COMBING

GETTING FIBERS INTO SHAPE

TRÜTZSCHLER
SPINNING


TCO 12
TCO 12

COMBING

Experience interactive added values with our Trützschler Spinning App

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

2. **Use the Smartview function**
   Open the Trützschler Spinning App and activate Smartview in the drop-down side menu.

3. **Scanning and viewing additional information**
   Scan the entire page that contains the scan icon with the Smartview function. Touch the screen to play the video. Get started.

SCAN

www.truetzschler.com/apps

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

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

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

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

SIBLE ACTION

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

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

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

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

The perfect interaction

Toyota combing technology and Trützschler draw frame technology

The introduction of the Comber TCO 12 has set new technological standards.
Toyota's knowledge of the combing process and experience with servo motors in weaving machines were combined with Trützschler's know-how in the development of autoleveller draw frames with individual drives.

The result: the Toyota-Truetzschler TCO 12.
It stands for consistently highest and reproducible qualities even at high production rates.

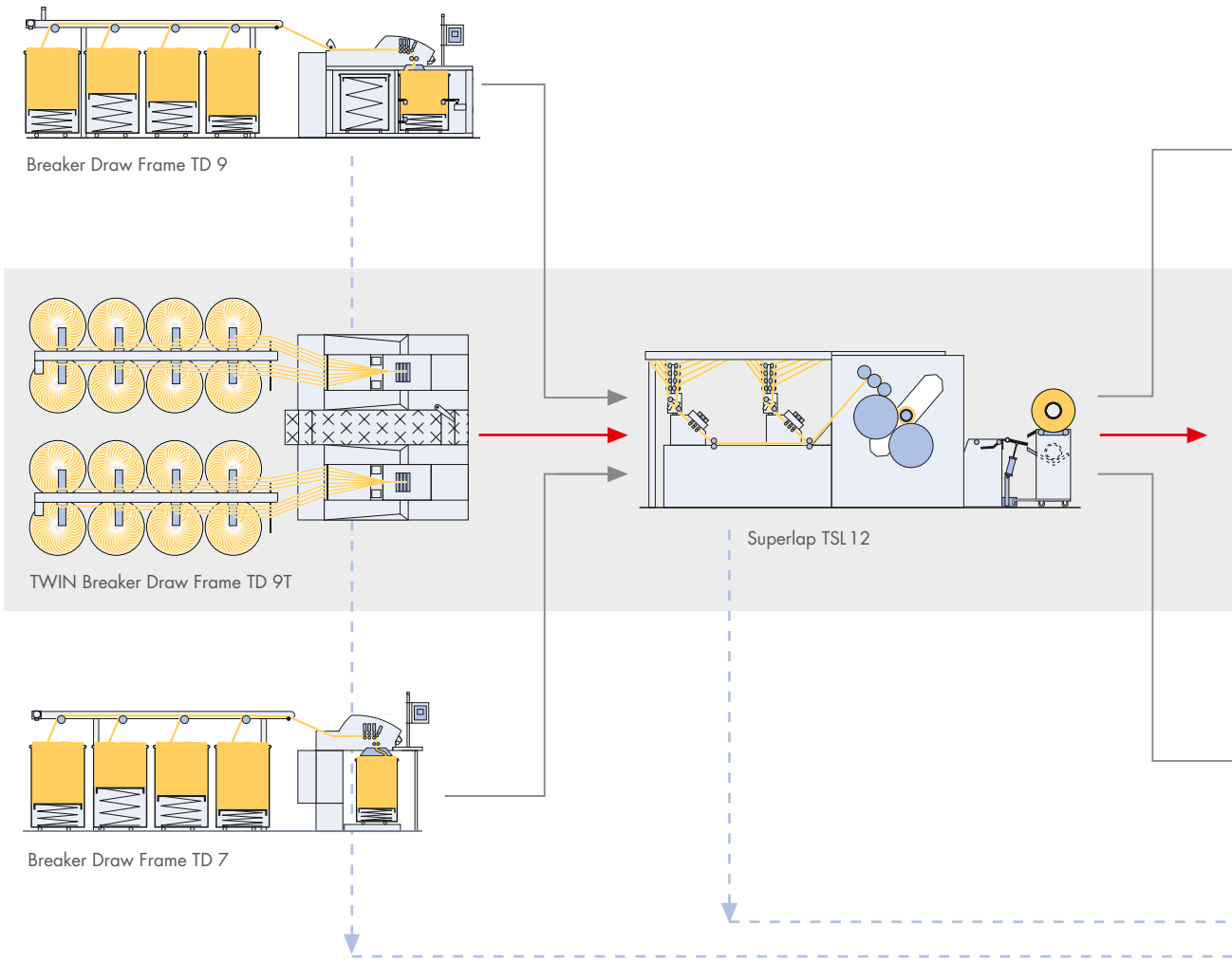
With the TCO 12A, fully automatic operation in combing is possible for the first time.

The robust Trützschler drafting system with pressure bar was designed for the high sliver masses and drafts of the comber.


4
6

Combing from one source

In the Truetzschler-Toyota combing technology, all components interact perfectly. Or in other words: Redefine your individual expectations on quality and economic efficiency.



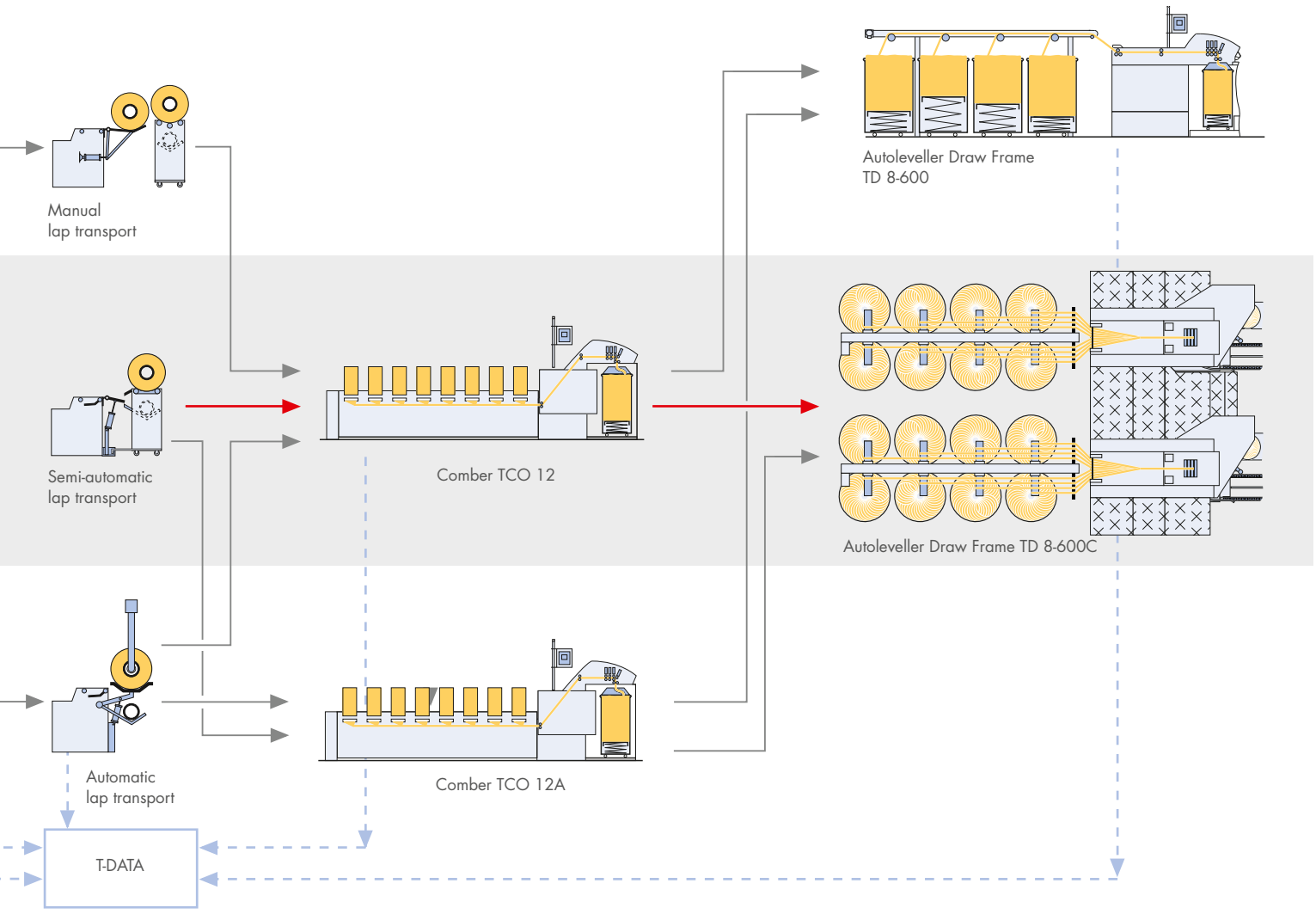
Breaker draw frames

With three different breaker draw frames, Truetzschler offers an optimal solution for every task. The most economical solution can be realised with the new concept of the Trützschler TWIN draw frames. In connection with Trützschler JUMBO CANS with 1,200 mm diameter, the economic efficiency is significantly improved once again.

Superlap

The Truetzschler-Toyota Superlap TSL 12 can be designed according to the organisational and technological requirements of the combing mill: 24-fold or 32-fold doublings are possible. The creel facilitates standard cans with 600 mm or 1,000 mm diameter, or JUMBO CANS with 1,200 mm diameter. The TSL 12 can transfer the laps to the transport carriage or feed them to an automatic lap transport system.

An example: 1,000 mm cans or even JUMBO CANS 1,200 mm result in a significantly higher efficiency in newly designed installations. In existing installations, the continued use of the customary 600 mm cans is possible.



Lap transport
Here three different solutions are available. A manual, semi-automatic and fully automatic lap transport is possible.

Comber
The heart of the combing mill is the Toyota-Truetzschler Comber TCO 12. Alternatively, the TCO 12A is also available. It is equipped with an automatic lap change.

Autoleveller draw frames
With its space-saving and compact features, the autoleveller Draw Frame TD 8-600C is ideal for use downstream from the comber. It is a modern alternative to double head draw frames applied otherwise.

Production and quality data monitoring
The Trützschler T-DATA system also monitors the combing machines and makes the data accessible online.

JUMBO CANS 1,200 mm

New economic efficiency also in combing

Traditionally, combers are used with 600 mm diameter cans. Only Toyota-Truetzschler combing allows the selection of larger, and thus more economical can formats up to 1,200 mm diameter.

192 %
more combing sliver in the new Trützschler JUMBO CANS

it's true

The filling quantity in the cans has a major influence on economic efficiency. Larger can dimensions have a positive impact:

- Higher efficiency
  - during processing in the creel of the downstream autoleveller draw frame
  - during filling of the cans
- Smaller number of
  - can transports
  - cans required
- Lower personnel costs
- Higher quality

Considerably higher efficiency at the downstream autoleveller draw frame

The larger the cans, the greater the efficiency at the downstream machine. Greatest economic advantage: 192 % longer runtime in the creel results in reduced downtimes on autoleveller draw frame. In practice, efficiencies can be increased by 2 – 3 %.

192 % more combing sliver in the can

When using the Toyota-Truetzschler comber with 1,200 mm JUMBO CANS, 192 % more sliver can be added compared to traditional cans with 600 mm diameter. The filling volume doubles even when using 1,000 mm cans.

Toyota-Truetzschler Comber TCO 12 with can changer for 1,000 mm cans

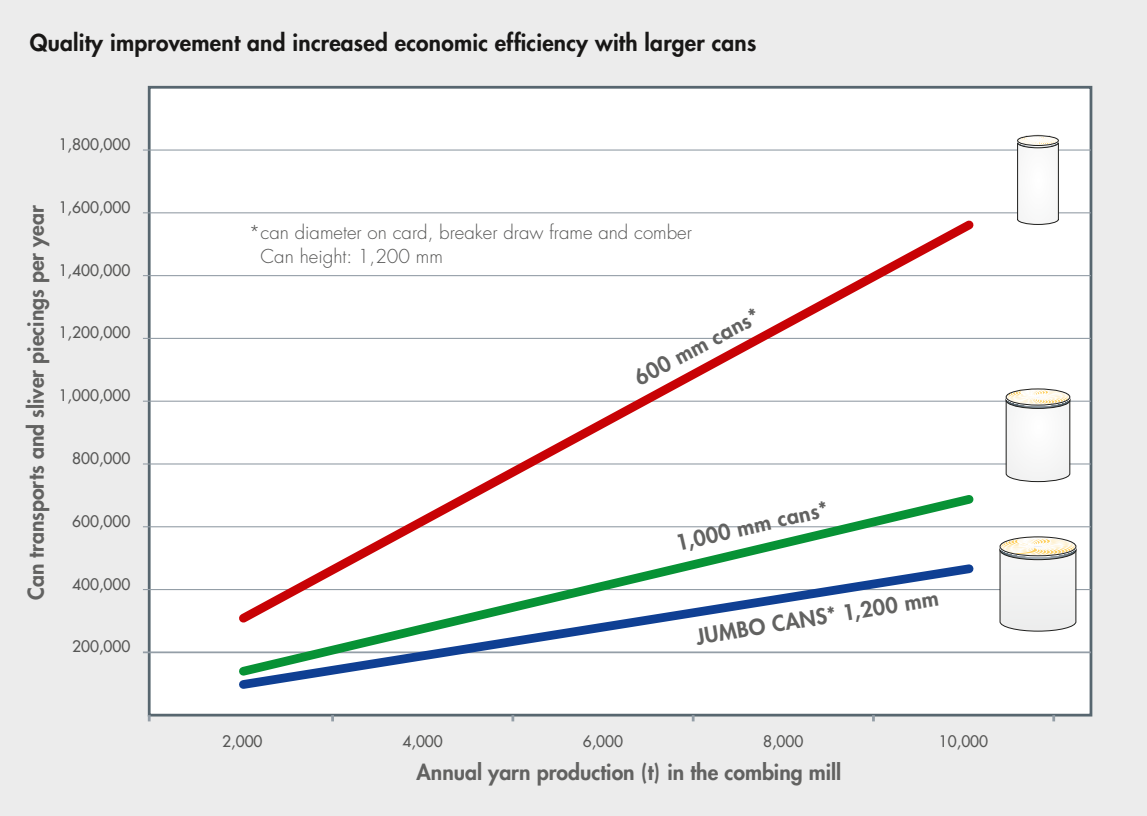
More than 70 % reduction in can transports and sliver piecings

In a combing mill, the JUMBO CANS can be applied between card and breaker draw frame, breaker draw frame and Superlap, and between comber and autoleveller draw frame.

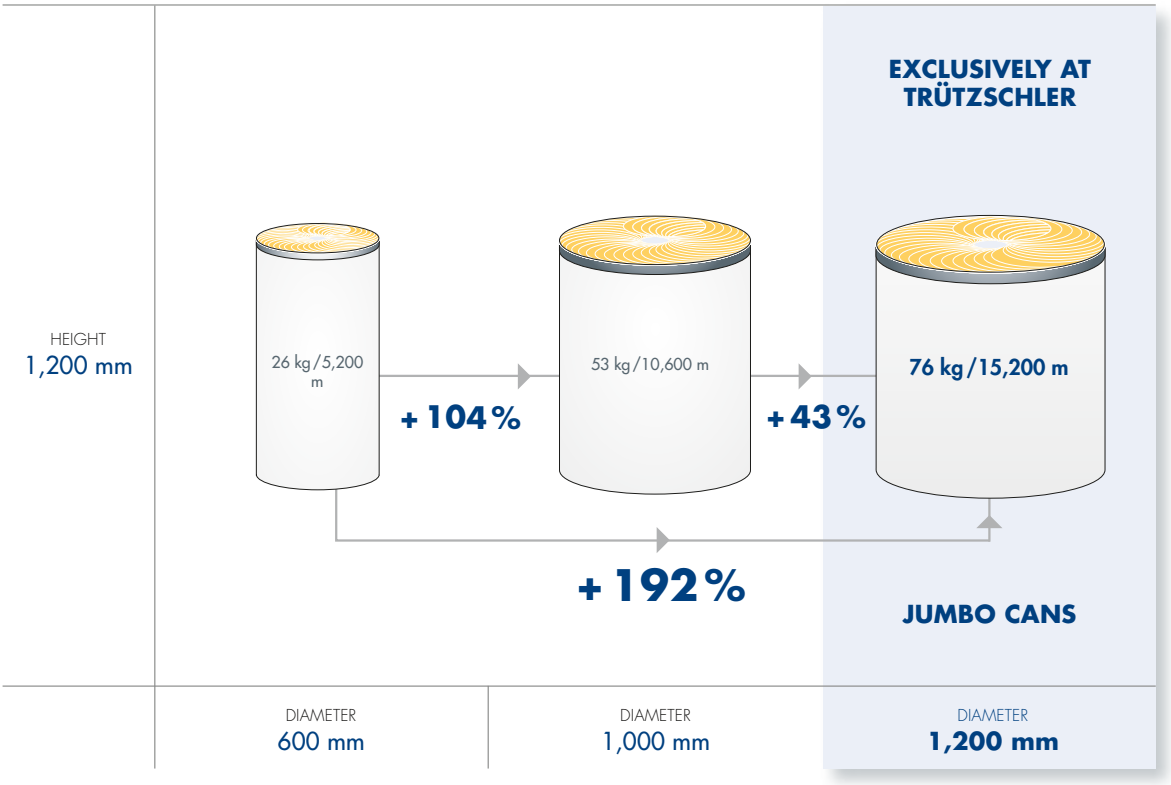
A spinning mill with an annual production of 6,000 t requires approx. 840,000 can transports per year when using 600 mm cans. This, of course, means the same amount of sliver piecings. In a spinning mill with 1,200 mm JUMBO CANS, the can transports and sliver piecings are reduced to approx. 240,000.

Can changers above or under floor

The under floor version simplifies handling particularly when large cans are used. The cans can easily be inserted into and removed from the can changer. As is common with other combers, no step must be overcome.



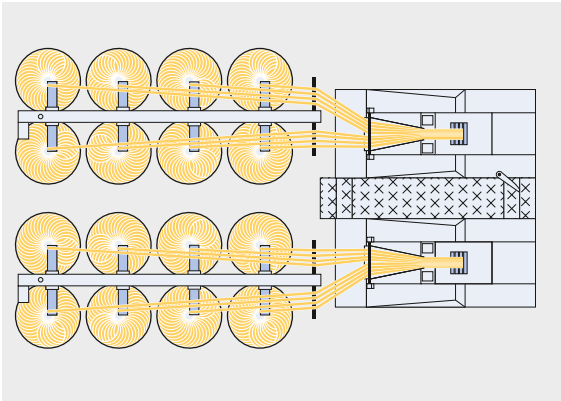
Less can transports means less sliver piecings, and thus less yarn imperfections



TWIN Draw Frame TD 9T

"Think twice" for twice the benefit

Trützschler has developed a new concept for draw frames without levelling. Thus, traditional classifications into single head and double head machines are outdated. The Trützschler Draw Frame TD 9T is a twin draw frame that is also available as single version. Thus, it is possible to implement each even and uneven number of drafting heads.



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

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.

No efficiency coupling by means of separate drive technology

Conventional double head draw frames have a very poor efficiency. Standstill on one side stops the production on the other side as well. This is not the case with the Trützschler TWIN-concept. Here the fault-free side continues with regular production.
A conventional draw frame with a single efficiency of 85 % actually realises only 72 %. The single efficiency factors must be multiplied:

On the Trützschler 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 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 Trützschler breaker Draw Frames TD 9T and TD 9 share a variety of technologically important elements with the reliable Trützschler autoleveller Draw Frame TD 8:

- 4 over 3 drafting system with pressure bar
- Pneumatic load, separately controllable for each top roller
- Pneumatic threading aid
- Self-adjusting lap monitoring

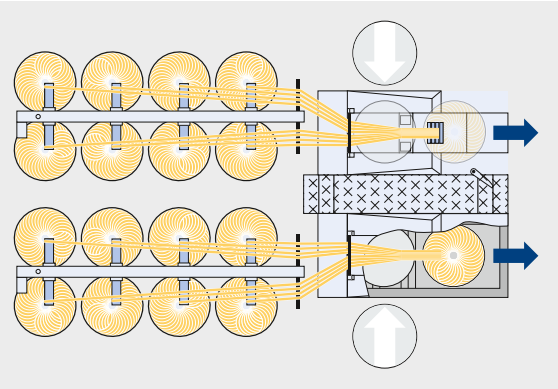
New can changer for the new draw frame

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

Developed for the new Trützschler can format

Naturally, both TD 9 versions are also designed to accommodate the new 1,200 mm JUMBO CANS. These cans with 43 % more volume show their advantages in the creels of the downstream autoleveller draw frames or the Superlap.



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

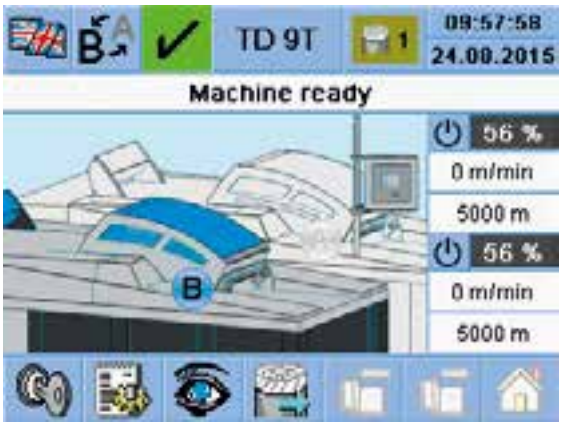
As standard, the can changer is installed under floor, but a version for above floor is also available.

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. The creel as well as the can changer can be reached with just a few steps from the platform. 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 colour 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 Trützschler, 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.



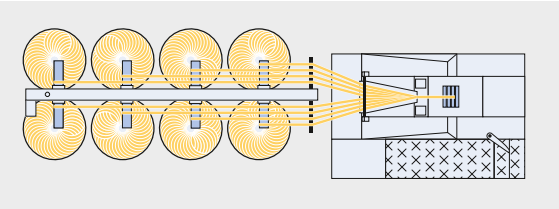
Operation becomes more transparent by using one touch screen for both sides.

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 breaker Draw Frame TD 7

If for reasons of space the 1,000 mm cans or the 1,200 mm JUMBO CANS cannot be placed at the Superlap, the reliable breaker Draw Frame TD 7 with 600 mm cans is used.



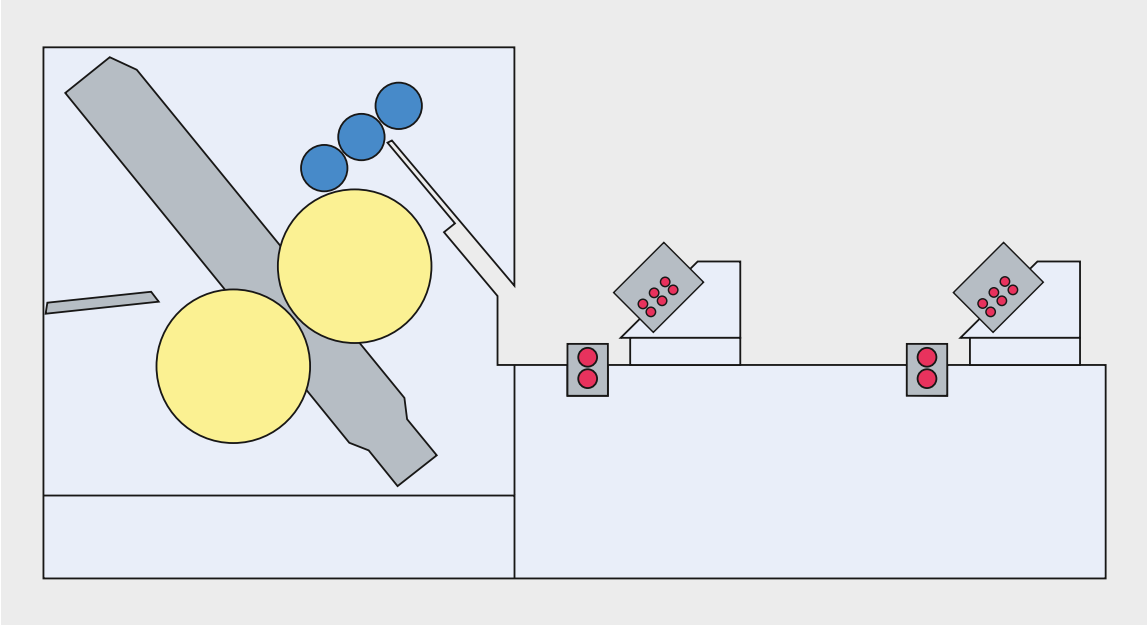
The space requirement of the Trützschler breaker Draw Frame TD 9 is reduced to the minimum.

For detailed technical data of the draw frames, see brochure: Draw Frames

Truetzschler-Toyota Superlap TSL 12

Multi-drive technology

The Superlap with multi-drive system produces premium quality laps. Thanks to individual drives, drafts and tension can be precisely adapted to cotton quality and batt weight.



Individual drives make an optimization of the lap build-up possible.

- Pressure calender
- Lap rollers
- Drafting heads

The 3-over-3 drafting systems are easily accessible. As is customary with Trützschler, the top rollers have the function of a separately controllable pneumatic load.


TSL 12

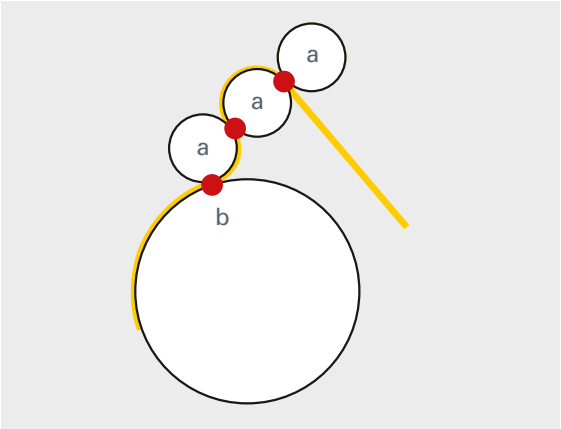
Perfect calendering

Consistently high lap quality guaranteed

Laps must have the same properties from the first to the last metre. On the one hand, this requires a uniform batt weight and on the other hand a perfect unwinding behaviour on the comber.

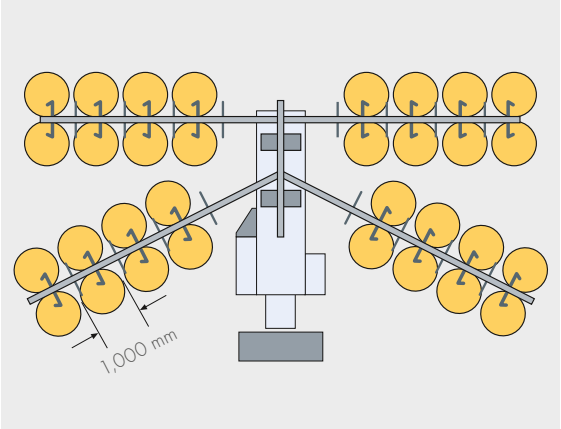
In order to meet both requirements, the lap formation process on the Superlap must be precisely synchronized. This applies particularly to draft and calendering processes. During material guidance from creel to lap machine, the focus is on fiber protection and optimal preparation for subsequent combing.

Perfect calendering to ensure a good lap unwinding behaviour on the comber



The calender unit uses three pressure points (●). In addition to the pressure points between the calender rollers (a), there is a calendering point to the lap roller (b).

Creel with individual sliver monitoring



The butterfly shape of the creel allows good accessibility and requires only little space. Creel versions are available for can diameters ranging from 600 mm to 1,200 mm. Doubling can be selected as 24-fold or 32-fold. Each sliver is individually monitored. This results in a high level of functional reliability and facilitates operation.

The unique lap tube feeding device allows quick lap change

The empty tubes are fed from the side through an opening in the frame. This Trützschler development reduces the time required for lap change, which has a significant influence on efficiency.

State-of-the-art control and convenient operation: Electrical and pneumatic control

The control cabinet is as easy to swing open sidewards as a door. This makes the machine completely accessible.

All pressure settings, e.g. of the pneumatically loaded top rollers and the calender rollers, are infinitely adjustable on the pneumatic unit.

The top rollers of the 3-over-3 drafting system are opened with the upper part of the drafting system and can easily be removed.

Operation takes place via the colour touch screen.

Toyota-Truetzschler Comber TCO 12

2-TWIN-DRIVE

The 2-TWIN-DRIVE concept ensures a smoother running of the machine in order to develop maximum combing quality. An optimized piecing process contributes to this as well.

2-TWIN-DRIVE motors

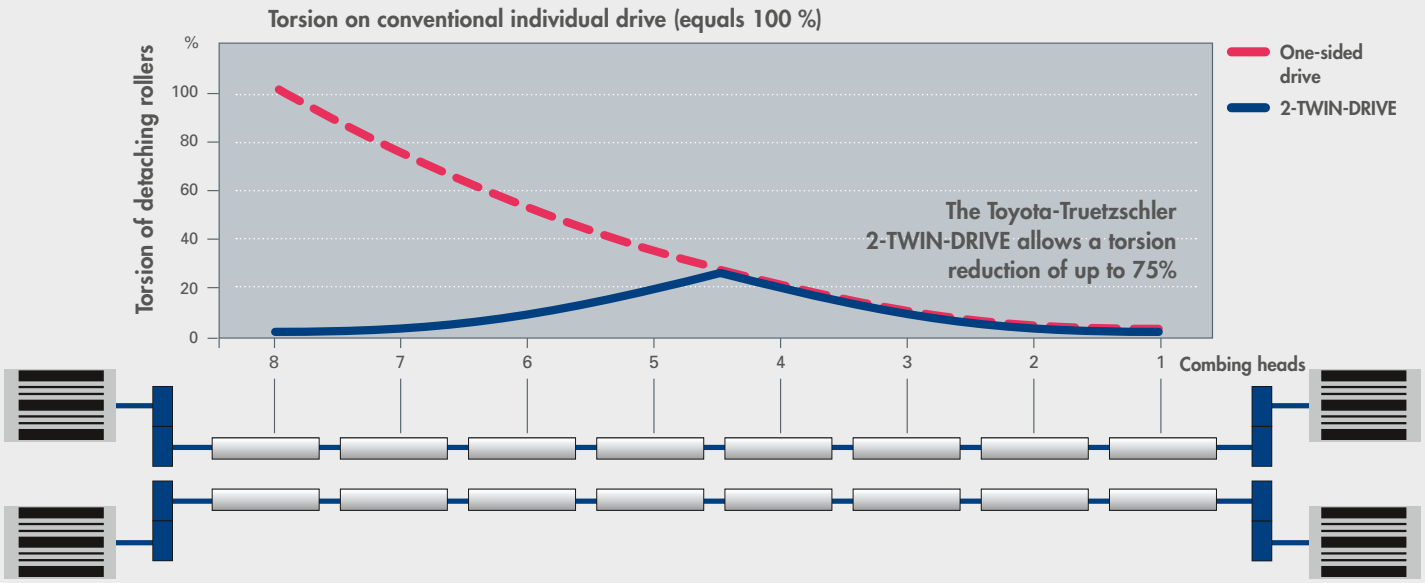
In conventional combers, the one-sided drive of the thin detaching rollers produces strong torsions. These are responsible for deviations in combing quality and noil volume between the combing heads. Due to this, the overall performance of the conventional comber is also limited.

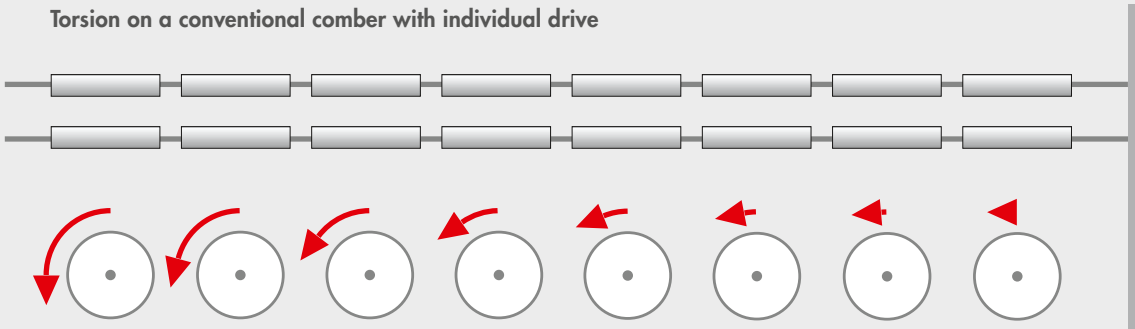
In the concept of the TCO 12, the detaching rollers are driven on both sides by two-times-two highly dynamic servo motors. This ensures completely synchronous running and fully identical movements on all combing heads.

An application-oriented optimization of the piecing process without time consuming laboratory tests is now possible. For the first time it is also possible to perform a temporal setting of the motion sequence in relation to other motion sequences.

Facts:

- Reduction of torsion by 75 %
- Reduction of vibration to less than 25 %
- Simple optimization of the piecing process
- 54 % reduction of deviations between the sliver counts of the individual combing heads
- Increase of nip rate to 600/min





Oil bath gear box

SCAN

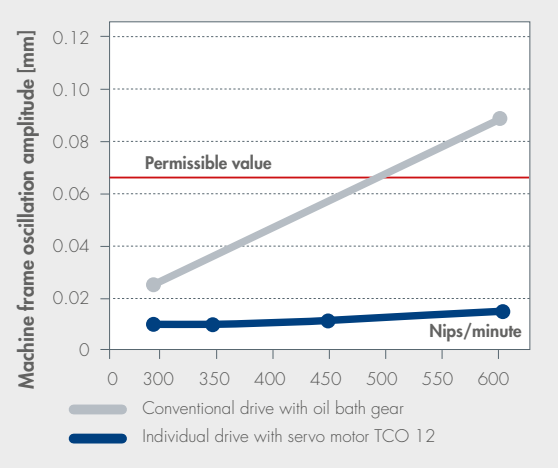
Here you will find more information on 2-TWIN-DRIVE.

Scan page with Smartview.

DUAL DRIVE

Only Toyota-Truetzschler combers has drives on both sides

The Toyota-Truetzschler Comber TCO 12 allows higher nip rates because the usual mechanical limitations of a one-sided gear are eliminated by the direct drives.

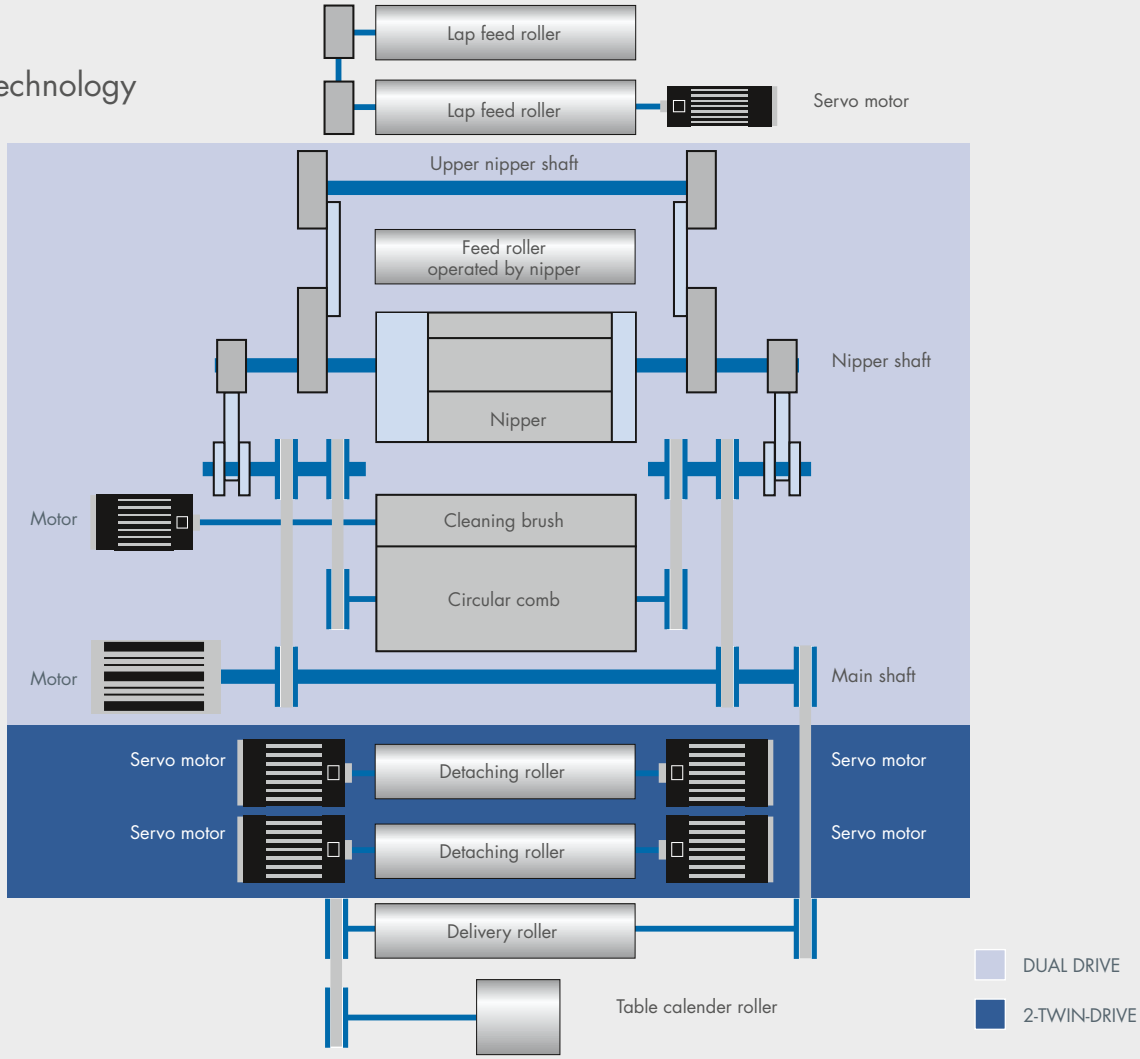


The frame vibrations are barely measurable, even at high nip rates.

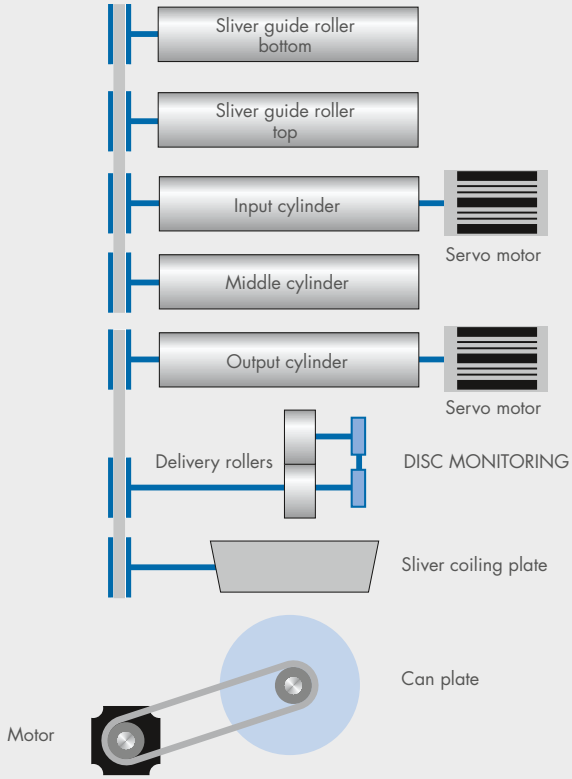
In conventional combers, control takes place via complex mechanical elements in an oil bath gear. In the process, the detaching rollers must change their rotational direction twice for each nip, i.e. accelerate and decelerate up to 600 times per minute along a precisely defined curve. The double-sided drive concept applies not only to detaching rollers. All important elements such as nipper and circular comb are driven from both sides.

Toyota-Truetzschler TCO 12 gearing diagram

Toyota combing technology



Truetzschler Draw frame technology



Higher nip rate

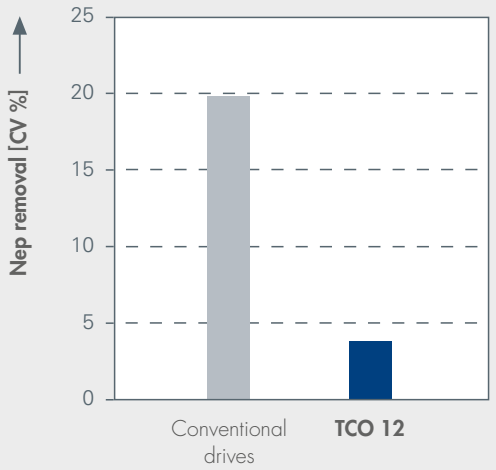
The decreased vibration and thus smoother running of the DUAL DRIVE technology in interaction with the solid machine frame result in a uniform quality at a higher level.

New servo motor technology

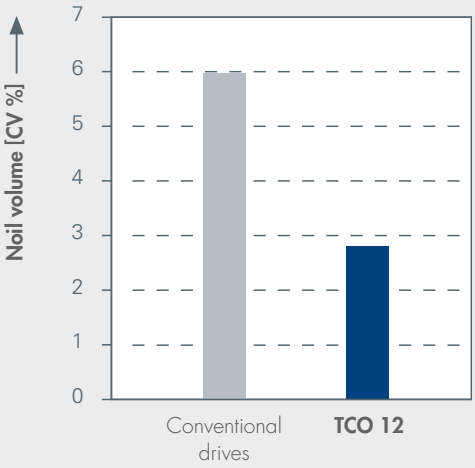
On the Comber TCO 12, specially designed servo motors perform the task of conventional gears. These highly dynamic motors for highly frequent reversal of rotation have proven themselves thousandfold in the application of Toyota weaving machines. The double-sided drive minimises deformations and opens up new perspectives in terms of economic efficiency and quality.

Now there are only slight variations of combing quality between the 8 combing heads

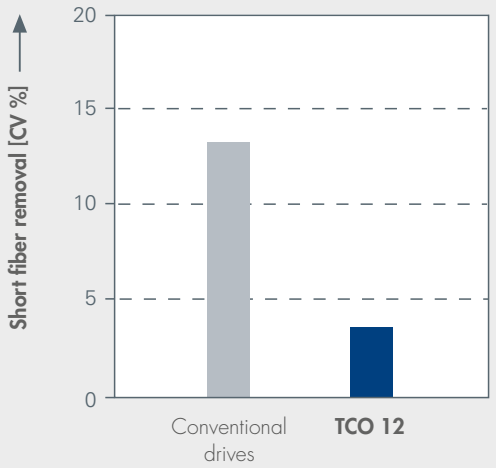
With a conventional one-sided drive, the detaching rollers do not follow the optimal motion sequence during each reversal of rotation due to the strong torsion. This results in different combing quality between the 8 combing heads. The double-sided drive ensures uniform motion of the detaching rollers at all eight combing points. This reduces the process-related irregularities.



Up to 80 % reduced variation coefficient during nep separation between the combing heads.



The variation coefficient of the noil volume between the combing heads is cut in half.



Up to 70% reduced variation coefficient during short fiber separation between the combing heads.

COMBING OPTIMIZER

Increased sliver quality due to automatic quality control

The individual drive technology with servo motors allows automatic optimization of the settings. The COMBING OPTIMIZER is such a self-learning, automatic optimization system. It finds the best possible quality setting for piecing. It changes the motion sequence of the detaching cylinder in a sensitive manner until the Quality Sensor DISC MONITOR reports the optimum sliver evenness. This fully automatic process lasts only a few minutes.

The TCO 12 is the only comber featuring such a self optimization without a single laboratory test.

Large colour touch screen

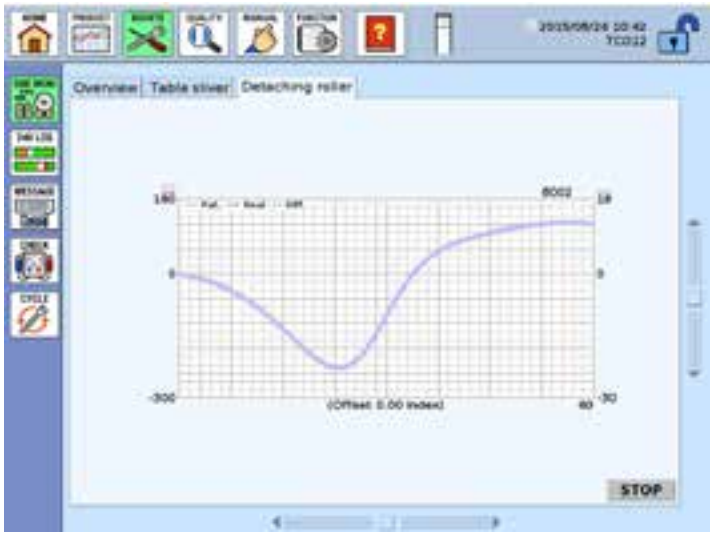


Illustration of COMBING OPTIMIZER optimization function

SCAN

This is how simple the COMBING OPTIMIZER works.

Scan page with Smartview.

COUNT CONTROL

The only type of levelling for a comber

The batt weight of older lap winders can vary over the entire length of the batt. This usually results in sliver count deviations. On the Toyota-Truetzschler Comber TCO 12, these deviations are compensated by the COUNT CONTROL levelling system. The Quality Sensor DISC MONITOR determines the sliver count and transmits a signal to the control, which adapts the main draft accordingly. The result is a permanently consistent sliver count.

Permanent monitoring of quality data

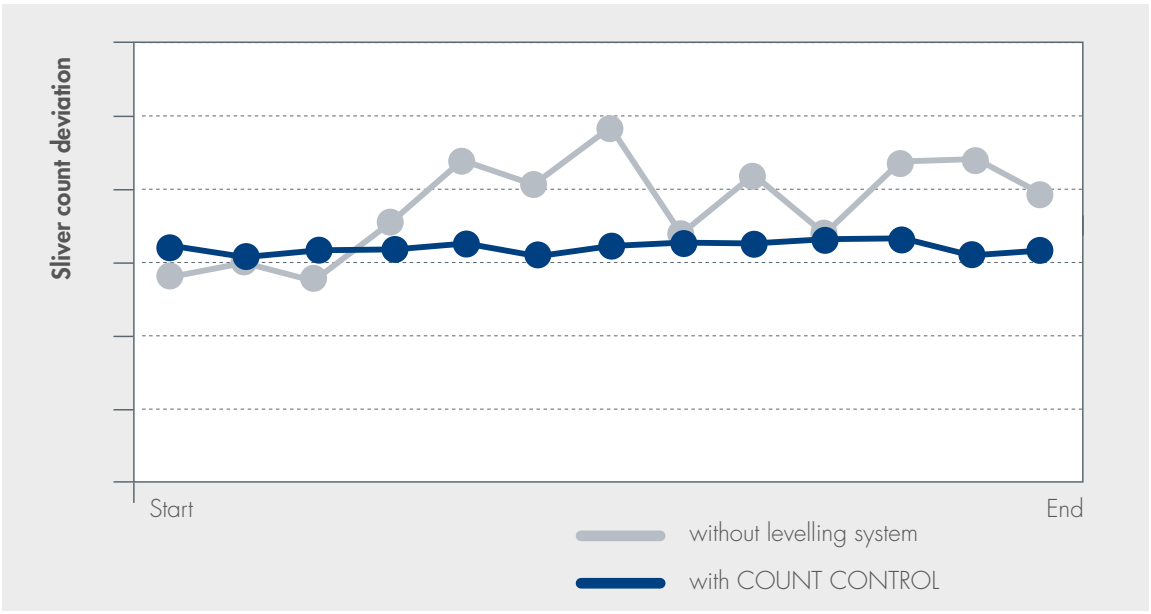
In addition, DISC MONITOR ensures permanent sliver monitoring. Every inch of sliver in the can is checked. The data are shown online on the machine display. No other comber manufacturer offers this convenience.

DISC MONITOR:

Assurance for consistent sliver count

DISC MONITOR is a robust and reliable quality sensor that doesn't miss a thing. It continuously measures every inch of the produced sliver. In the event of irregular or faulty sliver, the DISC MONITOR sends a warning or stops the comber.

Permanent sliver control with DISC MONITOR

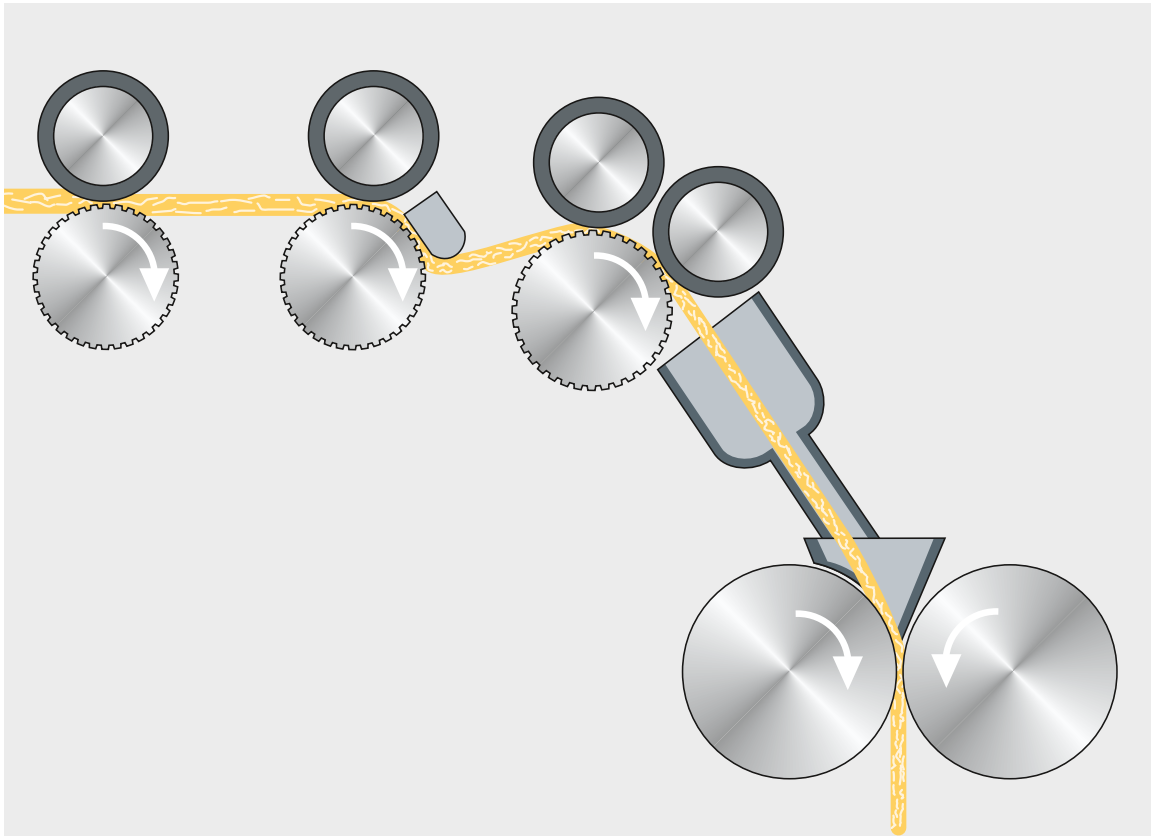


Sliver count deviations measured over length of lap.


TCO 12

Drafting system technology

Drafting system with know-how acquired from the autoleveller draw frame



The Toyota-Truetzschler Comber TCO 12 features the sophisticated drafting system technology of the latest Trützschler draw frame generation TD 8.

4-over-3 drafting system with pressure bar

This drafting system geometry has been successfully applied for years in drafting of comber slivers with autoleveller draw frames downstream from the comber.

The fourth top roller ensures an even gentler sliver deflection at the delivery side of the drafting system, while the adjustable pressure bar in the main draft area provides controlled guidance. When adjusting the drafting zone widths, the top rollers are guided in the bearing blocks of the bottom rollers. This approach – in connection with high-precision mechanics – ensures 100% axis parallelism for optimal fiber guidance.

The bearings can easily be removed for grinding of the top rollers.

Service life of top rollers

The top rollers feature lifetime lubricated bearings with extremely low heat development. They ensure optimal running properties, extended service life of the coatings and thus effectively prevent lap formation.

Operating concept

Quick and simple access to drafting system

All four top rollers are lifted simultaneously.

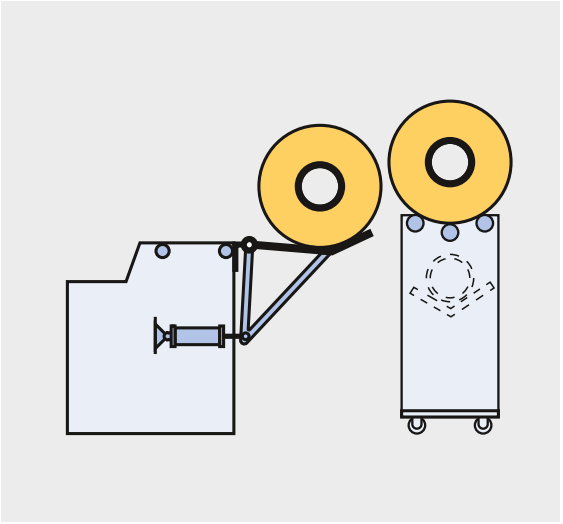
Simple operation due to good accessibility

Same as with Trützschler draw frames, the drafting system is operated from the side. After lifting the top rollers, the entire drafting system area is easily accessible and within reach of the operator.

Touch screen directly in the operator's field of vision

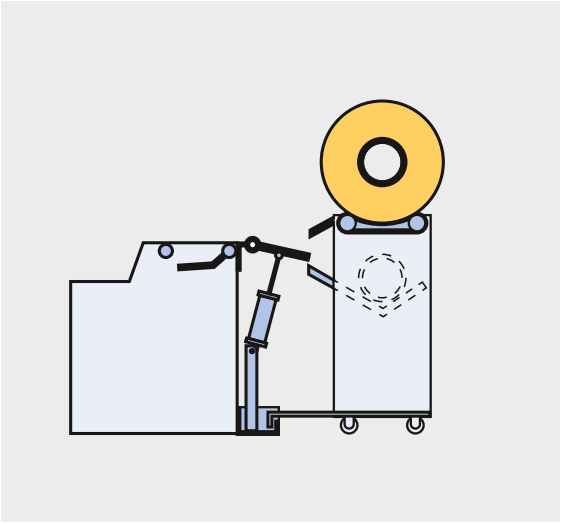
Lap transport

Three versions for maximum individuality



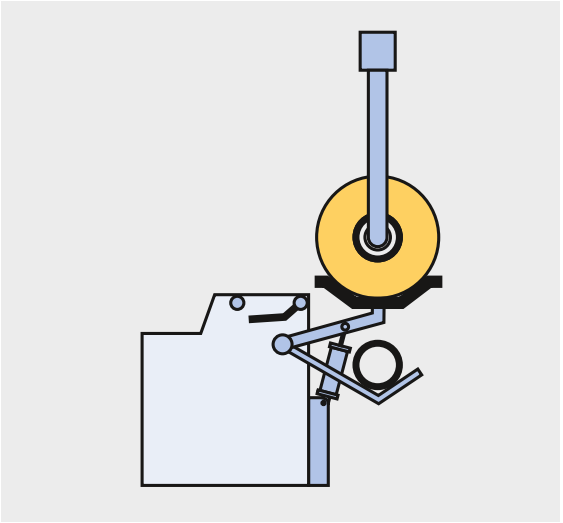
1. Manual

Four laps each are pushed from the Superlap to the comber by means of a lap carriage. Here the laps are manually transferred to the lap reserve table of the comber.



2. Semi-automatic

This versions works without lap table. Two transport carriages with laps are positioned behind a comber. At the push of a button, the transport carriages transfer the laps to the comber and picking up the empty tubes. They can immediately be used again on the Superlap TSL 12.



3. Automatic

The Superlap TSL 12 transfers the laps to a conveyor belt. The conveyor belt transports the laps to the transfer position. There an overhead transport equipment brings eight laps each to the combers and places them onto the lap reserve table. Then the transport device picks up the empty tubes and returns them to the transfer station. From there they are returned to the Superlap TSL 12 via a conveyor belt.

SCAN

The video animation shows the lap change on TSL, the automatic lap transport and the automatic lap change on the TCO 12-A.

Scan page with Smartview.

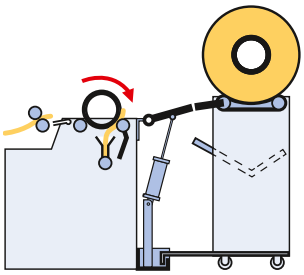
Toyota-Truetzschler Comber TCO 12A

Automatic lap change

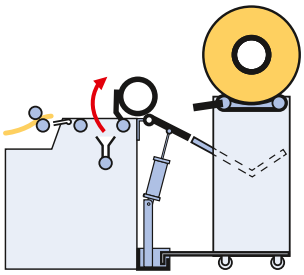
This Toyota-Truetzschler innovation reflects the bundled competence of our engineers. With an innovative process flow, the TCO 12A sets new standards in economic efficiency: The machine stops as soon as the laps are unwound. The batt is detached on all eight combing heads at a defined point, and the waste is removed by a separate suction. Now the empty tubes are transferred to the lap carriage, and the full laps taken from this carriage. Following the subsequent preparation of the lap end, it is precisely positioned at the end of the delivered batt, and the comber starts up again.

The difference lies in the piecing quality

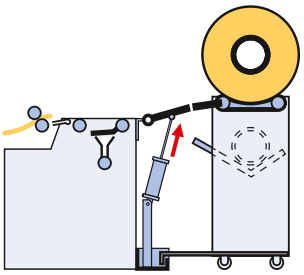
The automatically controlled piecings are clearly superior to the manual piecings in terms of quality.



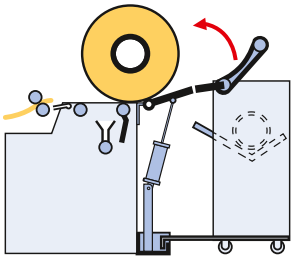
1. The laps have been worked off. The tubes are empty. Any remaining lap residue is suctioned off.



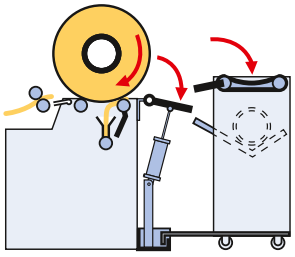
2. The empty tubes are ejected.



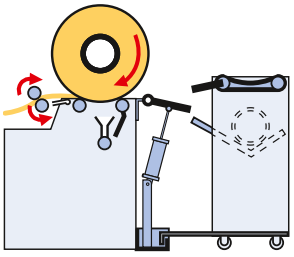
3. The transfer device tilts up.



4. The full lap is rolled to the work-off position.



5. The lap start is sucked in and prepared.



6. The lap start is placed against the end of the old lap. The comber is producing again.

Autoleveller Draw Frame TD 8-600

A draw frame especially for combed yarns

As quality filter of the spinning mill, the draw frame has an important function: preventing errors in the draw frame sliver which inevitably lead to yarn defects. Quality can no longer be improved after the draw frame.

The decisive factor is the sliver quality after the last draw frame passage. Precisely this is the key strength of the Trützschler autoleveller Draw Frame TD 8-600.
It is optimized for combing mills with a delivery speed up to 600 m/min.

Less errors mean more productivity
The groove and sensing roll unit DISC LEVELLER integrated into the Trützschler autoleveller Draw Frame TD 8-600 sets a new quality standard: a draw frame sliver CV_{1m} of 0.4 % or less and a yarn count variation clearly below 1 % are the realistic goal set by modern spinning mills.

For detailed technical data of the draw frames, see brochure: Draw Frames

Grooved roll and sensing roll unit DISC LEVELLER

T-DATA

Recognising great potential in small details

All important data in view at all times
The Trützschler Online Data Monitoring System T-DATA gathers all current production and quality data. Due to its modern web architectures, 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 meter 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
Trützschler sensors measure where they are needed. Thus, all important quality and production data that are required for the optimal control of production are determined. On the comber, Quality Sensor DISC MONITOR monitors sliver count and sliver everness.

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.

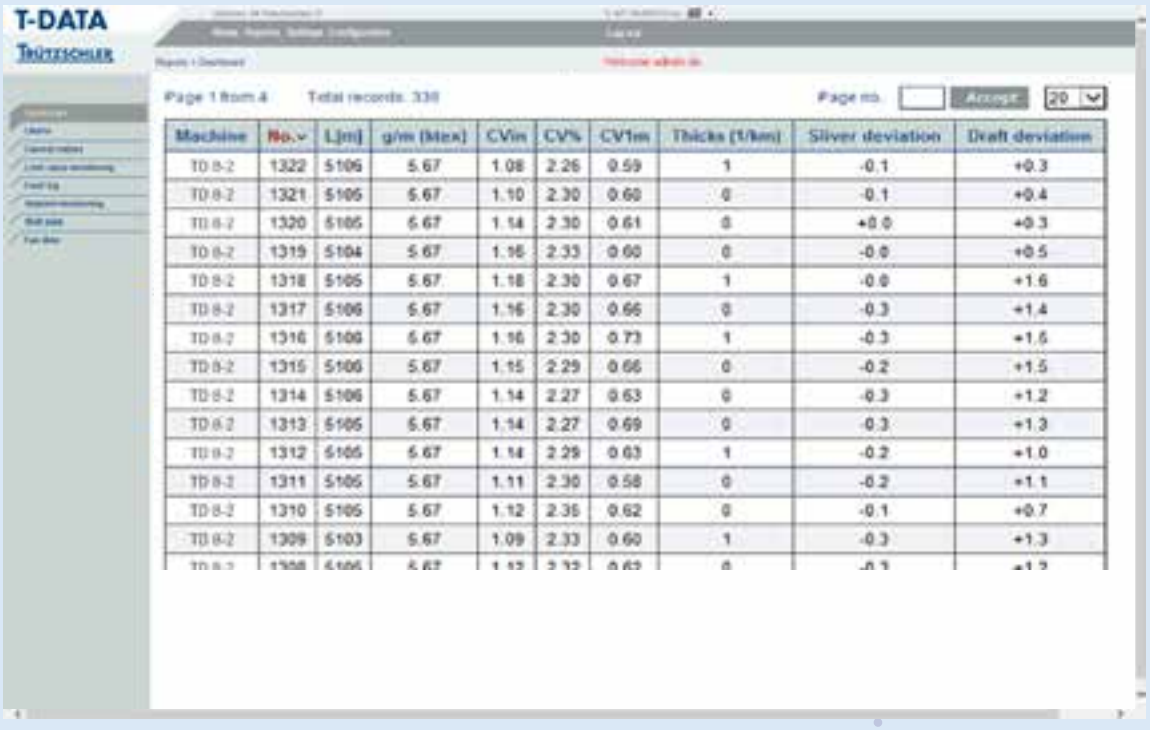
For more information,
see the brochure "T-DATA".

SCAN

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

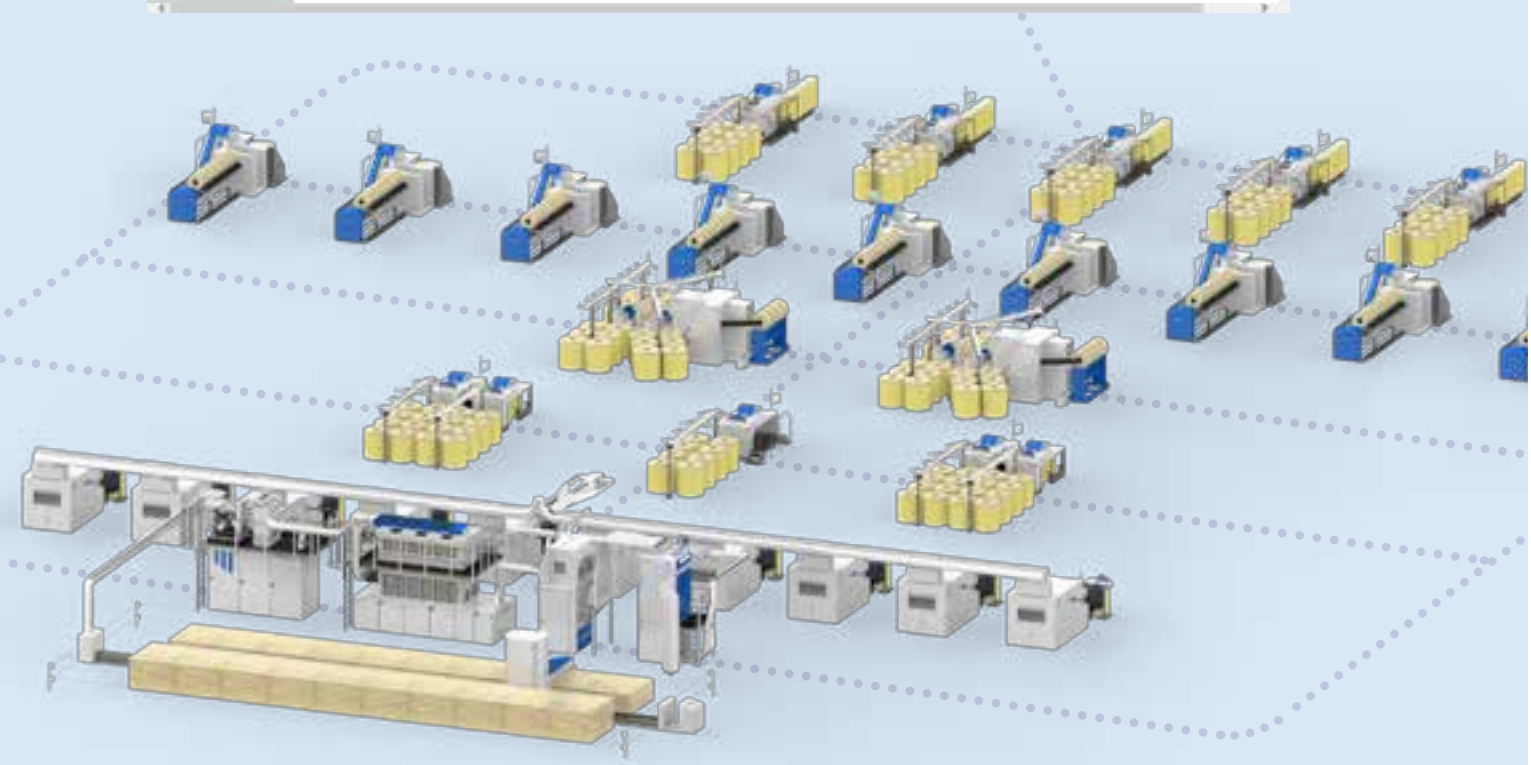
Scan page with Smartview.

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



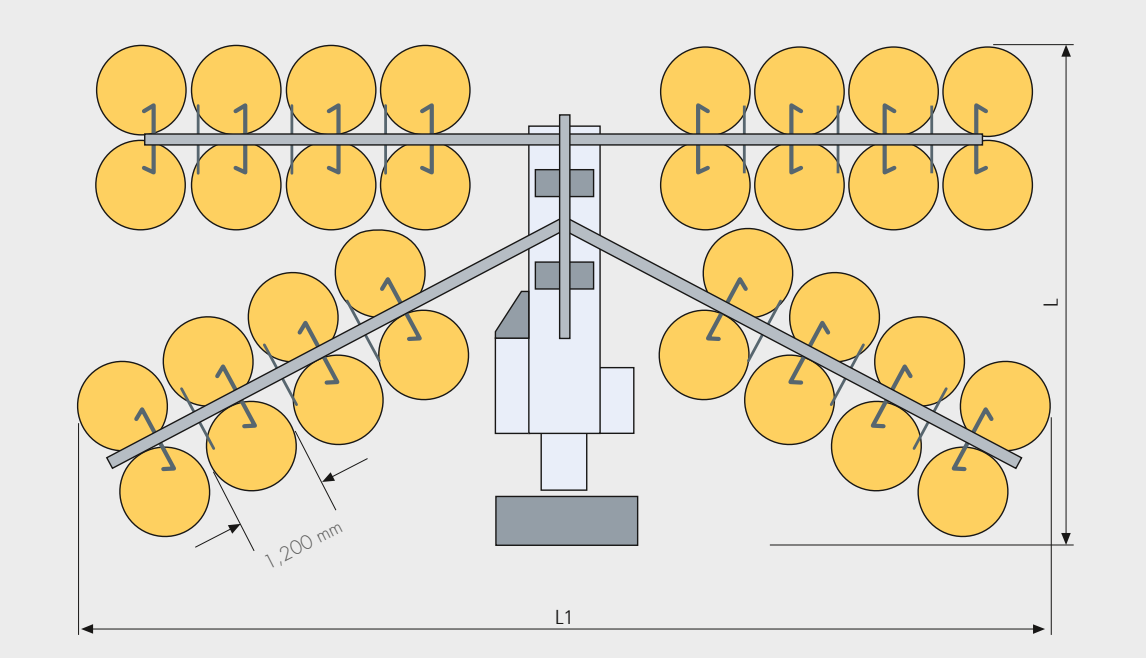
Machine	No.	L[m]	g/m (Max)	CVm	CV%	CV1m	Thicks (1/km)	Sliver deviation	Draft deviation
TD 8-2	1322	5106	5.67	1.08	2.26	0.59	1	-0.1	+0.3
TD 8-2	1321	5105	5.67	1.10	2.30	0.60	0	-0.1	+0.4
TD 8-2	1320	5105	5.67	1.14	2.30	0.61	0	+0.0	+0.3
TD 8-2	1319	5104	5.67	1.16	2.33	0.60	0	-0.0	+0.5
TD 8-2	1318	5105	5.67	1.18	2.30	0.67	1	-0.0	+1.6
TD 8-2	1317	5106	5.67	1.16	2.30	0.66	0	-0.3	+1.4
TD 8-2	1316	5106	5.67	1.16	2.30	0.73	1	-0.3	+1.6
TD 8-2	1315	5106	5.67	1.15	2.29	0.66	0	-0.2	+1.5
TD 8-2	1314	5106	5.67	1.14	2.27	0.63	0	-0.3	+1.2
TD 8-2	1313	5105	5.67	1.14	2.27	0.69	0	-0.3	+1.3
TD 8-2	1312	5105	5.67	1.14	2.29	0.63	1	-0.2	+1.0
TD 8-2	1311	5105	5.67	1.11	2.30	0.58	0	-0.2	+1.1
TD 8-2	1310	5105	5.67	1.12	2.35	0.62	0	-0.1	+0.7
TD 8-2	1309	5103	5.67	1.09	2.33	0.60	1	-0.3	+1.3

The clearly arranged dash board can be individually adjusted to customer requirements



Technical data

Truetzschler-Toyota Superlap TSL 12



Equipment:

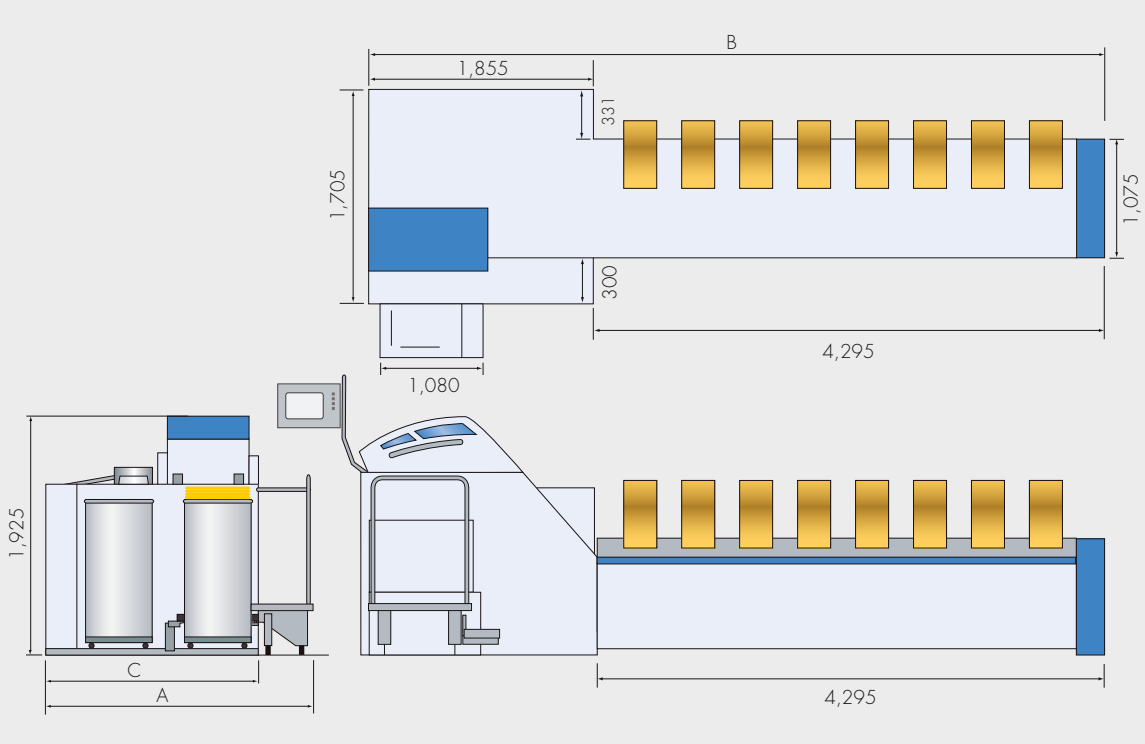
- Function-oriented design for optimized maintenance access
- Reliable computer control with colour touch screen for extensive operator information
- Maintenance-free, digitally controlled motors
- Individual drives for infinitely variable setting of main draft, lap weight and lap build-up tension
- Individual setting of lap build-up pressure
- Low friction creel with single sliver break monitoring for each sliver
- 3/3 drafting unit with individual device for lap formation monitoring
- Pneumatic load, separately controllable for each top roller with quick relief at machine stop
- Three pressure calendar rollers, pneumatic load easy to control
- Central safety system
- Patented lap tube feeding from the side
- Central suction system with permanent pressure monitoring
- Manual lap transport with lap transport carriage or an automatic transport system

Quantity / Ø mm		L (mm)	L1 (mm)	Space requirement m^2
24	600	6,005	5,940	35.7
32	600	6,005	7,090	42.9
24	1,000	6,405	9,360	60.0
32	1,000	6,405	11,225	71.9
24	1,200	7,810	9,625	75.2

Production:	520 kg/h
Delivery speed:	max. 180 m/min
Working width:	300 mm
Lap diameter:	max. 650 mm
Lap tube diameter:	200 mm
Lap build-up time:	2.5 – 3 min
Lap changing time:	25 s
Lap weight:	max. 25 kg
Batt weight:	50 to 80 ktex (300 mm width)
Total draft:	1.14 – 3.33
Can diameter:	600 ... 1,200 mm
Can height:	up to 1,500 mm
Doublings:	24 – 32-fold
Total installed power:	19.5 kW
Continuous power consumption:	7.3 kW
Air consumption:	4,200 Nl/h

Technical data

Toyota-Truetzschler Comber TCO 12



Number of heads:	8
Nips/minute:	mechanically up to 600 nips/min.
Sliver count:	3 – 6 ktex (Ne 0.2 – 0.1)
Lap diameter:	max. 650 mm
Lap width:	300 mm
Maximum lap weight:	25 kg (net)
Lap tube diameter:	200 mm
Batt weight:	max. 80 g/m
Feed:	forward (backward possible)
Ratchet wheels:	16, 17, 18, 20, 22
Can diameter:	600 mm, 1,000 mm, 1,200 mm
Can height (with castors):	1,200 mm
Can changer:	above floor or under floor
Power consumption:	4.4 kW (at 500 nips)
Exhaust air:	Central (above or under floor)

Can format mm	Length B mm	Width A mm	Width C mm
600*	6,866	2,130	1,705
1,000**	7,044	2,680	2,440
1,200**	7,220	2,985	2,850

* Only above floor
** Under floor version

Trützschler GmbH & Co. KG Textilmaschinenfabrik
Postfach 410164 · 41241 Mönchengladbach, Germany
Duvenstr. 82-92 · 41199 Mönchengladbach, Germany
Telephone: +49 (0)2 166 607-0 · Fax: +49 (0)2166 607-405
e-mail: info@truetzschler.de · www.truetzschler.com

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

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