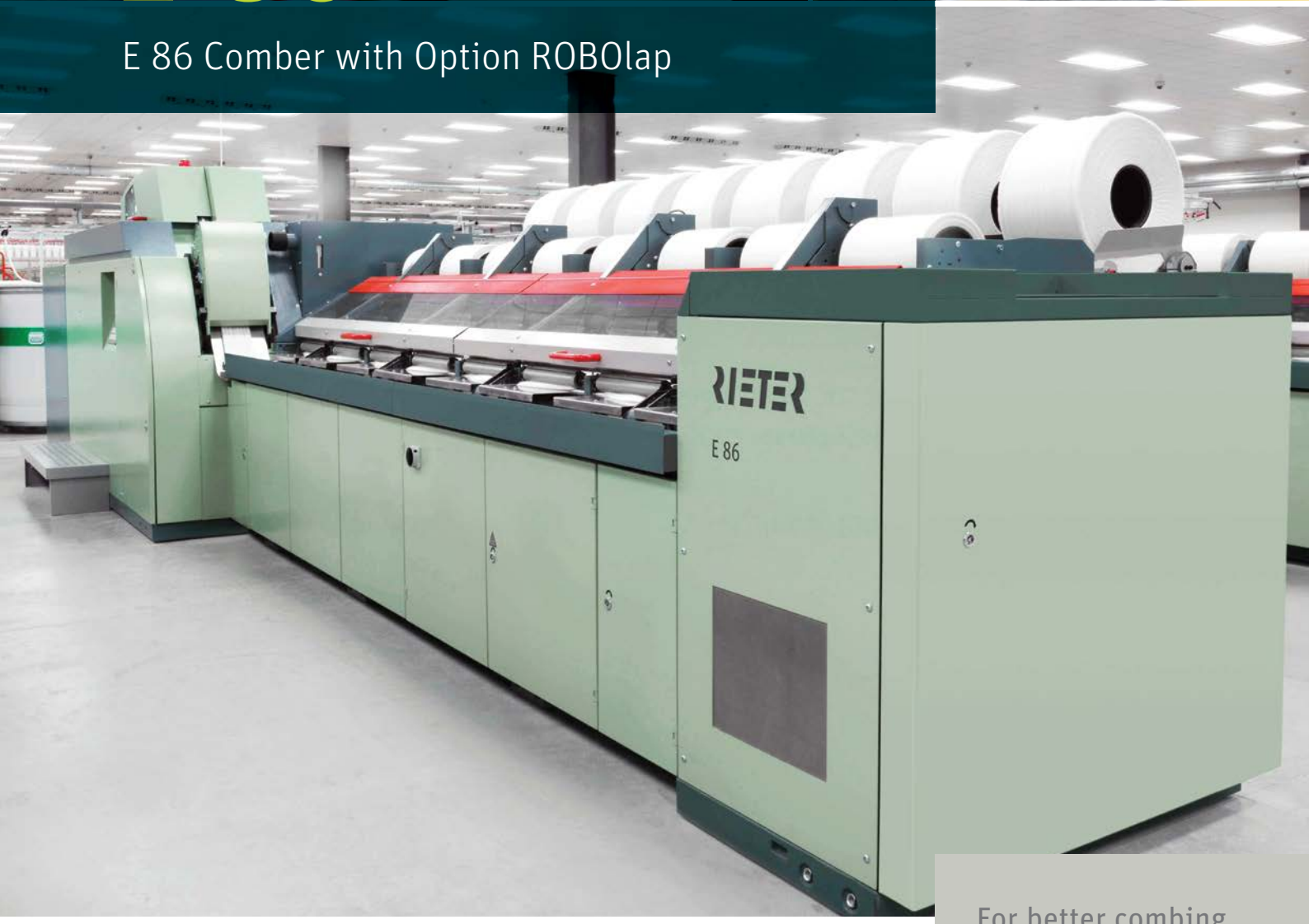
Spinning Preparation
E 86 Comber

RIETER

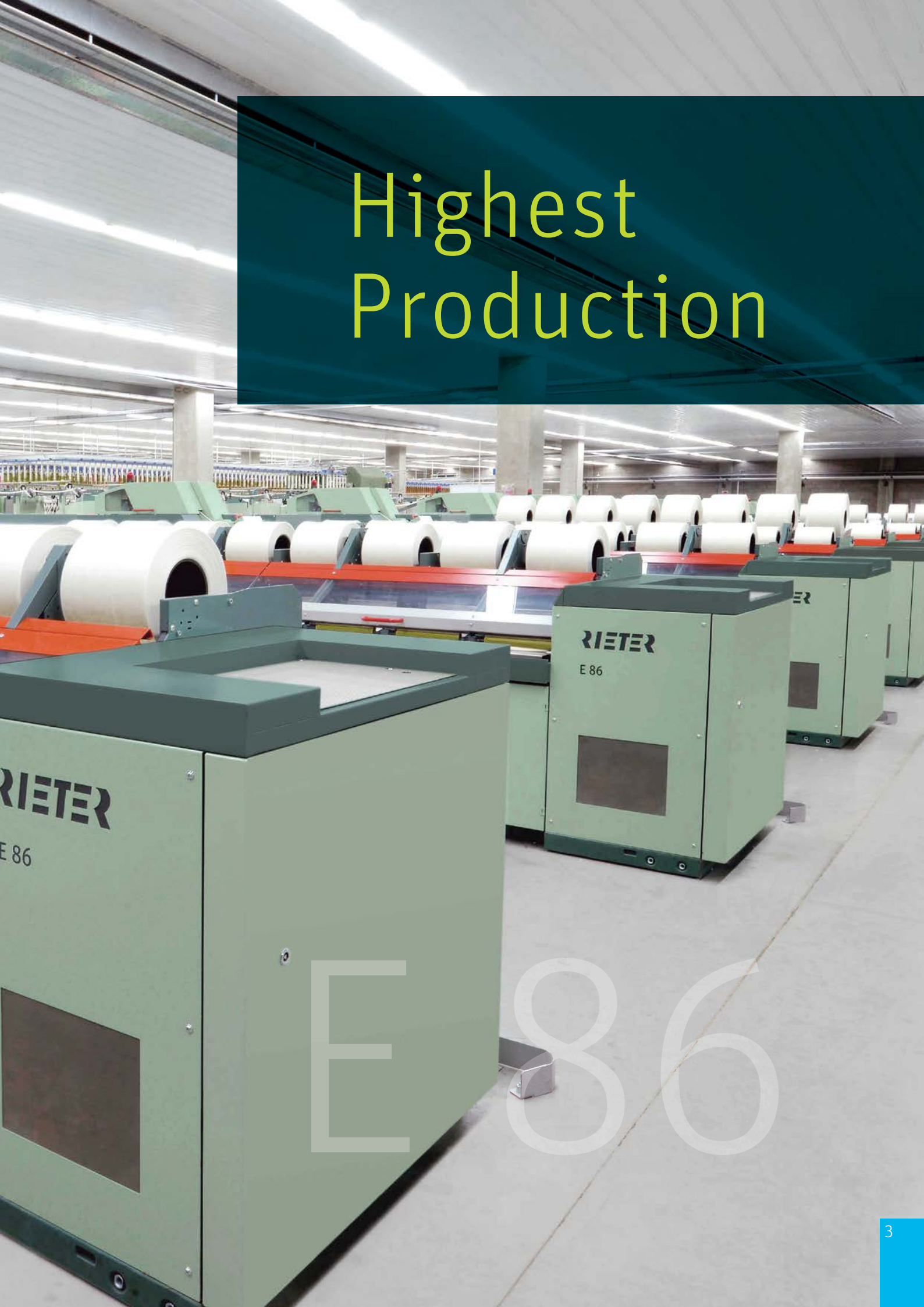
E 86

E 86 Comber with Option ROBOlap

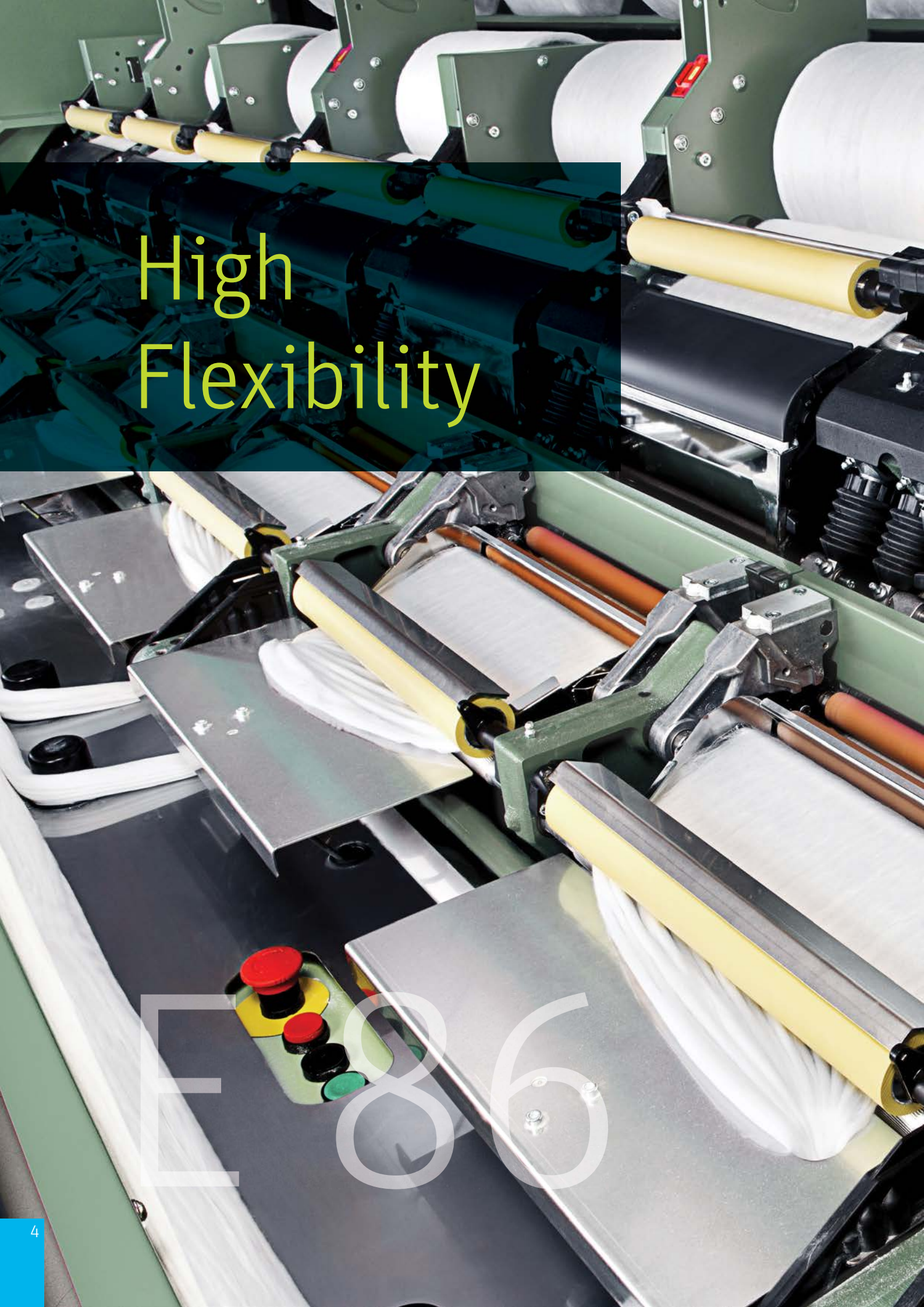


For better combing

The maximum production of the E 86 comber is up to 90 kg/h combed sliver. The combed sliver production of 2 tons per day is therefore significantly exceeded.



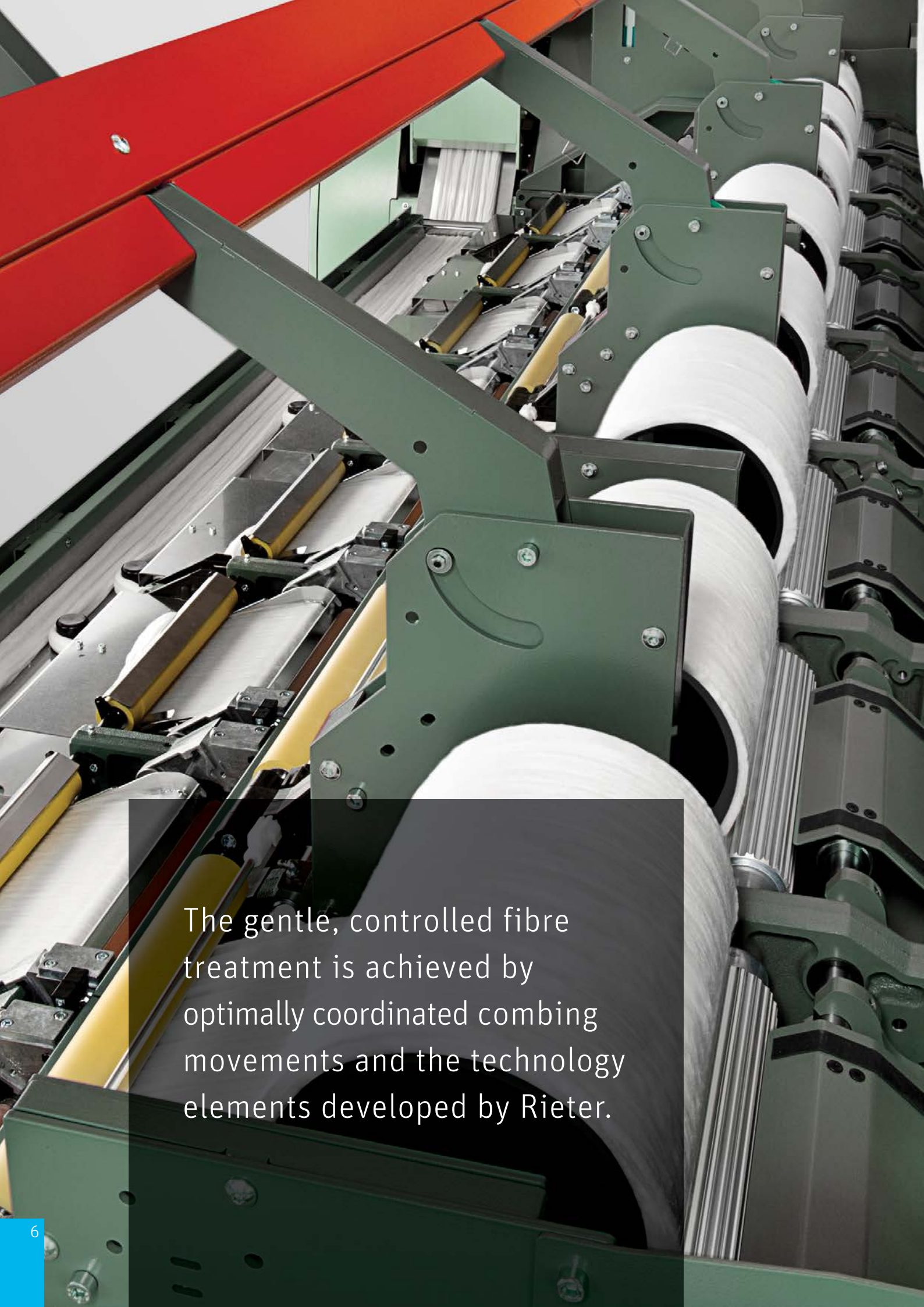
Highest Production



High Flexibility

E86

Adaptation to market requirements can be realised due to the greatest active combing area in combination with the flexible setting.



The gentle, controlled fibre treatment is achieved by optimally coordinated combing movements and the technology elements developed by Rieter.

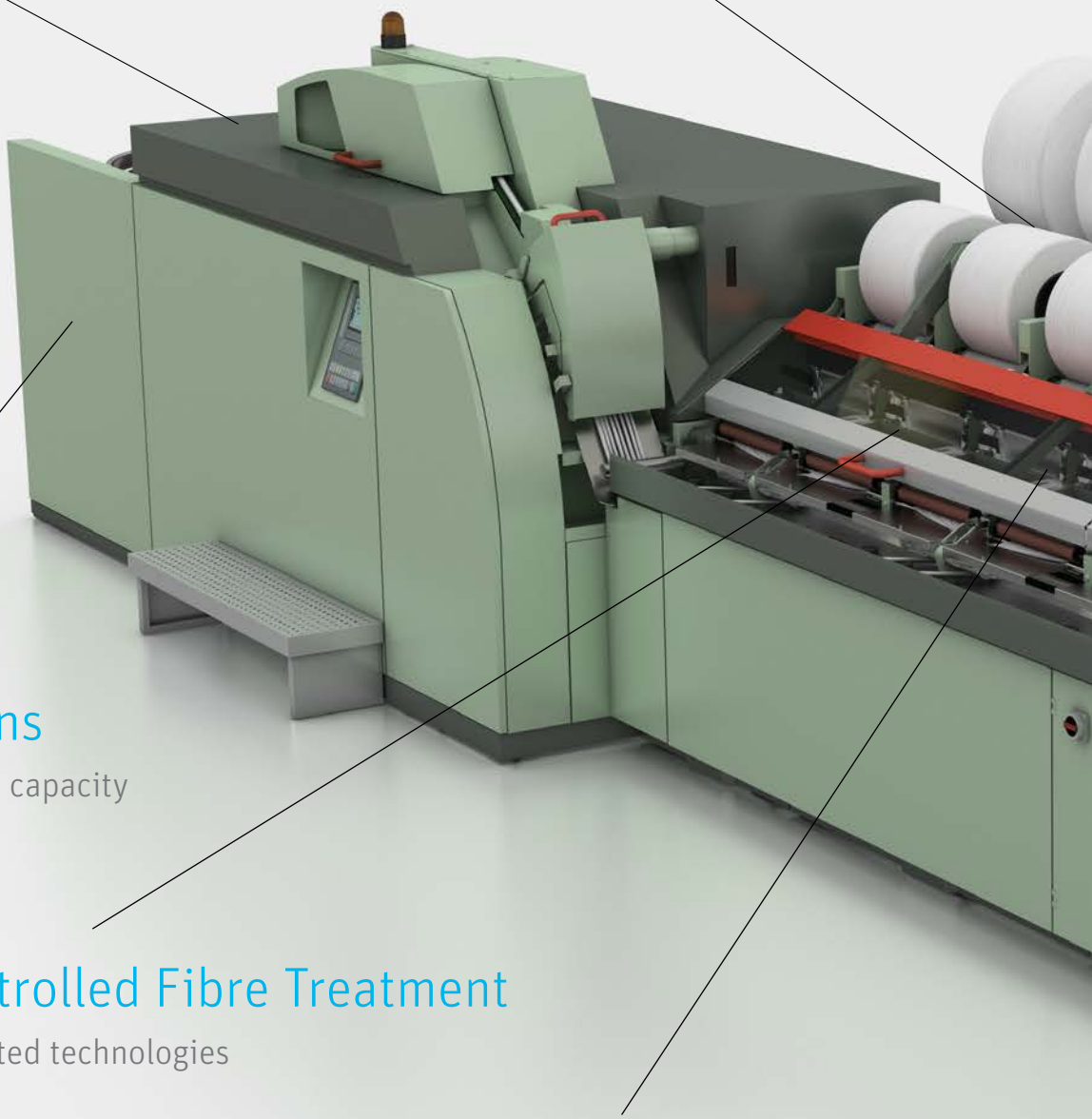
Unequalled Quality

Highest Production

Over 2 tonnes of combed sliver production per day

Fully-automated Lap Changing and Piecing System

ROBOlap enables automated lap changing and piecing



1 000 mm Cans

Up to 90% higher can capacity

Gentle, Controlled Fibre Treatment

Perfectly coordinated technologies

Largest Active Combing Area

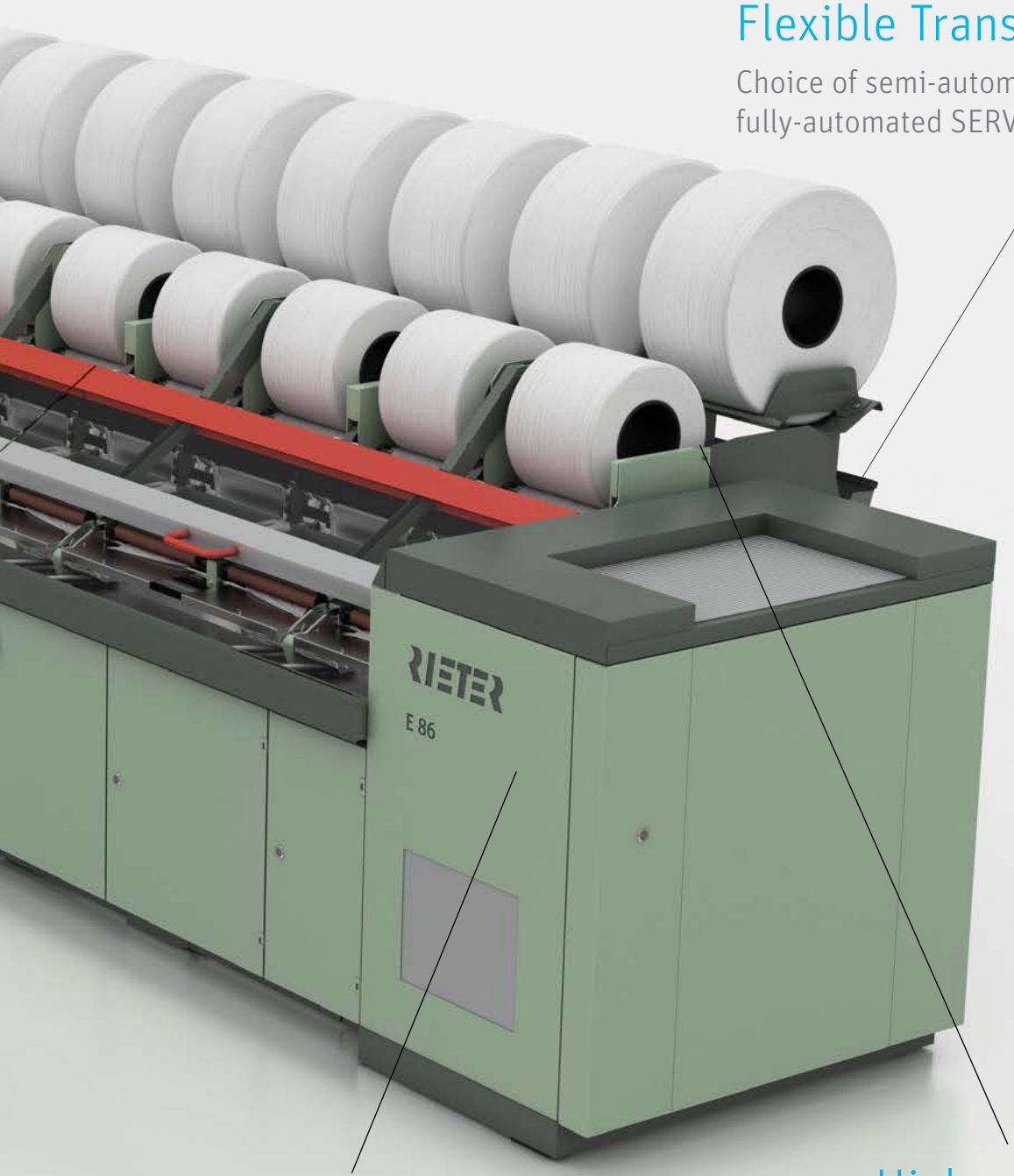
Adaptations to the market through flexibility in the noil extraction height

OUTSTANDING FEATURES

E 86

Flexible Transport Systems

Choice of semi-automated SERVOtrolley and fully-automated SERVOlap lap transport



Higher Efficiency

2% higher efficiency thanks to ROBOlap

Lower Manufacturing Costs

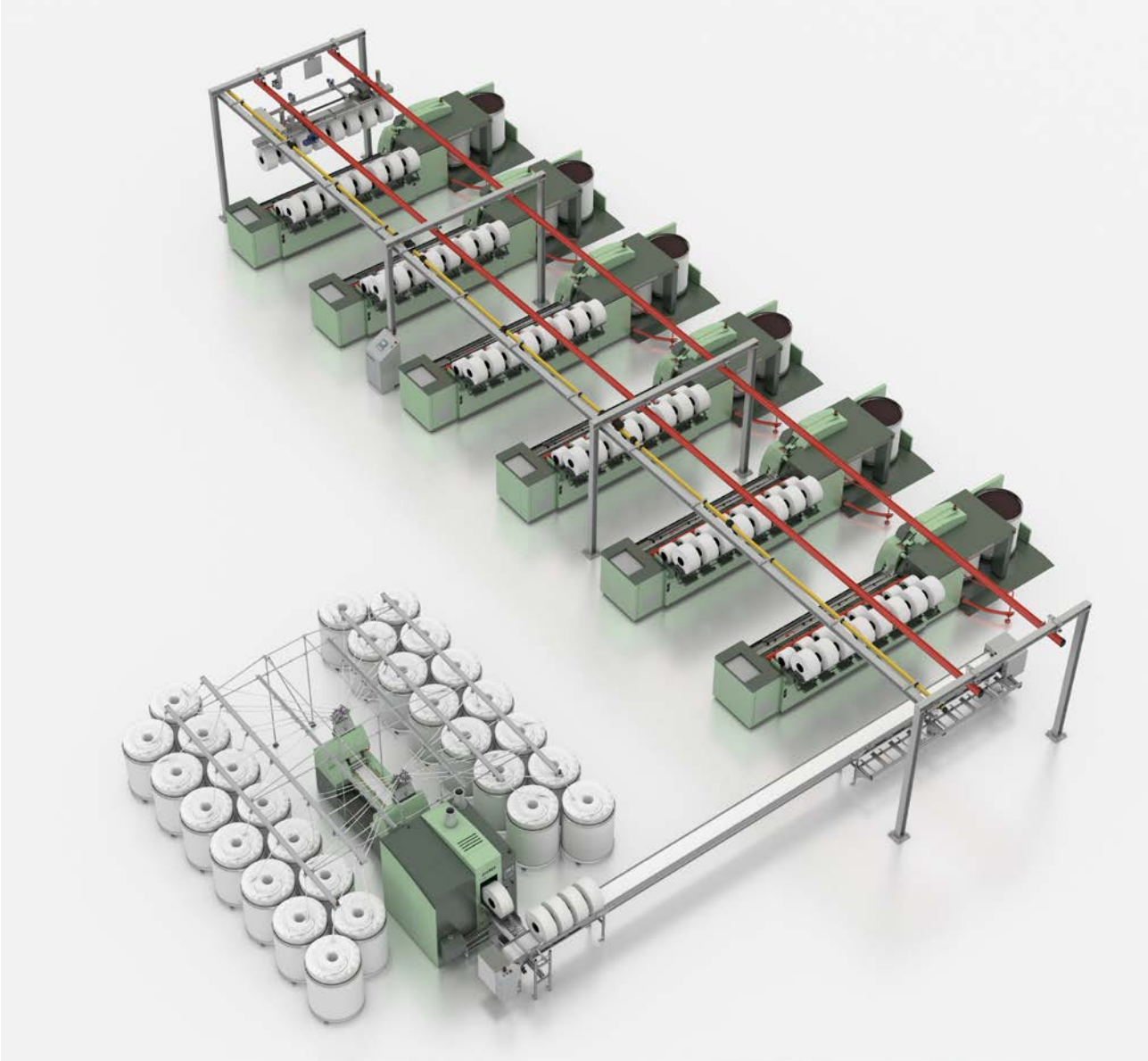
Perfect fibre selection combined with the highest clearing degree results in fibre savings

Highest Productivity

Up to 540 kg/h production per combing set

Combing set productivity

The highest combing set productivity available on the market comes from Rieter. This is carried out by the E 36 OMEGAlap combing preparation machine and the E 86 comber. With a set of 1 E 36 + 6 E 86, production of up to 540 kg/h can be achieved.



Economic combing set with 1 E 36 OMEGAlap, 6 E 86 combers and 1 E 26 SERVOlap

Highest comber productivity

The maximum output of the E 86 comber is 90 kg/h combed sliver. The combed sliver production of 2 tons per day is therefore significantly exceeded. This is a new record that has been set by the Rieter comber. The E 86 comber is able to achieve the highest production, as the relevant parameters, batt weight, feed distance moved per cycle and number of nips per minute work in perfect harmony.

1 000 mm cans in the entire production process

The use of 1 000 mm diameter cans in the combing process enables a standard can dimension from the card to feeding the autoleveller draw frame. The use of 1 000 mm cans reduces the number of can changes by 50% and therefore the operating expenses by 10% in practice. The number of piecings is also halved, which with improved quality leads to higher efficiency on the draw frame.

Highest Flexibility

Up to 10 % saving on conversion costs

Optimal fibre utilisation

Oriented towards fibre utilisation, the E 86 comber achieves the highest demands for optimal fibre output and low production costs. The largest active combing area with an expansion of 45% enables the highest fibre purity and improved fibre parallelism. Together with the Ri-Q-Comb Flex geometry this has an extremely positive effect on targeted fibre selection. This results in higher flexibility in fibre utilisation, as well as being more economical in use than competitor machines.

Combed Sliver Quality at a New Level

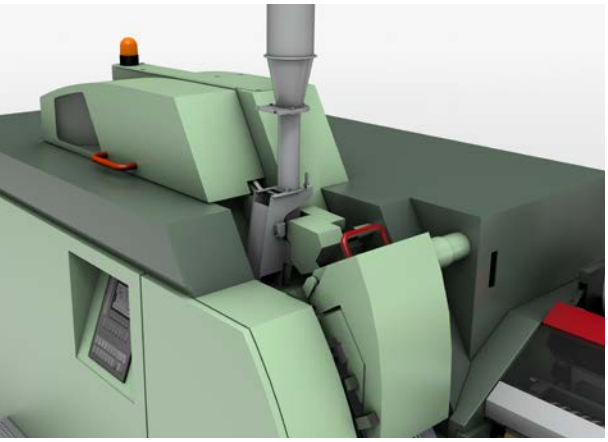
Solid and high-quality components

Drafting system

The Rieter drafting system has already proved itself in many machines. The 3-over-3 cylinder drafting system enables optimal draft distribution. Precise fibre guiding guarantees faultless processing of cotton in the 1" to 1 7/8" staple length range and leads to good sliver regularity. The draft distances can be adapted optimally to the particular staple length in pre-draft and main draft. The use of new types of fibre guiding elements in the drafting system (AIRshields) causes a reduction in clearer cuts of up to 50%.

Delivery

According to the drafting system, the combed sliver is guided and condensed using newly designed sliver transporters in the finger funnel. Before the feed into the can, a sensor monitors the combed sliver in thin places. The sensor can be adjusted mechanically and reacts when the sliver count falls below the defined level.
To increase the adhesive length, the combed sliver is compressed by a pair of undulating calendar rollers and deposits it gently in the can. The result is combed sliver with the highest sliver regularity.



Sliver extraction for flock blending

Rieter combers are also available with an appropriate additional module. The module enables the suction of the combed sliver directly according to the drafting system. The combed sliver is guided to the blending opener through additional piping. The switch from sliver extraction to normal storage in cans is carried out with a simple handle.

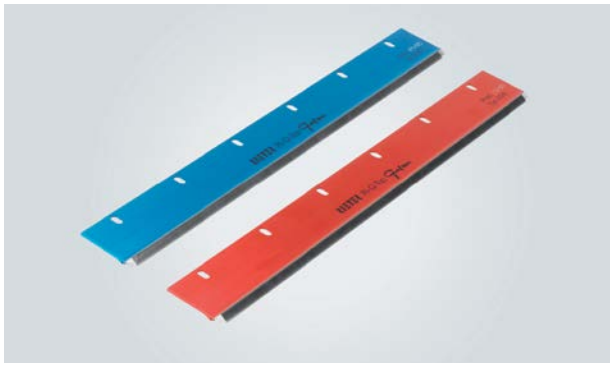
First Class Combing Elements

Gentle and controlled fibre treatment

The technological superiority of the Rieter combing plant is demonstrated primarily by the highest quality and production requirements. The movement processes are adjusted so that gentle fibre treatment is guaranteed even under extremely high stress.

Height-adjustable circular comb

The Ri-Q-Comb Flex height-adjustable circular combs with the biggest active combing surfaces allow more flexibility in the noil extraction height. In this way, adaptation to market requirements can be realised in combination with the flexible setting. In addition, an unequalled yarn quality is achieved.



Established top comb

The use of Ri-Q-Top top combs guarantees the highest degree of comb efficiency with the lowest tendency to soil. The optimally selected tooth shape and tooth density plus the moment of application are decisive to achieving these goal. Better holding of the top combs is guaranteed by the use of screws in the top comb support.

Precise combing nipper

The Rieter combing nipper guarantees faultless processing of up to 80 g/m batt weight. High-precision batt clamping combined with the optimised round and top comb movement creates optimal comb work and fibre selection throughout the entire comb movement area.

Fully Automated Combing System

Unique fully automated lap change and batt piecing system

ROBOlap

Automated batt piecing by the ROBOlap system

The established ROBOlap system is already on the market in over 3 000 machines. It enables operator effort to be reduced to a purely monitoring role. The efficiency compared with semi-automated E 86 combers is increased by around 2%. In addition, the piecing operation of the ROBOlap system leads to a measurably better and constant piecing quality compared with manual batt piecing (see illustration). This is an effect that is reflected in the evenness of the combed sliver. By using the fully automated ROBOlap batt piecing, the requirement for qualified operators is considerably reduced.

Benefits of the ROBOlap system:

- Reduction in human resources
- No waiting times on the comber
- Increased efficiency of the comber
- Quality improvement

Fully automated and semi-automated lap transport

Semi-automated lap transport SERVOtrolley E 16/E 17

The E 17 SERVOtrolley is a semi-automated lap transport system for fully automated combers (ROBOlap), which transports 4 laps and 4 tubes. The loading of the laps on the combing preparation machine takes place automatically. The displacement and positioning of the SERVOtrolley on the comber is carried out manually. As soon as the laps on the comber are idle, the laps are transferred to the comber automatically. The piecing operation of the lap batt and the restart of the comber is carried out fully automatically by the ROBOlap system.

Rieter also offers a lap transport option for combers without ROBOlap. For this combination an E 16 SERVOtrolley is used, whereby the lap and tubing change takes place on the comber by pressing a button. Rolling of the empty tubes onto the trolley and rolling of the full laps on the comber is carried out automatically.

Benefits of the SERVOtrolley:

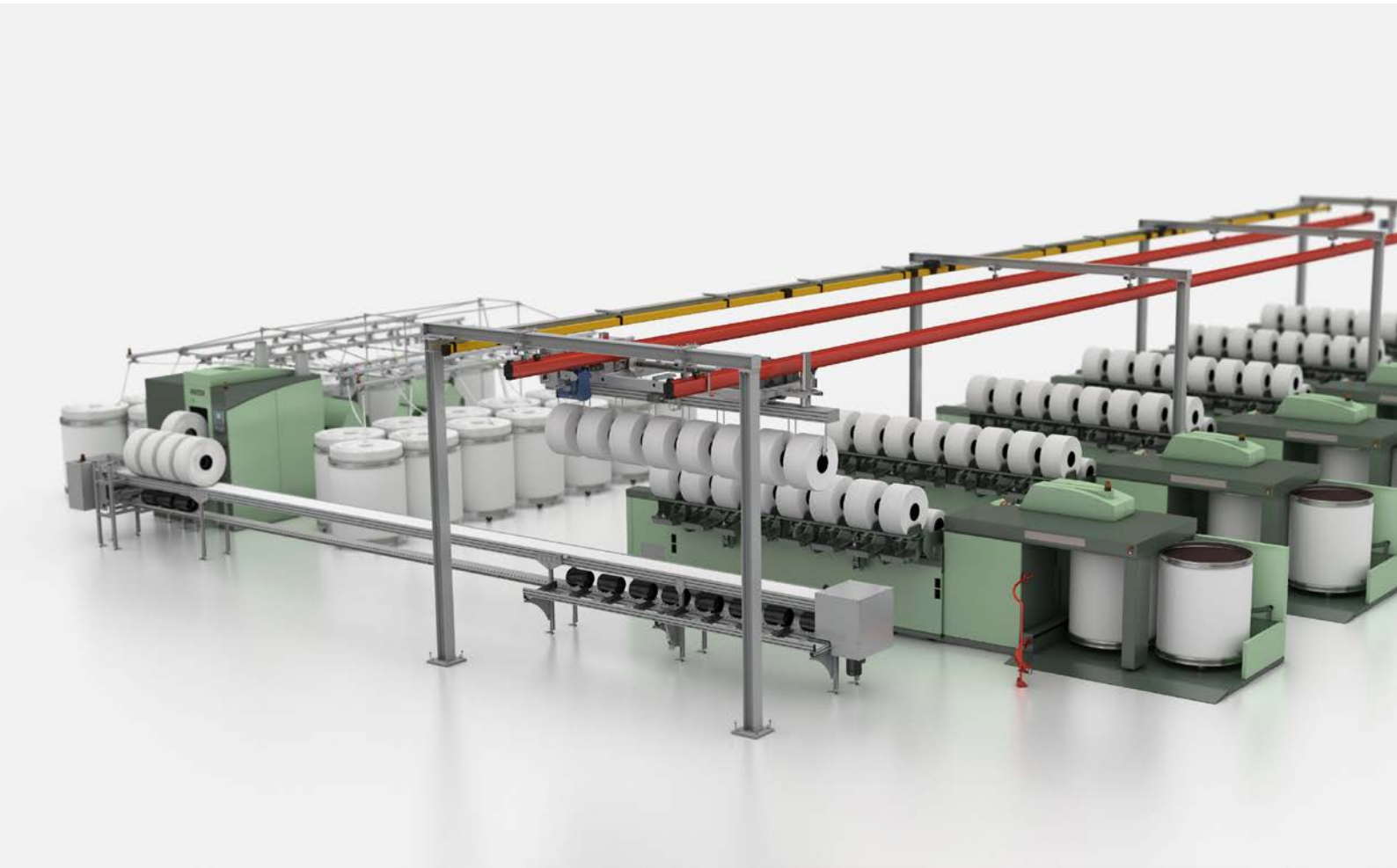
- Easy handling
- Automatic loading and unloading of laps
- Flexible allocation

E 26 SERVOlap fully automated lap transport system

The E 26 SERVOlap transport system carries out fully automated lap transport. This guarantees the transport of 8 laps simultaneously from the combing preparation machine to the comber. The return transport of the tubes to the combing preparation machine is also fully automated. The E 26 SERVOlap can operate both ROBOlap combers and combers without a fully automated lap piecing system.

Benefits of the E 26 SERVOlap:

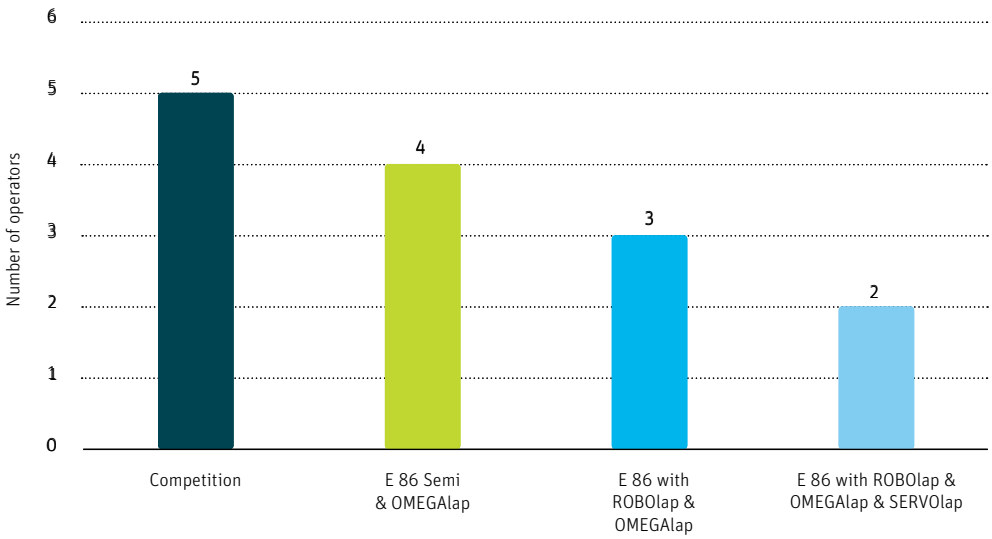
- Gentle lap transport
- No operating expenses
- No waiting periods on the comber
- Increased efficiency of the comber



The only fully automated combing system

The E 26 SERVOlap lap and tube transport system plus the ROBOlap system combined with the latest Rieter combing machines, E 36 OMEGAlap and E 86 comber, create a fully automated combing system. Compared with other combing systems, the number of operating staff can be reduced considerably. Illustration 4 shows an example of how high this influence is in reality.

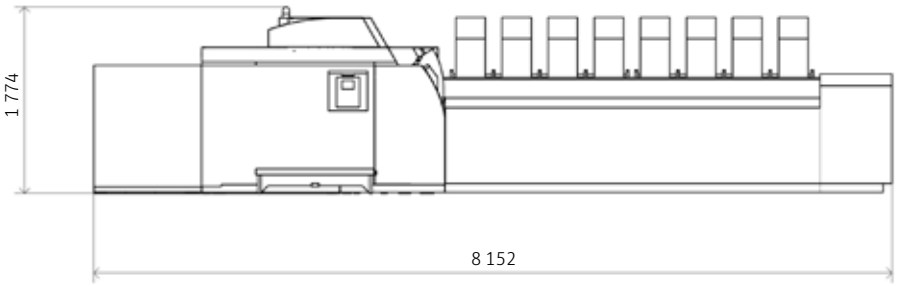
Number of staff needed to operate a combing installation

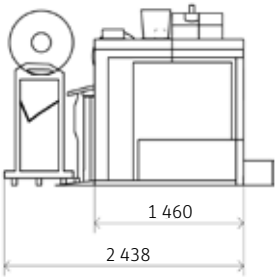


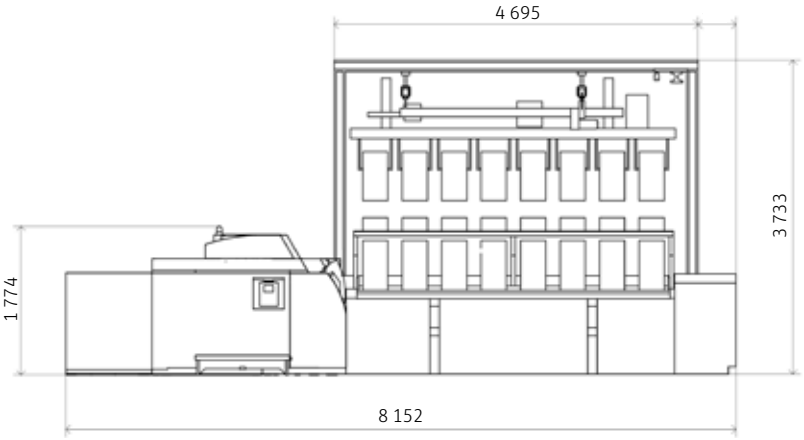
*Example: 76 000 K 46 spindles and 1 348 kg/h production

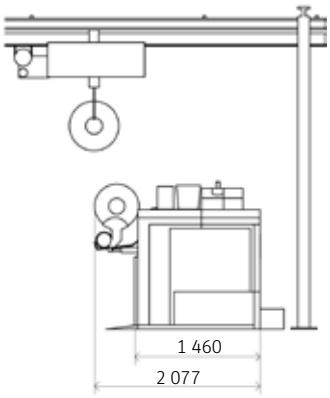
Machine Data

E 86 comber with ROBOlap and 1000 mm can









Technological data		**E 86 with ROBOlap**	**E 86**
Raw material, commercial staple		1 – 1 1/2 (– 1 3/4) inches	
Batt weight		(60) 64 – 80 g/m	
Lap	Weight max.	21 kg 25 kg combined with OMEGAlap E 36	25 kg
	Diameter max.	550 mm 580 mm combined with OMEGAlap E 36	650 mm
	Width	300 mm	
Noil extraction		8 to 25 %	
Doubling		8 times	
Draft		9.12 to 25.12 times	
Sliver weight in runout		3 to 6 ktex	
Efficiency		up to 96%	up to 94 %
Max. production		90 kg/h	90 kg/h

Technical Data				
Max. nip		550 min $^{-1}$		
Frequency		50 Hz	60 Hz	50 Hz	60 Hz
Installed power - total - with fibre separator		6.95 kw –	7.95 kw –	6.65 kW 9.65 kw	7.15 kw 9.35 kw
Power consumption - total - with fibre separator		4.7 kw –	5.38 kw –	4.5 kw 4.6 kw	4.84 kw 5.00 kw

Machine data		
Type of feed	Forward run/return run	
Feed distance moved per cycle	4.3/4.7/4.95/5.2/5.55/5.9 mm	
Ri-Q-Comb circular comb	i400, i500, i700	
Ri-Q-Top top comb	26, 30 teeth/cm	
Drafting system	3 over 3 with variable front zone and main zone distance	
Can diameter	600 mm, 24 inches/1 000 mm, 40 inches	
Can height including rolls	1 200 mm, 48 inches	
Machine distance with SERVOtrolley	600 mm cans min. 3 000 mm (zero line-zero line)/1 000 mm cans min. 3 500 mm (zero line-zero line)	
Machine distance with SERVOlap	600 mm cans min. 2 800 mm (zero line-zero line)/1 000 mm cans min. 3 500 mm (zero line-zero line)	
Lap transport system	- SERVOtrolley E 17 (semi-automated) - SERVOlap (fully automated)	- SERVOtrolley E 16 (semi-automated) - SERVOlap (fully automated)
Noil extraction	- central suction system - separate lap suction system, automated	- central suction system - fibre separator, continuous
Port to ESSENTIAL	optional	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4-2
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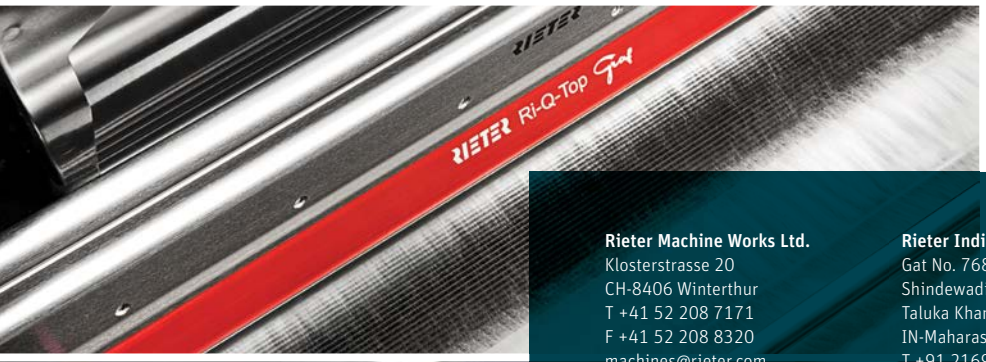
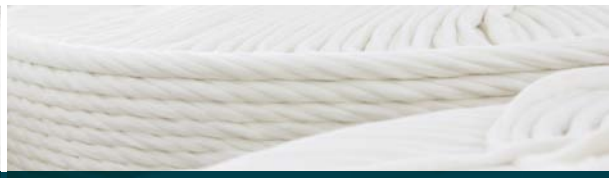
4-1


RIETER
E 86





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