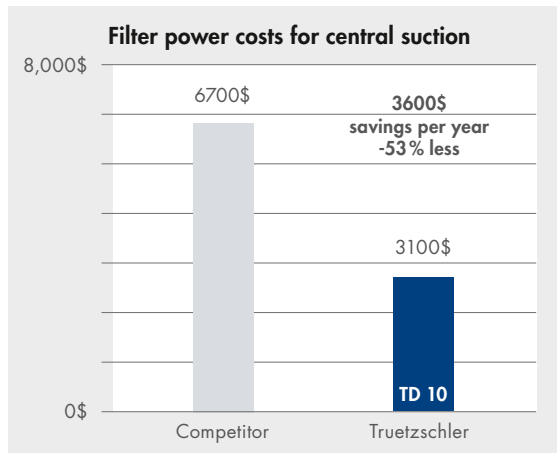


With the integrated Truetzschler energy measuring device, the machine provides information about the current power consumption as well as energy consumption at all times.



The world's most energy efficient suction system

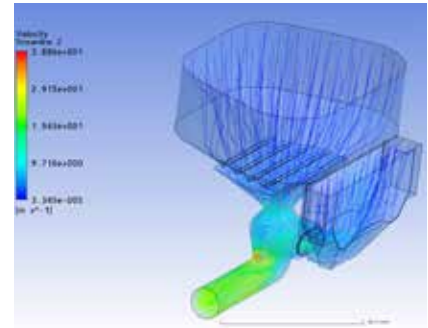
30% less energy consumption



Mill yarn output per day 45 t, plant suction pressure 1,500 Pa, 0.13\$/kWh

The TD 10 requires only 800 m³/h suction at a negative pressure of 450 Pa. Compared to competition, this means 53% less energy consumption.

The effectiveness of the suction depends largely on an optimised geometry of the flow mechanism. For this reason, our specialists have further enhanced the flow behaviour of the suction ducts. Thus, an excellent dedusting of the sliver is ensured even at low suction performance.



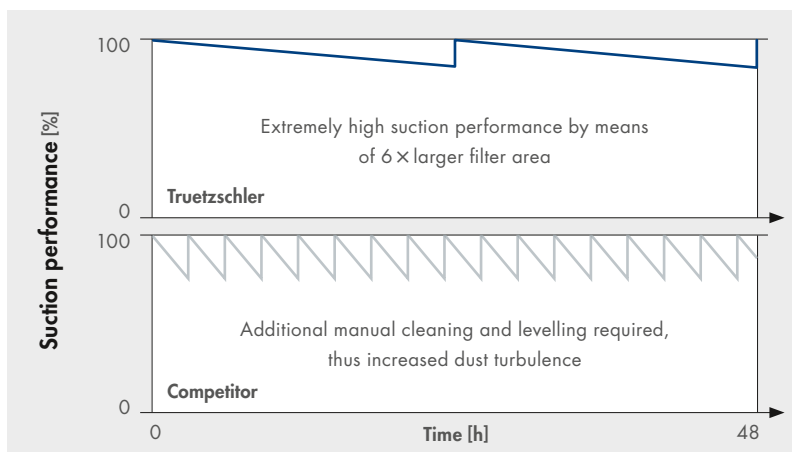
The suction elements are individually simulated to optimise flow and are made of robust plastic.

Filter surface 6 times larger than offered by competition

By featuring the largest filter surface, the TD 10 sets a new standard. Additional mechanical cleaning elements and special controls are not required. This

eliminates additional maintenance costs and unnecessary sources of interference.

The enormous filter surface allows a constant suction pressure for hours. During the tests, 24 h cleaning intervals were perfectly sufficient.



Basis: 1000kg/h one set of draw frame, 500\$/m², 0.13\$/kWh



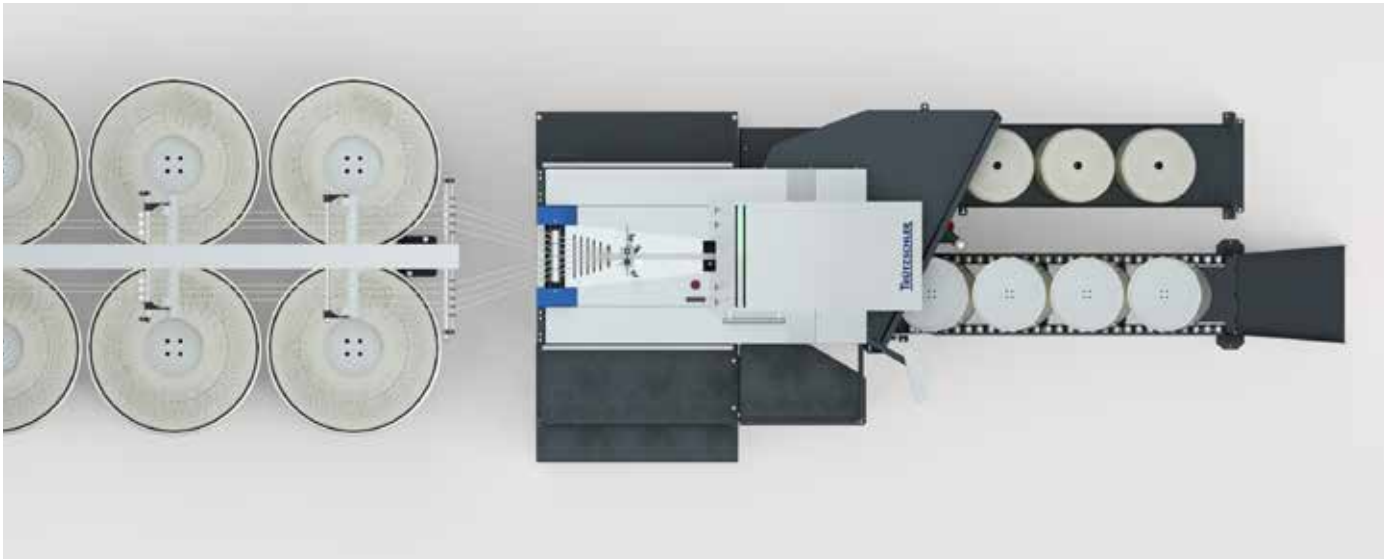
The large-volume filter on the TD 10

The new compactness

Because length matters

Compared to the previous model the new TD 10 is once more redesigned with the focus of compactness, because the length is decisive with regard to

the length of the building. A complete redesign of the machine allowed to shorten the machine base about 335mm.

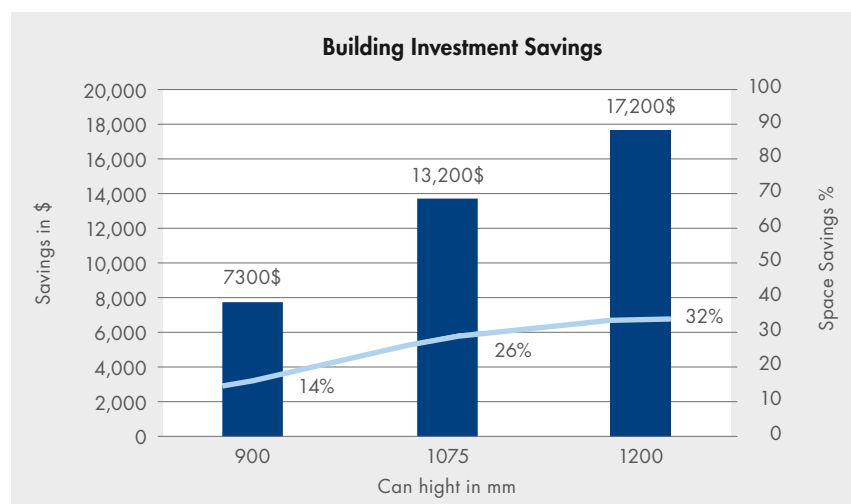


The new TD 10 is 14.2% shorter than the previous model TD 8, because length matters.

Enormous investment savings are possible

Depending on the can format the number of steps are varying. Thus, compared to competition, the space savings averaged over all can heights are more than 20%.

This means that savings of up to \$ 17,200 can be realised by a spinning mill with an output of 1000 kg per hour.



The diagram shows the saving of building investment for one set of draw frames with 1000 kg/h production for common can heights compared to competition.

Autoleveller Draw Frame "COMPACT" TD 10C

Compact dimensions, bundled performance

The autoleveller Draw Frame "COMPACT" TD 10C is the Truetzschler solution for minimal space requirement.

The identifier C = COMPACT characterises the installation solution for this machine.



The COMPACT installation means shorter distances for the operator. The installation width of the installation shown here with creel in two rows for cans with 1,200 mm diameter corresponds to the one of the breaker Draw Frames TD 9T with a delivery to JUMBO CANS.

Single head or double head draw frames

Concerning autoleveller draw frames, there is no uniform response to this decision. For the most part, autoleveller draw frames require independent units and have only a few components that can be shared. The only thing in favour of double head draw frames is reduced space requirement.

Reduced space requirement and short distances for the operator

The draw frames TD 10 are directly next to each other, without any space in between. The left operator platform of one draw frame is the right operator platform of the other draw frame. There is sufficient operator space between the can rows in the creel.



Why decide between single head and double head draw frames?

To form compact units, the COMPACT concept also allows the combination of more than two draw frames. If, for instance, five draw frames are required according to spinning plan, six heads must be installed when using double head draw frames. With Truetzschler COMPACT draw frames it is possible to combine three or more draw frame heads, e.g. five.

The most flexible installation concept

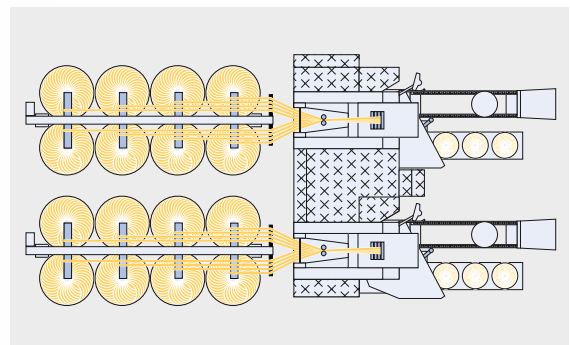
In general, Truetzschler draw frames offer all variants necessary for the respective application-oriented requirements:

- Creel in one or two rows
- Creel for 6-fold or 8-fold doubling
- Creel for 600, 1,000 mm cans and JUMBO CANS 1,200 mm
- Creel adjustable in height to the selected can height
- SMART CREEL or SERVO CREEL
- Can changer with active or passive can supply
- Can changer for cans with rolls or transfer to a can carriage

All advantages also available in combing

The COMPACT installation concept is of course also available for the draw frame version TD 10-600C, the special draw frame after the comb.

The economic advantage of the larger can format can also be used for this draw frame. The Truetzschler Comber TCO 12 can be equipped with can changers for 1,000 mm and 1,200 mm can diameters.



Space-saving installation of autoleveller Draw Frame TD 10C

Integrated Draw Frame IDF 2

More economic efficiency in rotor and Air jet spinning

Multidimensional advantages from fewer process steps:
Reducing investments, lowering workload, eliminating errors,
saving space. Particularly in the spinning mill with its many



machines, reduced installation space quickly multiplies into large economic advantages. The Integrated Draw Frame IDF 2 achieves this by direct linking to the Truetzschler Card TC 15.



Integrated Draw Frame IDF 2

Draw frame technology from autoleveling draw frames

TC 15 and IDF 2 working together for more economic efficiency

The Integrated Draw Frame IDF 2 is directly connected to the card. Due to this concept draw frames are eliminated; as a result, the space otherwise required for breaker draw frames with additional reserve can storage is not needed.

Advantages of direct card and draw frame combination:

- Less tied up capital due to significantly smaller material buffer
- Shorter throughput times
- Reduced operating work
- Reduced building area

Levelling quality without compromises

Before being fed into the drafting system, the card sliver is scanned directly by the tried and tested Truetzschler sliver sensor; then it is levelled via the drafting system. The close physical proximity of measuring point and drafting system allows reliable levelling of the draft. To ensure that every metre in the can has the desired quality, the sliver is permanently checked by a second sensor positioned immediately behind the drafting system.



Sensor to determine sliver count (top) and quality sensor (bottom)

IDF 2 is an autoleveller draw frame for single sliver

Only the Truetzschler card/draw frame linking combine all the advantages of the Card TC 15 with reliable and successful draw frame technology.

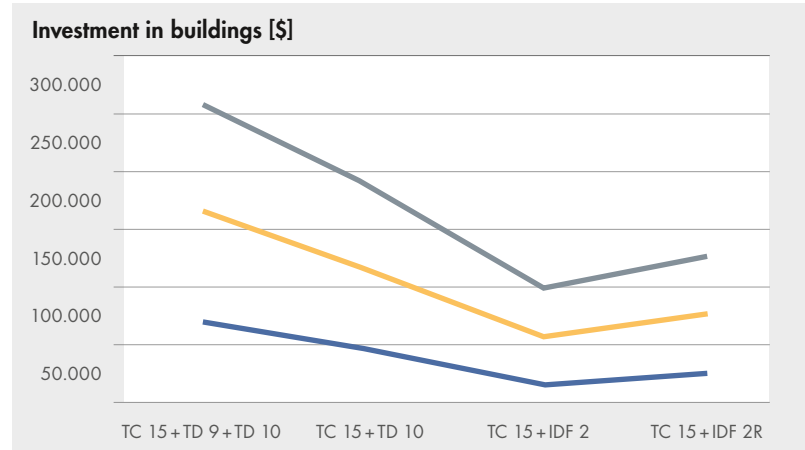
Drafting system and motors allow quick and easy access



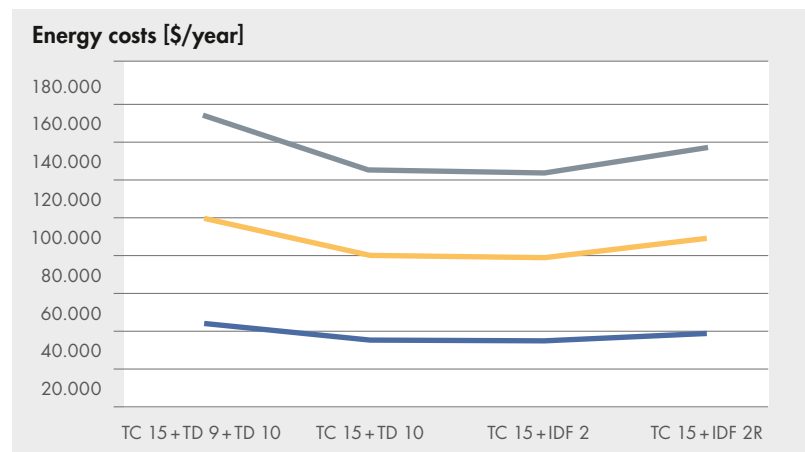
Savings possible only with the Integrated Draw Frame IDF

IDF 2 reduces the investment and operating costs

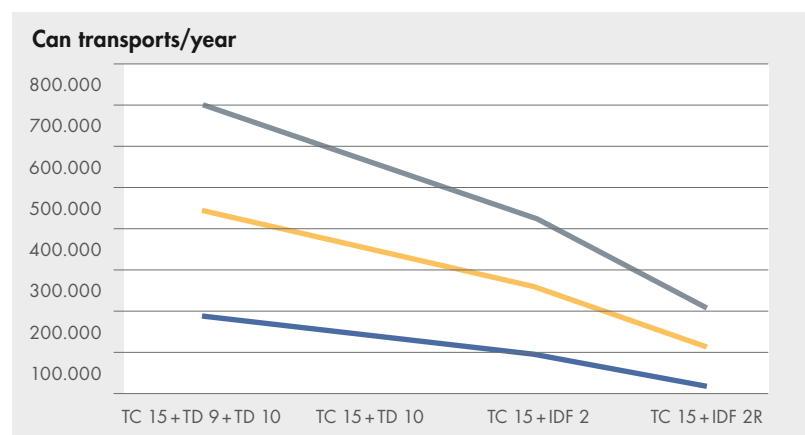
A process reduction always generates savings. There is no need to purchase, operate and maintain non-existing machines.



Substantial savings start already with the building. A smaller area results in additional savings in lighting, air conditioning and maintenance.



The operating costs are not only reduced by a lower power consumption: 48% less can transports and piecings at the spinning machine when using rectangular cans. Less piecings also mean a reduction of yarn imperfections.



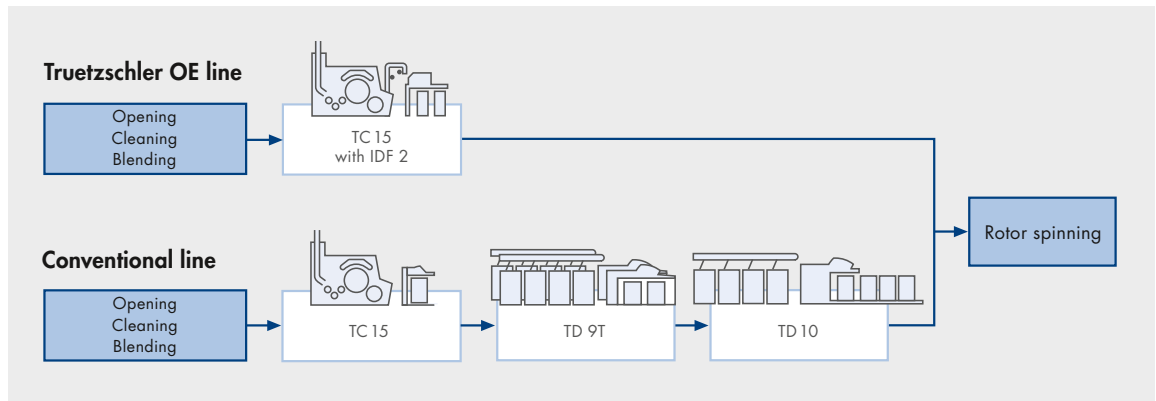
Assessment basis:

8,000 operating hours/year
500\$/m²
0.131\$/kWh

— 900 kg/h
— 600 kg/h
— 300 kg/h

Integrated Draw Frame IDF 2 for rotor spinning

Improved quality and optimized economic efficiency



Today, draw frames are no longer required in rotor spinning. This applies to all materials and yarn counts. The current applications range from processing of reclaimed fibers to fine yarns Ne 36.

The Integrated Draw Frame IDF has established itself in rotor spinning

In the meantime, more than 2,500 Truetzschler IDF are operating in rotor spinning mills throughout the world. The combination of improved yarn quality coupled with significant savings is convincing.



A rectangular can has almost twice the capacity of a traditional can with 450 mm diameter. Another advantage of rectangular cans is the easier implementation of an automatic can transport.

Round or rectangular cans?

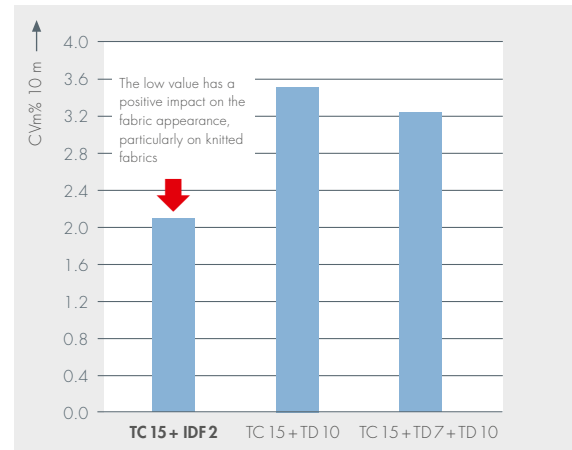
The decision depends on several factors. A rectangular can with 450mm diameter and 1200mm high holds approx. 15kg cotton sliver. In contrast, a rectangular can holds 27kg cotton sliver.

| Type | Advantages | Disadvantages |
|------------------------------|---|---|
| Round cans 450 mm | <ul style="list-style-type: none"> - Inexpensive cans - Lower investment | <ul style="list-style-type: none"> - Low can volume - Many cans required - Many can transports |
| Rectangular cans | <ul style="list-style-type: none"> - Lower operating costs - Larger can volume - Fewer can transports - Half the sliver piecings at the rotor spinning machine - Less cans required - Easier to automate - Higher efficiency on card | <ul style="list-style-type: none"> - Higher investment - Cans are more expensive |

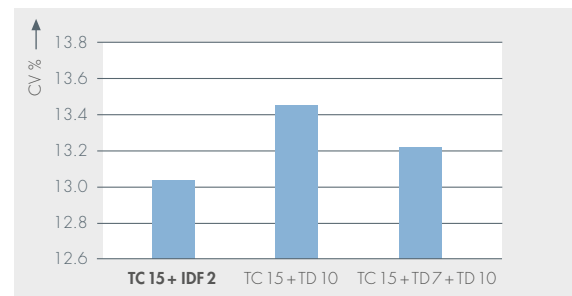


Here reclaimed fibers (recycled jeans) are carded for rotor spinning. The passage between cards and IDF 2 makes operation much easier for the staff.

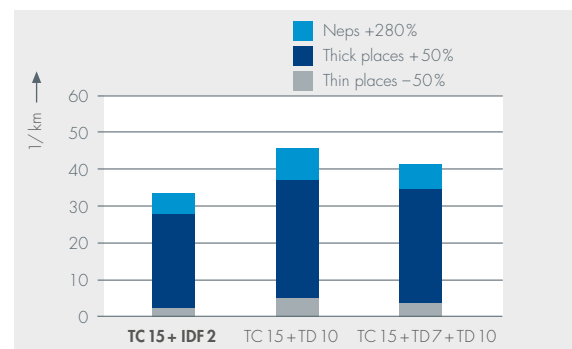
Comparisons of direct spinning IDF 2 with one and two draw frame passages for OE yarn NE 20 cotton



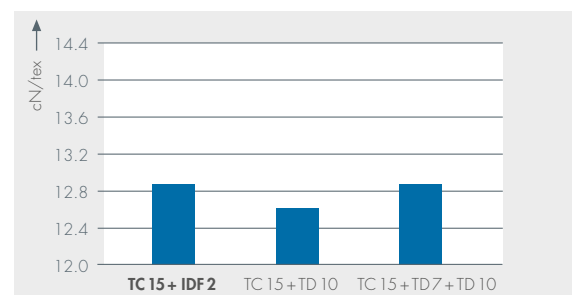
Yarn count variations



Yarn evenness



Yarn imperfections



Yarn strength

Just one Passage

Spinning Preparation for VORTEX

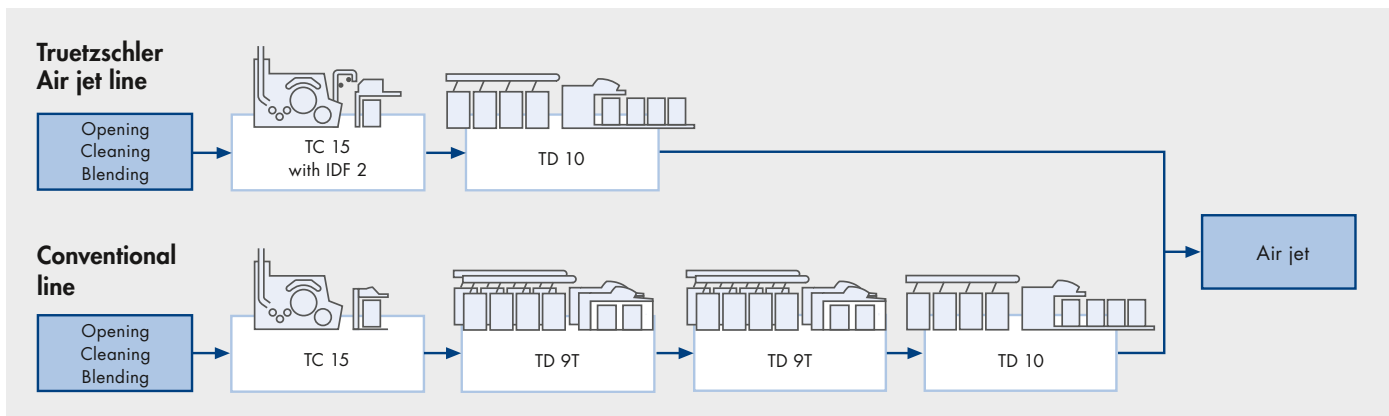


The two world market leaders, Truetzschler for spinning preparation and Muratec for Air jet spinning machine, co-developed the new preparation process with the unique integrated draw frame, which enables only 1 pass from usual 3 pass in the drawing.

With the innovative direct regulation of the card sliver with Truetzschler IDF 2 it is now possible to shorten also the preparation process for Air jet. Process cuts always have a big potential for enormous savings, especially if you can save two complete process steps.

Best preparation by Truetzschler for VORTEX

Due to the high parallelization which is needed for air jet spinning so far 3 passages of draw frames have been the only way to achieve good quality.



Shorter preparation process for air jet: only 1 pass from usual 3 pass in the drawing

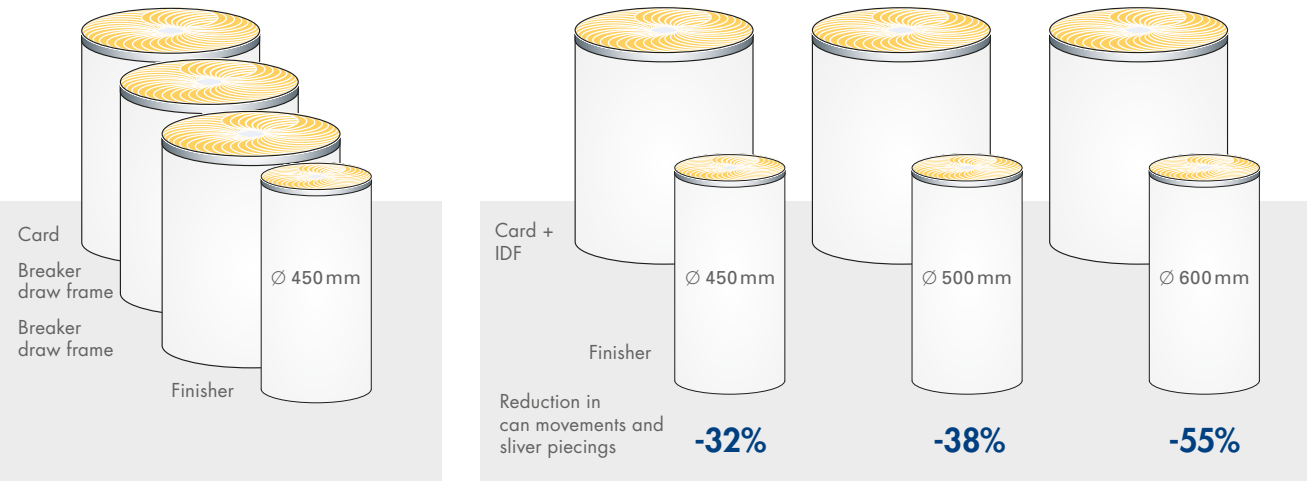
Reduction of can movements up to 55%

The saving of can handlings depends on the can diameter which is used between the cards and the draw frame passages. Even if you use highly economic big cans with a diameter of 1000 mm there is a big reduction of can movements, needed operator and number of necessary cans.

But less cans means also less sliver piecings, which unevidently leading to yarn defects. With the new process for a production of 21t yarn output, there are 900 sliver piecings less per day.

Big reduction in can movements and sliver piecings

Standard process: 3 Passages draw frames IDF VORTEX process: with only one Passage draw frames



Less cuts – more yarn output

Increasing the efficiency of the spinning mill means a bigger yarn output per day.
Cuts have a major influence on the efficiency of a spinning machine.
With the new IDF VORTEX process cuts could be reduced significantly in tests for Ne30.

| Advantage Standard process | Yarndata comparison | Advantage IDF VORTEX process |
|---|-------------------------|---|
| | Performance Cut/Y | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> | Yarn CV% | |
| <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | Yarn data IPI total | |



Overview of savings:

- 13% less space requirement in the mill
- 4% less energy consumption
- 9% less exhaust air consumption
- 900 less sliver piecings per day

Savings in total:

| | |
|------------------|---------------|
| Operator: | 50,000\$ p.a. |
| Building: | 260,000\$ |
| Installed power: | 14,900\$ p.a. |
| Exhaust air: | 5250\$ p.a. |

Basis:
850kg/h
0.13\$/kWh
500\$/m²

Start of the market release on ITMA ASIA 2018 will be for:

- 100 % man made Cellulose (Viscose)
- Yarn Count: Ne 10 - Ne 40

JUMBO CANS 1,200 mm

The new economic efficiency – exclusively at Truetzschler

The larger the cans, the greater the efficiency of the downstream machine. Greatest economic advantage: 43 % longer runtime in the creel results in reduced downtimes on autoleveller draw frame or Superlap. In practice, efficiencies can be increased by 1.5-2 %.



43 % more draw frame sliver per can

Compared to a can with 1,000 mm diameter, a JUMBO CAN with the new 1,200 mm diameter format holds 43 % more draw frame sliver. The logical consequence is a reduction of downtimes of up to 43 % for the can change. The result is an improved overall draw frame efficiency.

Can transports reduced by 30 %

The full cans must be transported from the breaker draw frame to the autoleveller draw frame. In a spinning mill with an annual production of 10,000 t this means more than 190,000 transports per year or approx. 24 per hour. With the new can format, only 17 can transports per hour are required.

Even at a weight of 76 kg card sliver (23 kg more than in 1,000 mm cans), the 1,200 mm JUMBO CANS can easily be moved across the flat hall floor by means of smooth-running ball castors.

**43 %
more draw frame
sliver in the new
Truetzschler
JUMBO CANS**



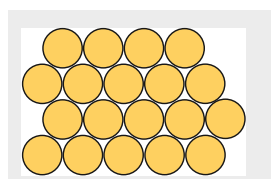
The filling quantity in the cans is determined by a number of factors. Larger can dimensions have a positive influence on:

- Efficiency
 - unwinding in the creel of the downstream machine
 - filling of the cans
- Number of
 - can transports
 - cans required
- Lower personnel costs
- Quality improvement

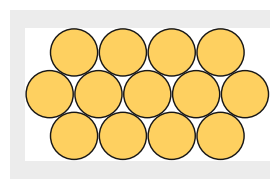
Less cans at same material buffer

To ensure trouble-free operation, material buffers between the production steps are practical. Thanks to the new can concept, less cans are needed for the same amount of material in the buffer.

Cans and space required for 1,000 kg material buffer



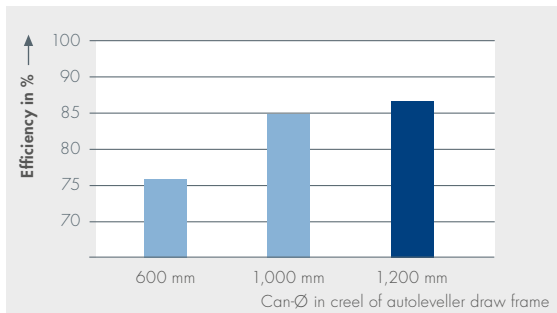
19 cans with Ø 1,000 mm,
space required: approx. 20 m²



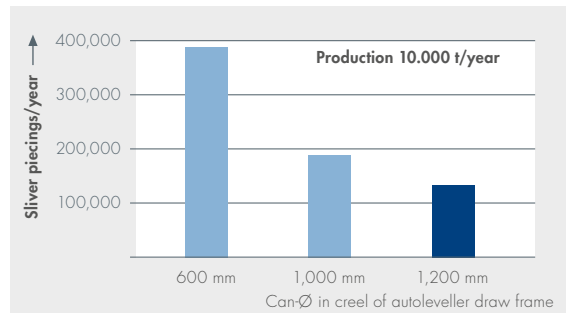
13 cans with Ø 1,200 mm,
space required: approx. 20 m²



The JUMBO CANS 1,200 mm
are easy to move



The efficiency of the draw frame increases with larger can formats



Less sliver piecings reduce yarn imperfections

Less personnel required

Less can transports and less can changes in the creel reduce personnel requirements or increase personnel efficiency: One person can operate more draw frames.

Reduced sliver piecings improve the quality

Of course, 30% less can changes in the creel also mean 30% less sliver piecings and thus 30% less potential error locations. In our spinning mill example

with a production of 10,000 t per year, 58,000 fewer sliver piecings are required at the autoleveller draw frame.

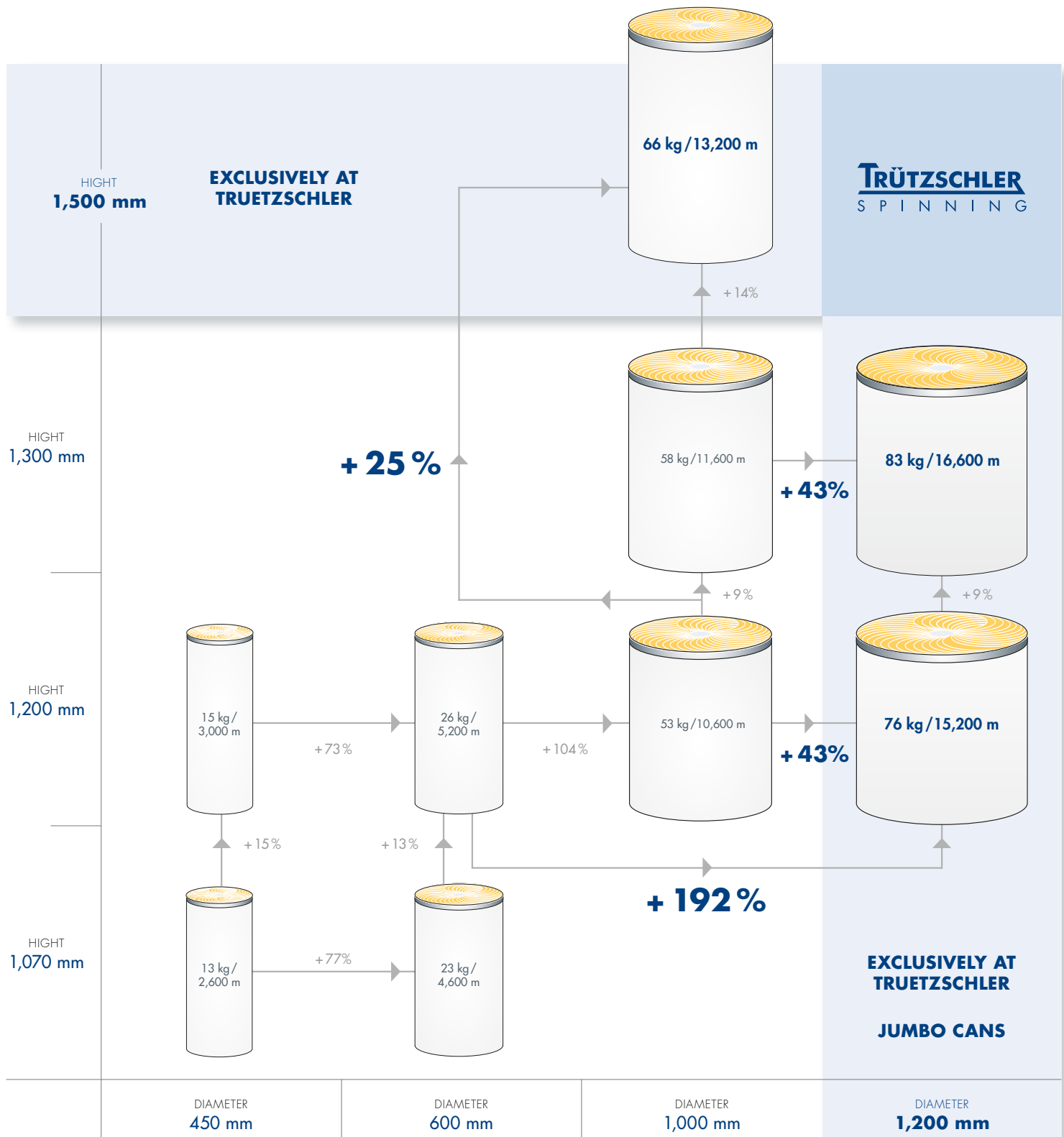
If JUMBO CANS 1,200 mm are not feasible for operational reasons, 1,000 mm cans with an increased height of 1,500 mm provide an alternative. They hold approx. 25% more draw frame sliver. This solution is also exclusively offered by Truetzschler.



58,000
less sliver piecings/year
significantly improve the
quality.



Up to 1,200 mm diameter, up to 1,500 mm high – these new can dimensions are only available from Truetzschler. The result is a significantly higher capacity and even higher economic efficiency.



Automatic can changer

5 options for each application

The automatic can changer has been adjusted for use on the TD 10, the IDF 2 as well as on Draw Frame TD 7 without levelling.

This rotational can changer is very flexible and meets all requirements for various can formats:

- Under-floor and above-floor variants
- Passive and active empty can feeding with CAN TRACK and SERVO TRACK
- Delivery of full can onto floor, delivery track or can carriage

Applicable can formats:

- Cans with and without rolls
- Cans with 400, 450, 500 or 600 mm diameter
- Can heights ranging from 900 to 1,500 mm

CAN TRACK or SERVO TRACK?

Truetzschler offers two versions of empty can feeding. With CAN TRACK, the cans slide by gravitational force on an inclined roller track into the change position. This version is possible above and under floor. When using the SERVO TRACK version, the transport of the empty cans is handled by driven belts. This comfort gain is only practical under floor to provide the operator with ground-level feeding of empty cans.

Flexibility for each application

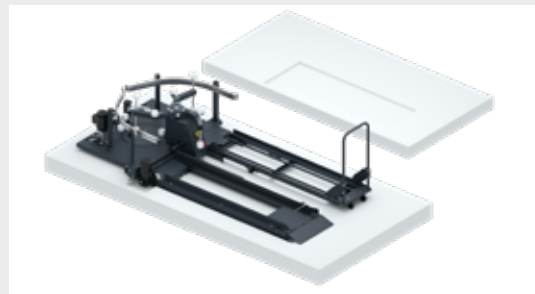
CAN TRACK passive feeding of empty cans

SERVO TRACK actively driven can feeding

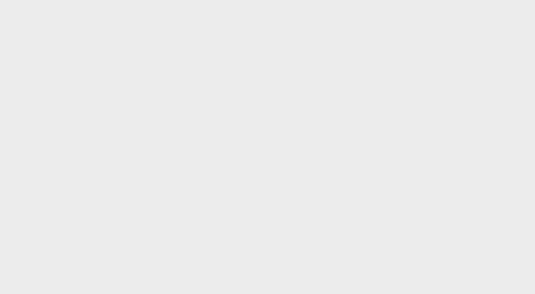
Can ramp



Can carriage



Delivery onto the floor



Maintenance-free sliver separation the intelligent way

With autoleveller draw frames, sliver separation is performed automatically during can change by applying a brilliantly simple solution: The drafting system motors produce a short thin sliver section that simply breaks during can changing. In contrast to conventional draw frames with high-maintenance mechanical sliver separation, the typical advantages of the Truetzschler technology are evident here as well.

Optimization of sliver coiling

The separate can plate drive allows convenient continuous adjustment of the coiling pattern via the display.

The coiling geometry is designed in such a way that the slivers can be drawn from the can without any problems."



Hydropolished Coiler tube

Hydro-polished coiler tube

The flexible sliver coiling plate with its optimal surface properties ensures perfect sliver coiling - regardless of the material.

The special polish of the tubes results in virtually frictionless sliver coiling and thus reduced sliver load.



The simple setting by means of the individual can changer drive allows perfect setting of the coiling geometry.



SMART CREEL

The new perfection of the creel

Individual sliver sensor
in SMART CREEL



The SMART CREEL detects the presence as well as movement of a sliver. This ensures a secure and faultless sliver break detection. In contrast to contact rollers, the optical Truetzschler sensors protect against operating errors since they work even if the pressure rollers are not applied. The desired doubling is simply entered via the software. This is particularly helpful to always ensure the correct blending since no sliver can be omitted. The SMART CREEL is of course also equipped with a single servo drive.

Thanks to this unique Truetzschler feature, there is no need for the leveller motor to further accelerate the slower creel, resulting in a high levelling dynamics!

| | Intelligent single sliver detection | Servo drive | Light-barrier |
|-------------|-------------------------------------|-------------|---------------|
| SERVO CREEL | – | X | X |
| SMART CREEL | X | X | – |



One idea makes the difference: separate drive with convincing advantages.



SMART CREEL



In connection with the new Truetzschler remote display, it is possible to remedy sliver breaks effectively and quickly. Because in case of a sliver break, the T-LED automatically switches over and indicates the position of the sliver break in the creel.

Intuitive and efficient machine operation

via touch screen and T-LED

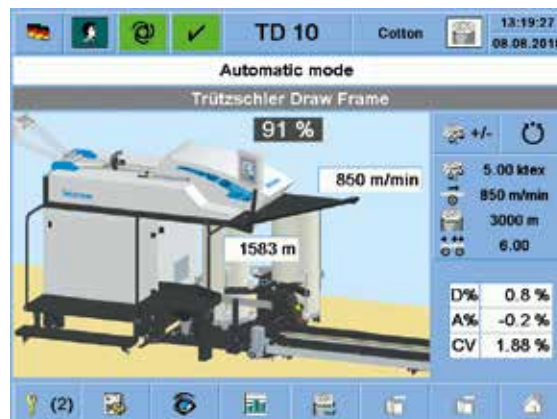
T-LED – the Truetzschler remote display

The T-LED system makes machine statuses visible throughout the spinning mill. When indicating the progress of the can filling, for instance, the operator can see at one glance which draw frame requires a new empty can first. In case of a sliver break, the T-LED automatically switches over and indicates the position of the sliver break in the creel.

If the focus is on the indication of sliver count variation A%, it can also be selected for display in the software. This helps never to lose sight of the draw frame sliver quality, even from a distance.

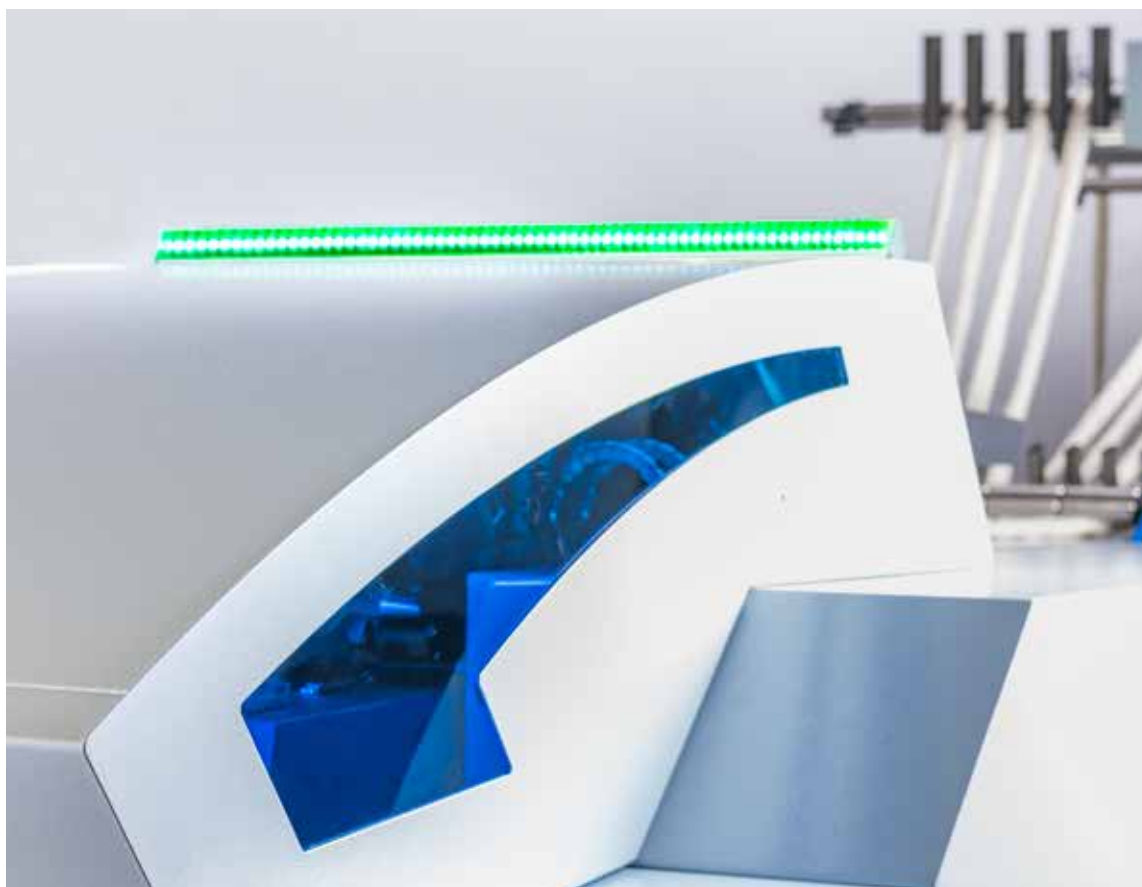
Touch screen

In addition, there is of course the machine display with touch screen, same as on all Truetzschler machines. The draw frame is conveniently operated to a great extent via language-independent symbols or graphics.



All important parameters are clearly displayed with numbers and symbols on the main screen.

T-LED remote display –
Machine statuses made
visible



Digitalisation in spinning preparation

Quality control for continuous sliver quality

Online quality monitoring

The key points for networked machine monitoring are high-quality sensors that can measure quality in real time to ensure that every metre of sliver is controlled.

The integrated quality sensors such as DISC MONITOR allow the sliver quality to be displayed online and on any device via T-DATA in real time. The control of the values is handled by the machine control, which stops the production when self-selected quality limits are reached.

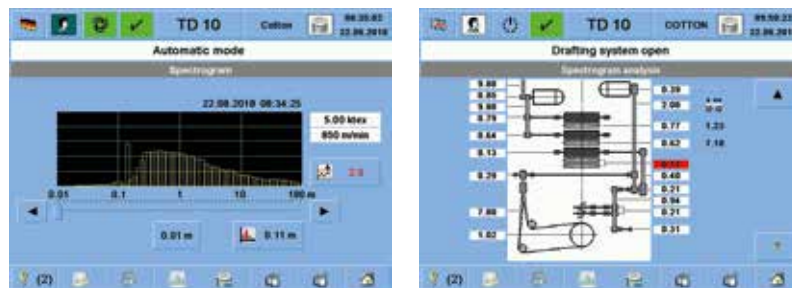
Individual quality limits can be defined for:

- A % sliver count variation
- CV % sliver evenness
- Thick places
- Periodic defects via the spectrogram

Networked machine with T-DATA

The optional connection to the real time monitoring system T-DATA makes it possible to analyse all quality values and malfunctions of the TD 10 with one click.

This allows simple quality benchmarking of all draw frames to quickly detect and efficiently eliminate malfunctions of individual draw frames.



The spectrogram shows a peak at 11 cm, the software analyses possible problem areas and indicates them in the gearing diagram. This results in efficient troubleshooting with shortest downtimes.

Standard spectrogram monitoring

Spectrogram analyses are an important tool to monitor quality, specifically for draw frames. Smallest top roll damages or, for example, incorrectly set pressures, can result in periodic imperfections in the sliver and thus also in the yarn.

For efficient and quick detection of these errors, Truetzschler offers spectrogram monitoring as standard in all draw frames.

In case of an error, an intelligent algorithm immediately shows possible components that can be the cause for the periodic fault.



T-DATA – My Production

Recognising great potential in small details

All important data in view at all times

The Truetzschler Online Data Monitoring System T-DATA gathers all current production and quality data. Due to its modern web architecture, these data are also available while 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. T-DATA makes sure that every metre of sliver in the can has been checked.

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.

The right sensors at the right places

Truetzschler sensors measure where they are needed. Thus, all important quality and production data that are required for the optimal control of production are determined. The DISC MONITOR, for example, permanently monitors the current draw frame production and issues a warning as soon as irregularities occur in the draw frame sliver.

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".



Watch the
My Production
app video on
YouTube.



www.myproduction-app.com



MY PRODUCTION MY SUCCESS

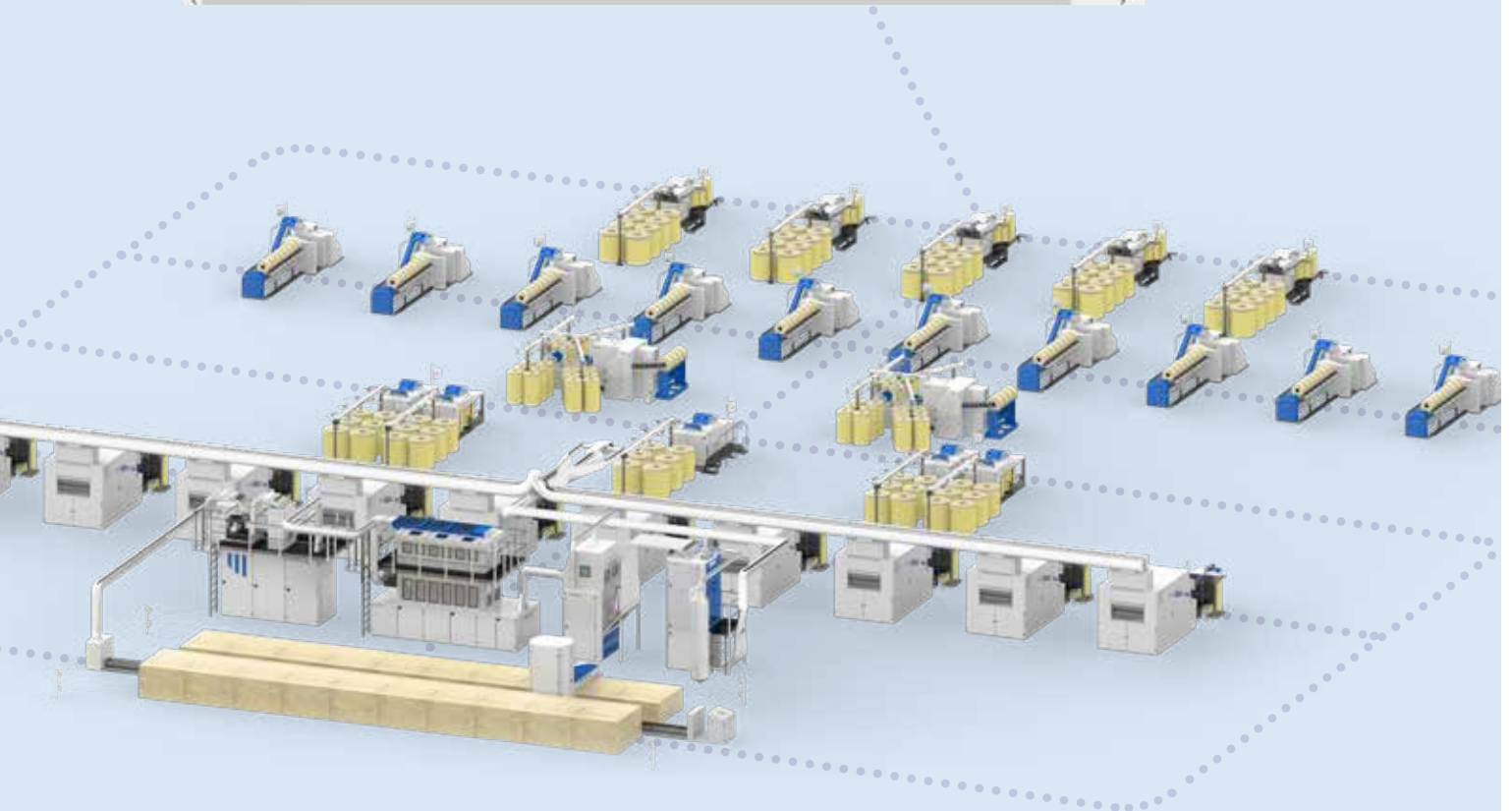
The new **My Production** app for T-DATA users



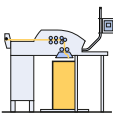
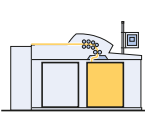
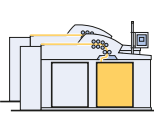
Comparing two draw frames reveals a sliver fault on one draw frame (in orange).



Data of the individual machines, for instance, can be read on a tablet PC.



Technical data

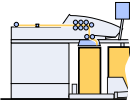
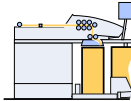
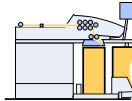
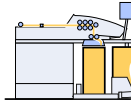
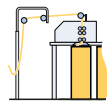
| | | Breaker draw frames | | |
|-------------------------------|-------------------|--|---|---|
| | | TD 7 | TD 9 | TD 9T |
| | |  |  |  |
| Maximum delivery speed | m/min | 1,000 | 1,000 | 1,000 |
| Can diameter | mm | 600 | 1,000 + 1,200 | 1,000 + 1,200 |
| Can height | mm | 1,000 - 1,500 | 1,200 - 1,500 | 1,200 - 1,500 |
| Cans without ball castors | | • | – | – |
| Cans with ball castors | | • | • | • |
| Material: Fibers up to 60 mm | | • | • | • |
| Material feed | ktex | 15 - 50 | 15 - 50 | 15 - 50 |
| Draft | fold | 4 - 10 | 4 - 10 | 4 - 10 |
| Air volume of suction | m ³ /h | 600 | 600 | 1,200 |
| Negative pressure of suction: | -Pa | 400 | 400 | 480 |
| Installed draw frame power | kW | 5.0 | 5.25 | 10.5 |
| Installed can changer power | kW | 0.5 | 0.25 | 0.5 |
| Installed filter power | kW | 0.9 | 0.9 | 0.9 |
| Installed power SMART CREEL | kW | 0.6 | 0.6 | 1.2 |
| Installed power SERVO TRACK | kW | 0.3 | – | – |
| Continuous power consumption | | depending on application, approx. 0.020 – 0.030 kWh/kg | | |
| Compressed air requirement | NI/h | 240 | 280 | 560 |
| Noise level | dB(A) | 84 | 84 | 84 |



Integrated Draw Frame IDF 2



DISC LEVELLER

| Autoleveller draw frames | | | | |
|--|---|---|---|---|
| TD 10 | TD 10-600 | TD 10C | TD 10-600C | IDF 2 |
|  |  |  |  |  |
| 1,000 | 600 | 1,000 | 600 | 700 |
| 400 – 600 | 400 – 600 | 400 – 600 | 400 – 600 | 400 – 600 |
| 900 – 1,500 | 900 – 1,500 | 900 – 1,500 | 900 – 1,500 | 900 – 1,500 |
| • | • | • | • | • |
| • | • | • | • | • |
| • | • | • | • | • |
| 15 - 50 | 15 - 50 | 15 - 50 | 15 - 50 | 6 - 10 |
| 4 - 11 | 4 - 11 | 4 - 11 | 4 - 11 | 1 - 3 |
| 800 | 800 | 800 | 800 | 350 |
| 450 | 450 | 450 | 450 | 450 |
| 9.8 | 6.9 | 9.8 | 6.9 | 4.6 |
| 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 0.9 | 0.9 | 0.9 | 0.9 | – |
| 0.6 | 0.6 | 0.6 | 0.6 | – |
| 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| depending on application, approx. 0.020 – 0.030 kWh | | | | 2.5 kW |
| 240 | 240 | 240 | 240 | 2,800 |
| 84 | 79 | 84 | 79 | 79 |



4-over-3 drafting system technology



Individual sliver monitoring in the feed area of the draw frame

Equipment and options

Equipment and options

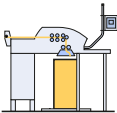
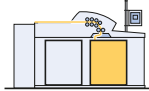
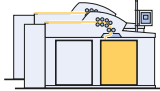
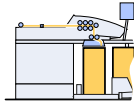
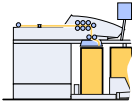
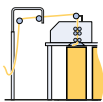
| |
|---|
| Single head version |
| TWIN version |
| Good accessibility to all maintenance and cleaning points |
| Safety panels |
| Modern, energy-saving drives |
| Infinitely variable setting of the delivery speed |
| Individual drive for infinitely variable setting of sliver count and draft |
| Individual can plate drive for optimized sliver coiling |
| 4-over-3 drafting system with pressure bar |
| Individual sliver drafting system 2-over-2 |
| Pneumatic load of top roll, individually adjustable and monitored |
| Quick relief during standstill |
| Coiler plate with hydro polished tube prevents deposits |
| Integrated suction in drafting system |
| Microcomputer control |
| Data transmission interface to T-DATA |
| Colour touch screen for operation, maintenance and service |
| T-LED remote Display |
| Short-term leveller SERVO DRAFT |
| Input sensor DISC LEVELLER |
| Input sensor measuring funnel |
| Automatic sliver count monitoring DISC MONITOR |
| Optimization package TD-OS – Separately driven servo drive for middle drafting system cylinder – Software package AUTO DRAFT for self optimization of draft |
| OPTI SET for perfect levelling quality |
| Integrated quality monitoring (sliver count, sliver evenness, integrated spectrogram analysis) |
| Maintenance management |
| Rake creel, double-row for up to 8-fold doubling |
| Separately driven SERVO CREEL |
| Separately driven SMART CREEL |
| Automatic rotary can changer under floor |
| Automatic rotary can changer above floor |
| Automatic linear changer under floor |
| Automatic linear changer above floor |
| Can magazine CAN TRACK for empty cans |
| Driven can magazine SERVO TRACK for empty cans (only under floor) |
| System can carriage for cans without castors |
| Continuous suction with monitoring of negative pressure (above and underfloor) |
| Integrated filter TD-FB with fan, large filter surface and high-volume collecting container |

1) Automatic synchronisation with the card

2) via the card or card control

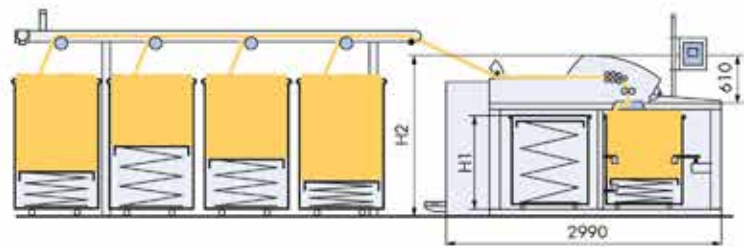
3) with different sensor

● = Series ○ = Option

| Breaker draw frames | | | Autoleveller draw frames | | |
|--|---|---|---|--|---|
| TD 7 | TD 9 | TD 9T | TD 10/ TD 10C | TD 10-600/ TD 10-600C | IDF 2 |
|  |  |  |  |  |  |
| • | • | — | • | • | • |
| — | — | • | — | — | — |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | 1) |
| — | — | — | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | — |
| — | — | — | — | — | • |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | • |
| • | • | • | • | • | 2) |
| • | • | • | • | • | 2) |
| ○ | ○ | ○ | ○ | ○ | ○ 2) |
| • | • | • | • | • | 2) |
| — | ○ | ○ | ○ | ○ | — |
| — | — | — | • | • | • |
| — | — | — | • | • | — |
| — | — | — | — | — | • |
| — | — | — | • | • | 2) 3) |
| — | — | — | ○ | — | — |
| — | — | — | • | • | |
| — | — | — | • | • | • 2) |
| • | • | • | • | • | • 2) |
| • | • | • | • | • | — |
| — | ○ | ○ | ○ | ○ | — |
| ○ | ○ | ○ | ○ | ○ | — |
| • | — | — | • | • | • |
| ○ | — | — | ○ | ○ | ○ |
| — | • | • | — | — | — |
| — | ○ | ○ | — | — | — |
| • | — | — | • | • | • |
| ○ | — | — | ○ | ○ | ○ |
| — | — | — | ○ | ○ | ○ |
| • | • | • | • | • | • 2) |
| ○ | ○ | ○ | ○ | ○ | — |

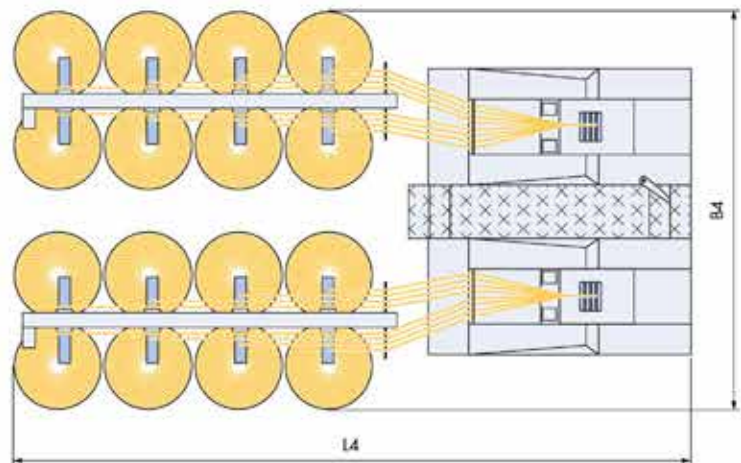
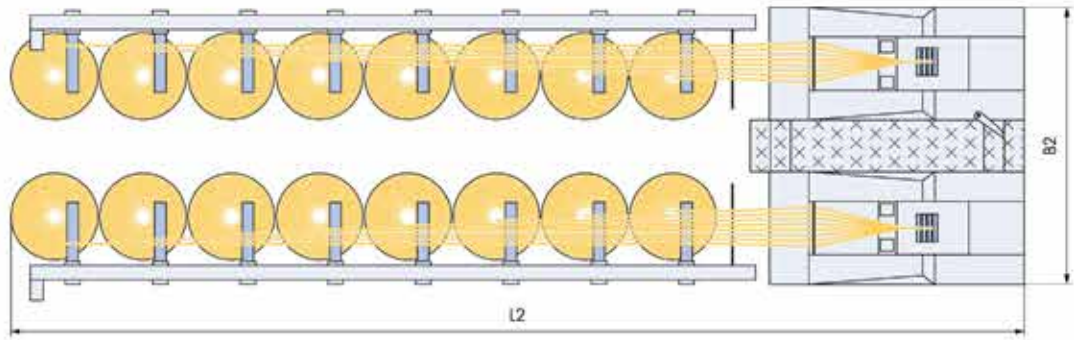
TWIN Draw Frame TD 9T

| Dimensions | | TD 9T | | | | | |
|------------------------------|----|----------------------------------|-------|-------|-------|-------|-------|
| | | Can delivery 1,000 or 1,200 mm Ø | | | | | |
| Can hight H1 | mm | 1,075 | 1,100 | 1,200 | 1,225 | 1,300 | 1,500 |
| Total hight H2 ¹⁾ | mm | 1,790 | 1,815 | 1,915 | 1,940 | 2,015 | 2,215 |



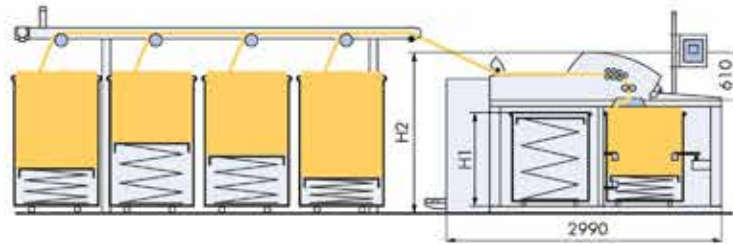
1) Above floor versions minus 80 mm

| Creel dimensions | | | | Can-Ø 1,000 mm | Can-Ø 1,200 mm |
|------------------|--------------|----|----|----------------|----------------|
| Creel, 1 rows | Total length | L2 | mm | 12,055 | 13,653 |
| | Total width | B2 | mm | 3,300 | 3,700 |
| Creel, 2 rows | Total length | L4 | mm | 7,805 | 8,703 |
| | Total width | B4 | mm | 4,600 | 5,400 |



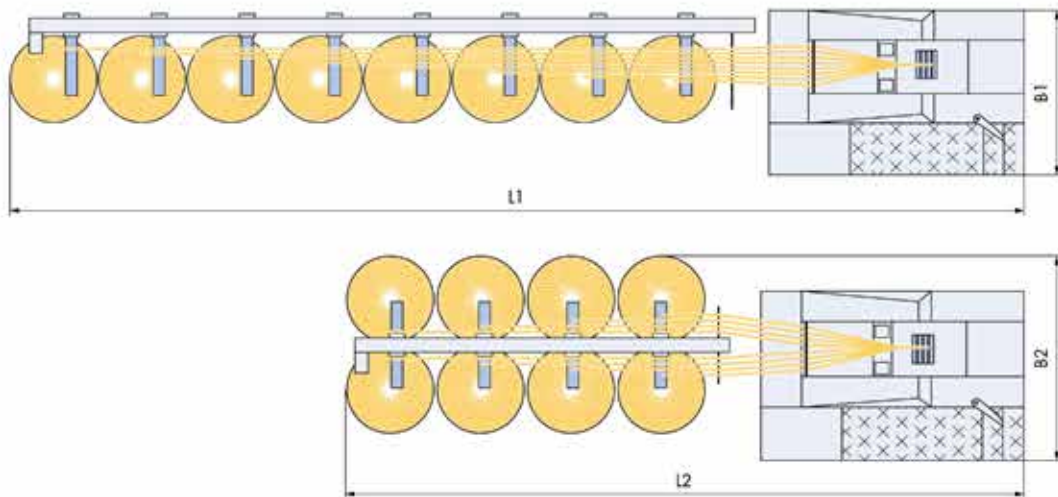
Breaker Draw Frame TD 9

| Dimensions | | TD 9 | | | | | |
|------------------------------|----|----------------------------------|-------|-------|-------|-------|-------|
| | | Can delivery 1,000 or 1,200 mm Ø | | | | | |
| Total can hight H1 | mm | 1,075 | 1,100 | 1,200 | 1,225 | 1,300 | 1,500 |
| Total hight H2 ¹⁾ | mm | 1,790 | 1,815 | 1,915 | 1,940 | 2,015 | 2,215 |



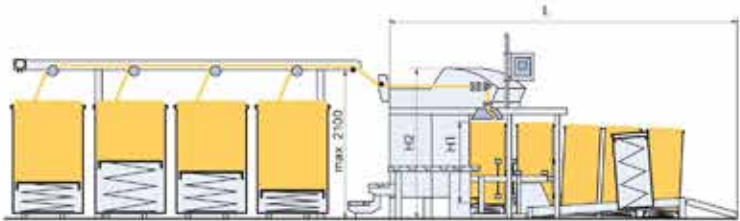
1) Above floor versions minus 80 mm

| Creel dimensions | | | | Can-Ø 1,000 mm | Can-Ø 1,200 mm |
|------------------|--------------|----|----|----------------|----------------|
| Creel, 1 rows | Total length | L1 | mm | 12,055 | 13,655 |
| | Total width | B1 | mm | 1,950 | 2,150 |
| Creel, 2 rows | Total length | L2 | mm | 7,805 | 8,705 |
| | Total width | B2 | mm | 2,300 | 2,400 |

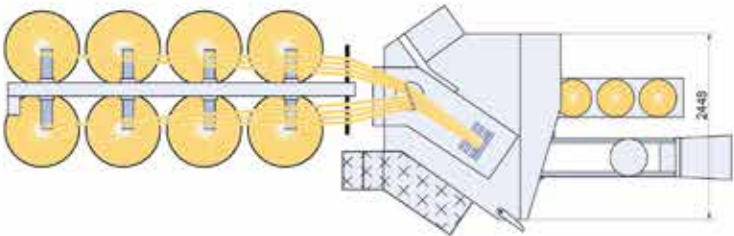


Breaker Draw Frame TD 7

| Dimensions | | TD 7 | | | | | | |
|------------------------------|----|-------|-------|-------|-------|-------|-------|-------|
| Can hight H1 | mm | 1,050 | 1,100 | 1,200 | 1,300 | 1,400 | 1,500 | 1,525 |
| Total hight H2 ¹⁾ | mm | 1,855 | 1,905 | 2,005 | 2,105 | 2,205 | 2,305 | 2,330 |

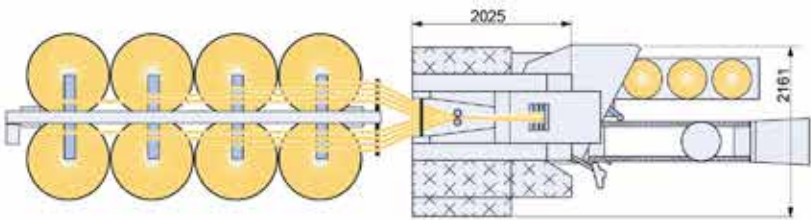
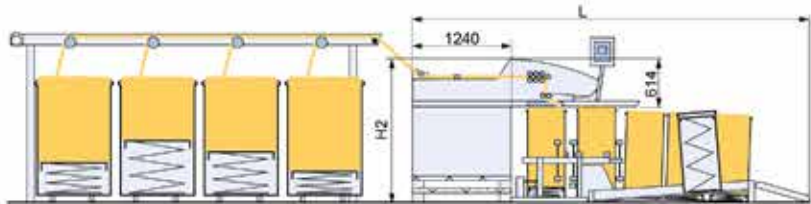


1) plus adjustment (max. 100 mm)



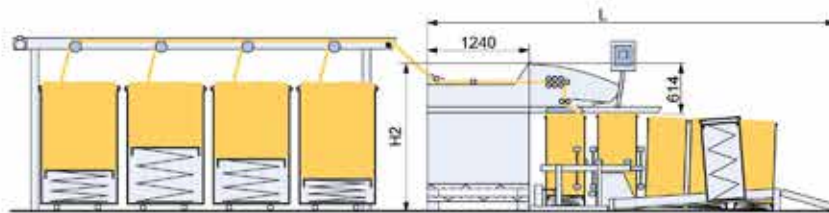
Autoleveller Draw Frames TD 10 and TD 10-600

| Dimensions | | TD 10 + TD 10-600 | | | | | | | |
|----------------|----|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Can hight H1 | mm | 900 | 1,000 | 1,070 | 1,100 | 1,200 | 1,300 | 1,400 | 1,500 |
| Total hight H2 | mm | 1,675 | 1,775 | 1,845 | 1,875 | 1,975 | 2,075 | 2,175 | 2,275 |



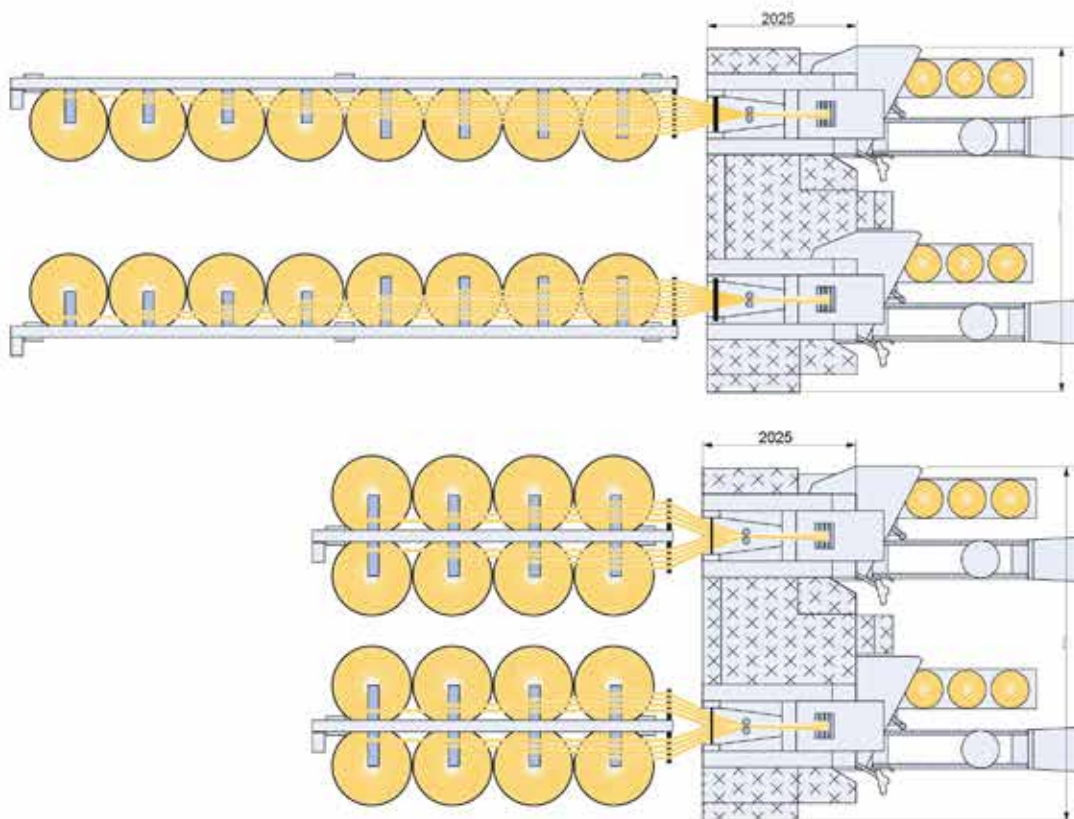
Autoleveller Draw Frames TD 10C and TD 10-600C

| Dimensions | | TD 10C + TD 10-600C | | | | | | | |
|------------------------------|----|---------------------|-------|-------|-------|-------|-------|-------|-------|
| Can hight H1 | mm | 900 | 1,000 | 1,070 | 1,100 | 1,200 | 1,300 | 1,400 | 1,500 |
| Total hight H2 ¹⁾ | mm | 1,675 | 1,775 | 1,845 | 1,875 | 1,975 | 2,075 | 2,175 | 2,275 |



1) plus adjustment (max. 100 mm)

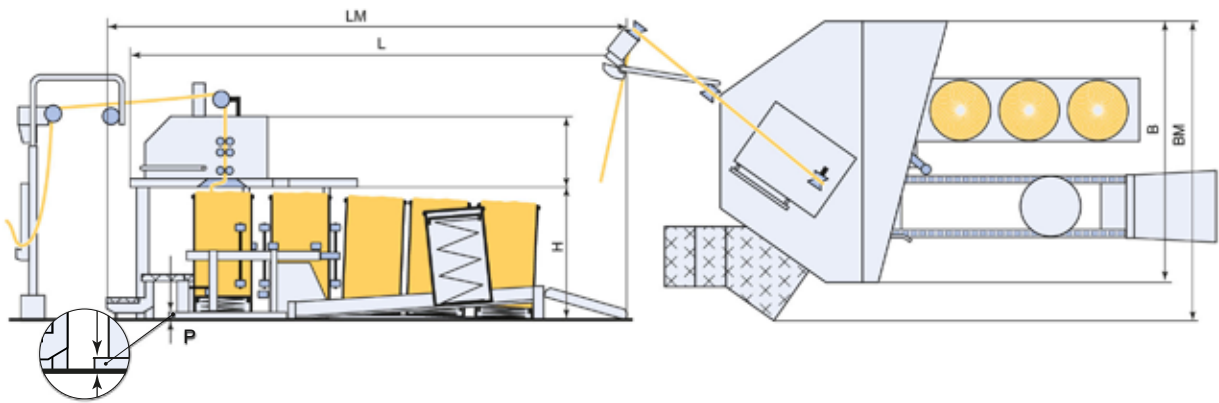
| Creel dimensions | | | | Can-Ø 1,000 mm | Can-Ø 1,200 mm |
|------------------|-----------------|----|--|----------------|----------------|
| Creel, 1 rows | Total length L1 | mm | | 11,390 | 12,890 |
| | Total width B1 | mm | | 3,020 | 3,420 |
| Creel, 2 rows | Total length L2 | mm | | 7,190 | 7,890 |
| | Total width B2 | mm | | 4,600 | 5,400 |



Integrated Draw Frame IDF 2

| Dimensions | | Can-Ø 400-600 mm | Can-Ø 1,000 mm |
|---------------------------|----|------------------|----------------|
| Hight of bottom plate P | mm | 65 | 95 |
| Width without platform B | mm | 2,110 | 2,750 |
| Total width BM | mm | 2,427 | 2,897 |
| Length without platform L | mm | 1,850 | 2,250 |
| Total length LM | mm | 4,207 – 4,597 | 2,475 – 2,737 |
| Hight H | mm | 935 – 1,510 | 950 – 1,575 |

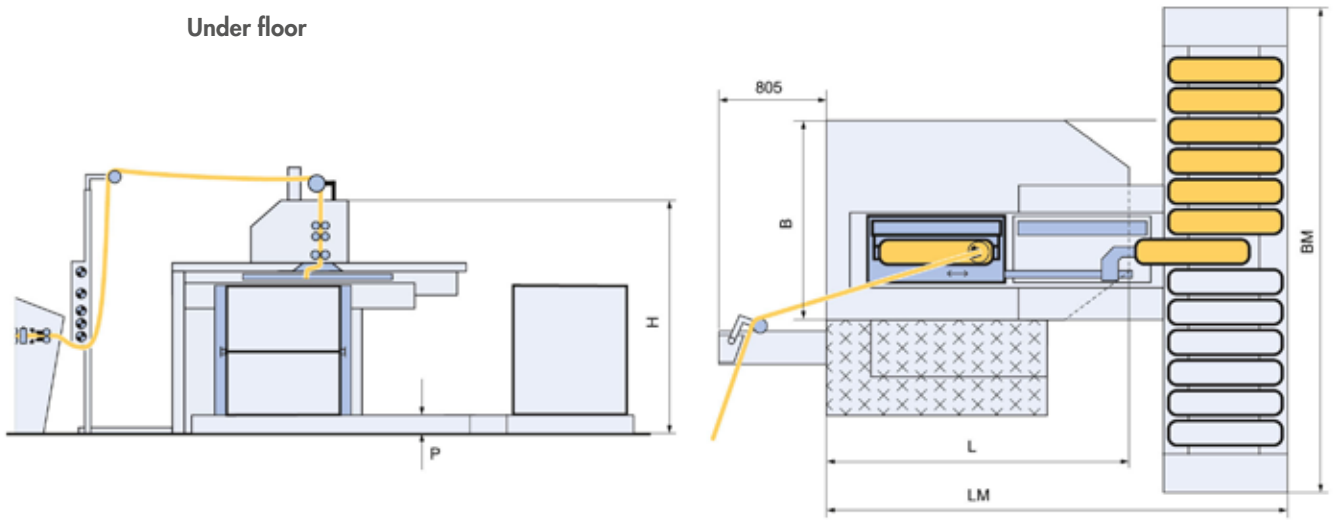
Under floor



Integrated Draw Frame IDF 2R

| Dimensions | | Can 200×900×1073 mm |
|-------------------------|----|---------------------|
| Hight of bottom plate P | mm | 150 |
| Width B | mm | 1,620 |
| Total width BM | mm | 3,840 |
| Length L | mm | 2,400 |
| Total length LM | mm | 3,685 |
| Hight H | mm | 1,907 |

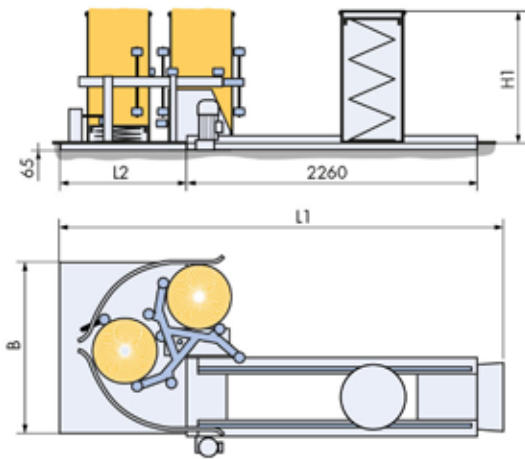
Under floor



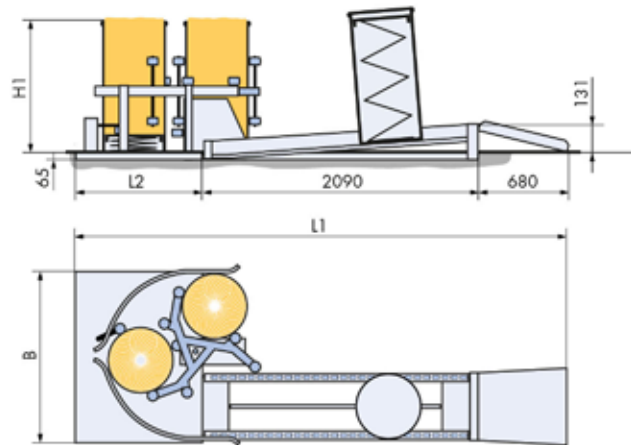
Can changer versions TD 7, TD 10, IDF 2

| Dimensions | | Can changer versions | | | |
|--------------------|----|----------------------|-------|-------|-------|
| Inner can diameter | mm | 400 | 450 | 500 | 600 |
| Total can hight H1 | mm | 900 – 1,500 | | | |
| L1 | mm | 3,690 | 3,750 | 3,770 | 3,840 |
| L2 | mm | 930 | 965 | 1,000 | 1,070 |
| B | mm | 1,250 | 1,300 | 1,400 | 1,600 |

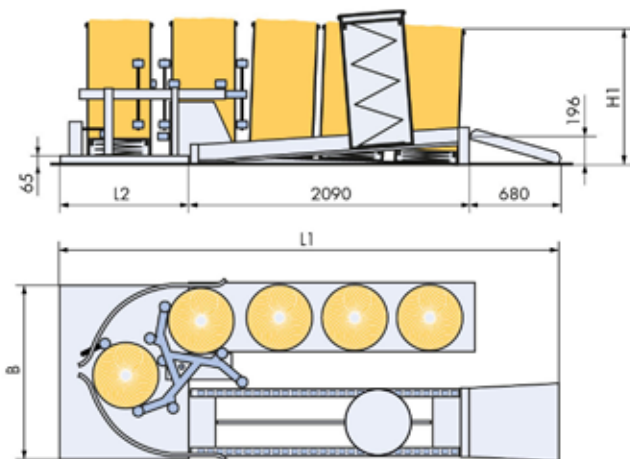
Under floor SERVO TRACK



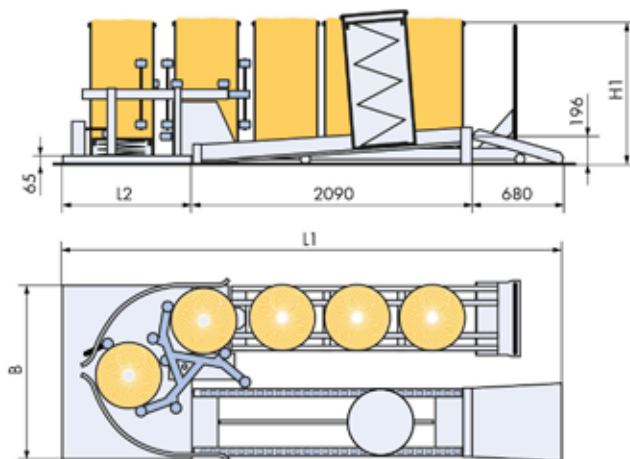
Under floor CAN TRACK



Above floor CAN TRACK delivery track



Above floor CAN TRACK can carriage





GERMAN 
Technology



www.machines-for-textiles.com/blue-competence

Truetzschler GmbH & Co. KG Textilmaschinenfabrik
Postfach 410164 · 41241 Moenchengladbach, Germany
Duvenstr. 82-92 · 41199 Moenchengladbach, Germany
Telephone: +49 (0)2166 607-0 · Fax: +49 (0)2166 607-405
e-mail: info@truetzschler.de · www.truetzschler.com

**Legal disclaimer:**

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

GETTING FIBERS INTO SHAPE – SINCE 1888

TRÜTZSCHLER SPINNING

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

TRÜTZSCHLER NONWOVENS

Bale openers/Mixers | Card feeders | Cards/Crosslappers | Wet laying lines
Hydroentangling, needling, thermo- and chemical bonding lines
Finishing, drying, winding, slitting machinery

TRÜTZSCHLER MAN-MADE FIBERS

Filament lines: Carpet yarns (BCF) · Industrial yarns

TRÜTZSCHLER CARD CLOTHING

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

www.truetzschler.com