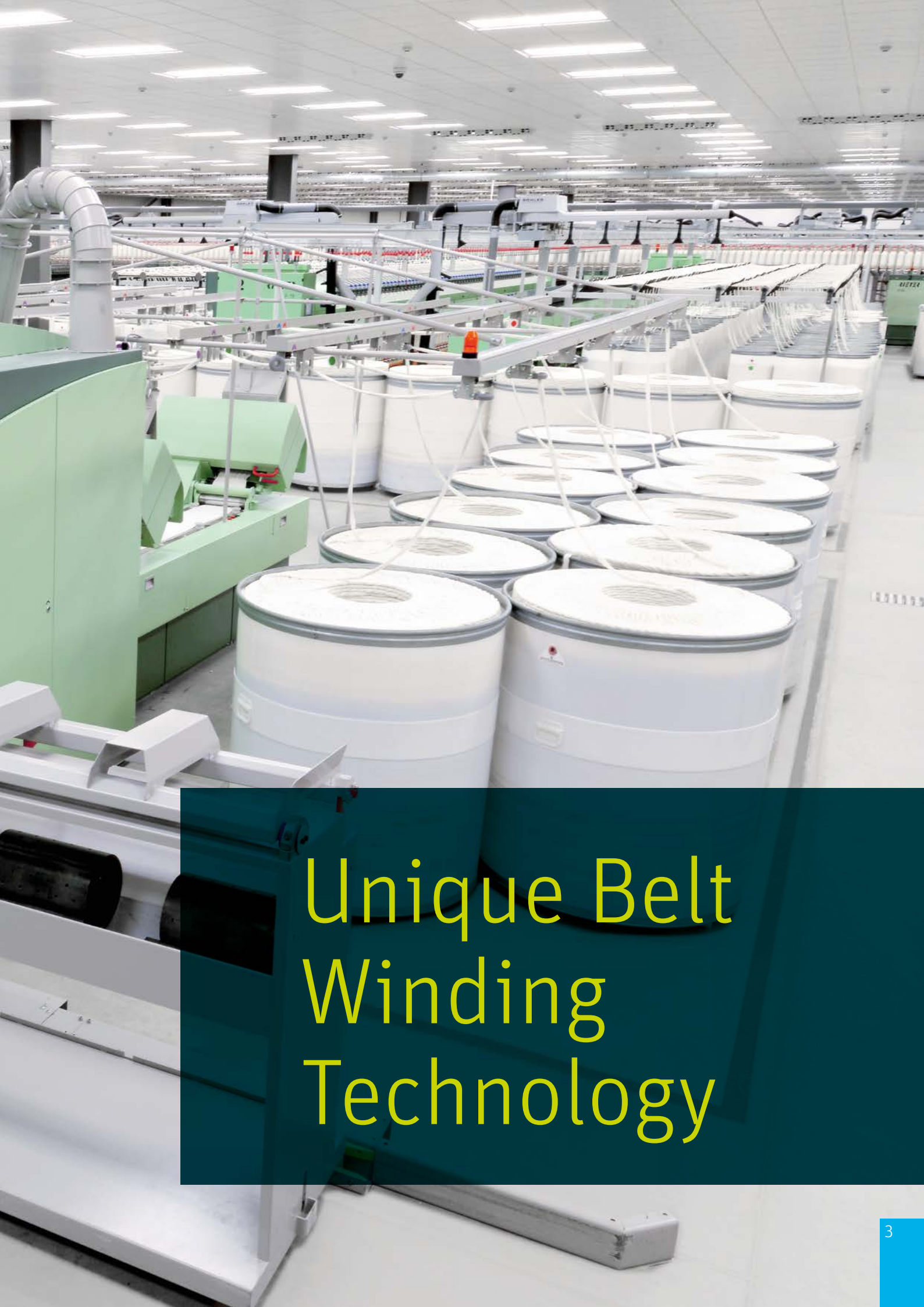
RIETER

OMEGAlap E 36

Combing Preparation Machine

Unique winding technology
for highest performance

The unique belt winding technology developed by Rieter guarantees optimal preparation for high-performance combing.



Unique Belt Winding Technology

Effective Production of over 600 kg/h

By means of an elaborate machine concept with which production values of over 600 kg/h are achieved, Rieter combing preparation machines provide the optimal conditions for efficient combing sets.

The combination of high lap wrapping and optimal pressure distribution guarantees a homogeneous lap build-up which is distinguished by high lap evenness and low hairiness.

Superior Lap Quality

Highest Productivity

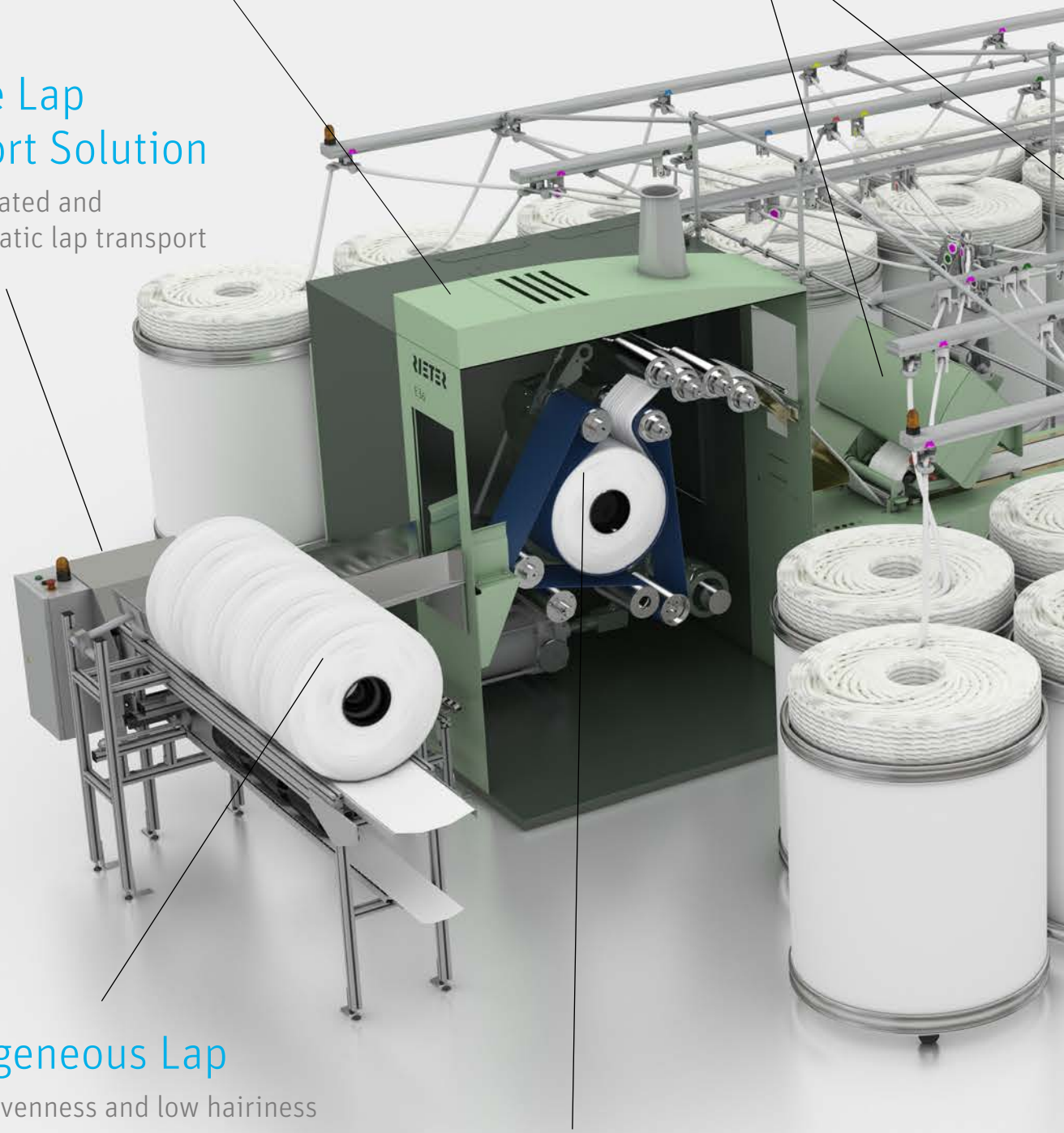
Effective Production of over 600 kg/h

Drafting System

Established two-zone drafting system

Flexible Lap Transport Solution

Fully automated and semi-automatic lap transport



Homogeneous Lap

High lap evenness and low hairiness

Unique Belt Winding Principle

High lap wrapping and optimal pressure distribution

OUTSTANDING
FEATURES

Excellent Batt Guiding

Web table with gentle sliver guide elements

Sliver Monitor

Sensor-monitored feed creel for rapid fault elimination

Large Cans

Can diameter of up to 1 200 mm

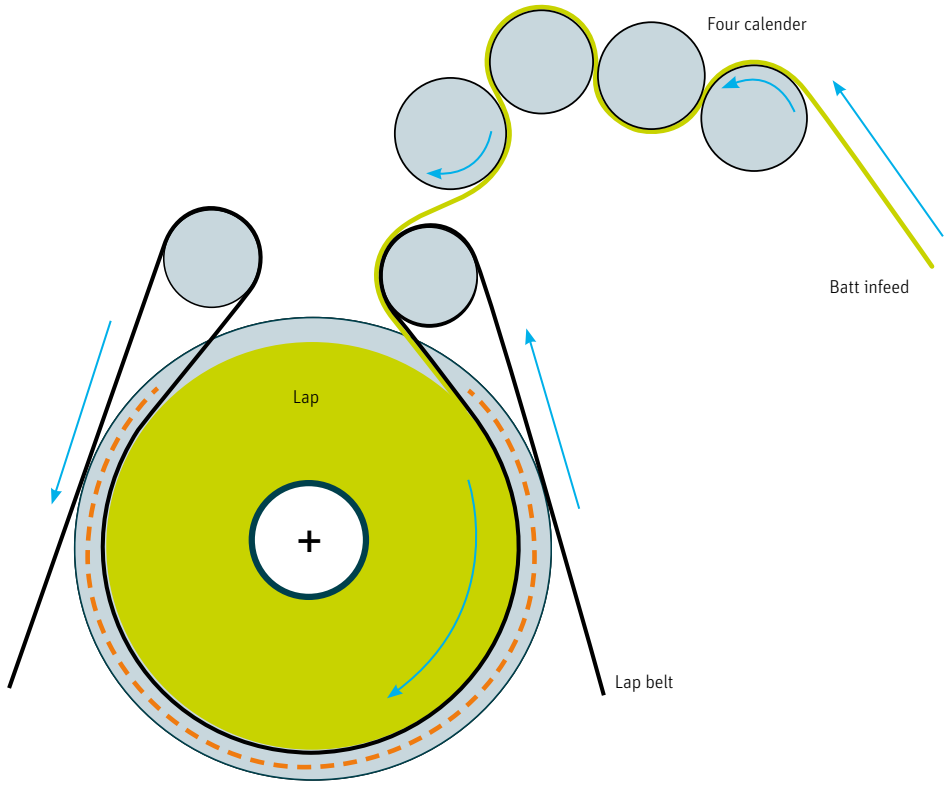
Unique Belt Winding Technology

Lap wrapping and optimal pressure distribution for the best possible lap production

The OMEGAlap has a unique belt winding technology which ensures highest economy in the production of high-quality laps. The optimal winding of the batt onto the tubes is the technologically crucial process. With OMEGAlap, the belt wraps around the infeed batt and thus the lap. The wrapping angle is regulated during lap build-up.

At the start of the process, the contact circumference amounts to 180° whereas at the end of the process it reaches 270°. The lap build-up process is significantly supported by an optimal pressure distribution range.

This is also reflected in the production speed which is up to 50% higher in comparison with conventional sytems.



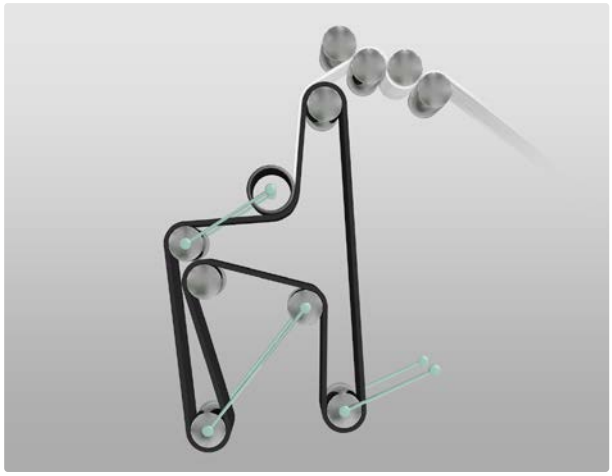
MAXIMUM WRAPPING AND OPTIMAL PRESSURE DISTRIBUTION, taking the OMEGAlap E 36 as an example

Pressure distribution across 270° lap circumference

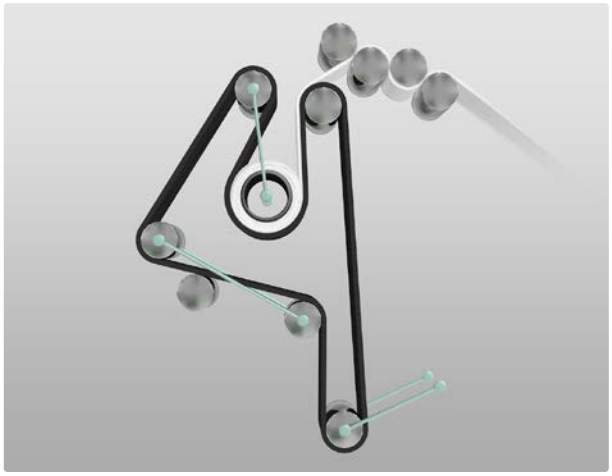
Operating Principle of Belt Winding Technology

The unique belt winding technology in four steps

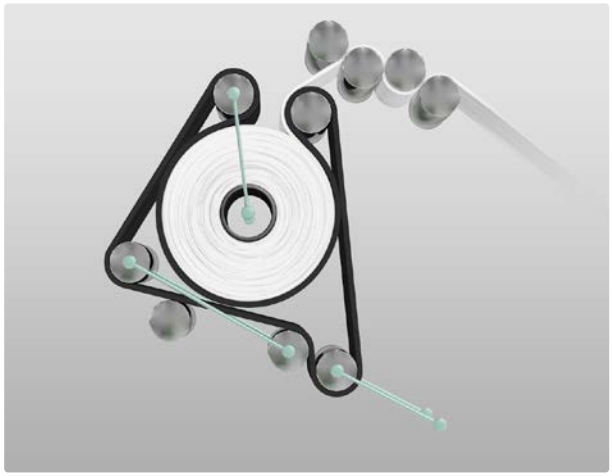
Lap production by means of belt drive and tensioning system is fully automated.



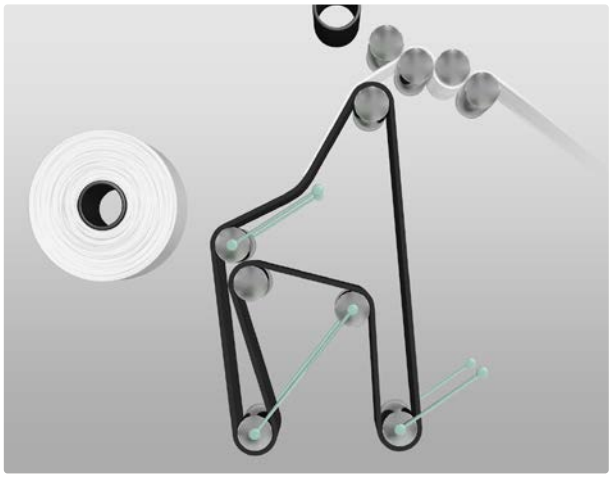
1. Inserting the empty tubes, pneumatic closing of the two winding discs for axial fixation of the tubes.



2. Closing the belt unit, tensioning of the belt, pneumatic fixation of the fibre sliver on the tubes, start of the winding up process.



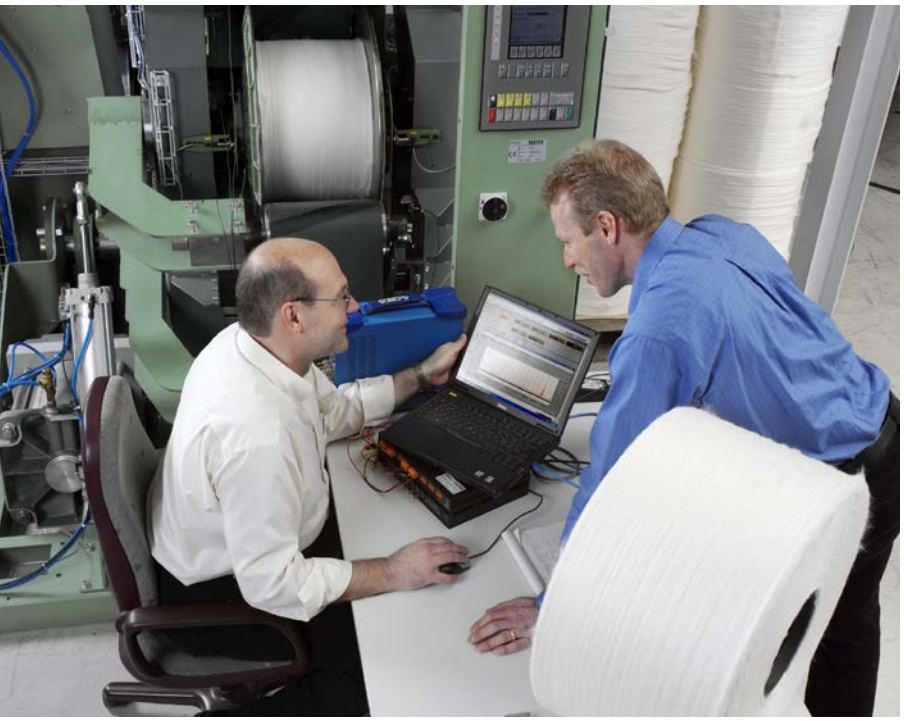
3. Winding up of the batt at constant speed until the full lap diameter is reached.



4. Machine stop, opening of the belt unit, front ejection of the full lap.

Lower Energy Consumption

Up to 25% lower energy consumption compared to conventional winding systems



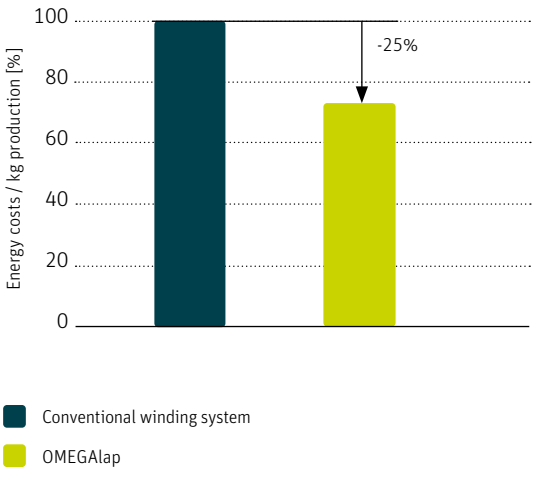
In the present day, energy efficiency and energy saving play an increasingly central role.

Rieter has taken this into account for many years and has developed new innovative products to reduce electricity costs. The same goes for the development of the OMEGAlap combing preparation machine.

Lowest energy consumption per kilogram of lap production

Flexing ability during the winding process exerts a significant influence on the level of energy consumption. The belt winding technology developed by Rieter reduces just this flexing ability and in addition to the energy-optimised selection of electronic and mechanical drive elements, further contributes towards lowering the energy consumption. Compared to conventional winding systems, the OMEGAlap achieves up to 25% lower energy consumption per kilogram of lap production.

Lower energy consumption



Superior Lap Quality

Constant lap quality for optimal yarn quality

Best lap quality

The OMEGAlap E 36 obtains best lap quality at highest production speeds. That means:

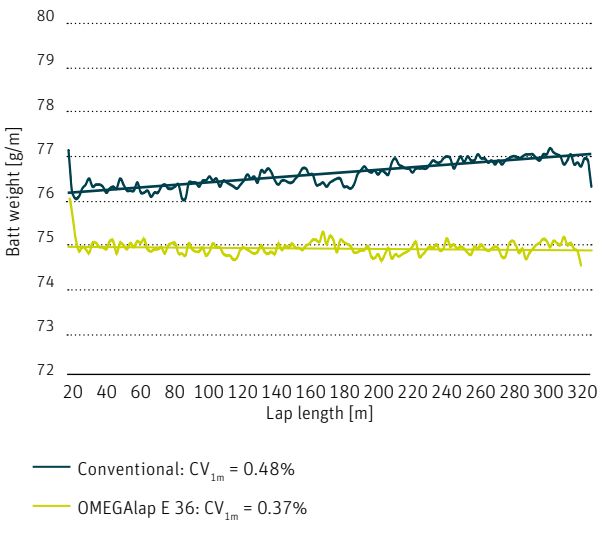
- Homogeneous lap build-up
- Good fibre orientation and batt structure
- Uniform batt weight over the whole lap area, i.e. lower CVm% values
- Optimal processing behaviour on the combing machines

High yarn quality

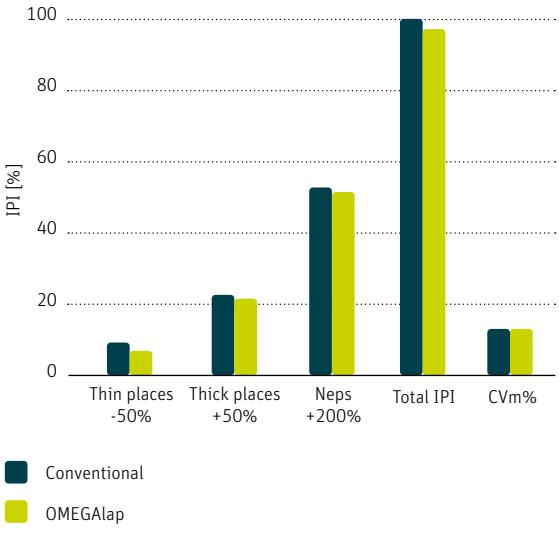
As a systems supplier, Rieter places value on securing quality across all process stages. That means, that the influence of the winding system is tested through to the yarn.

The qualitative characteristics of the OMEGAlap are convincing at all stages through to the yarn. Yarn manufacturers worldwide therefore favour OMEGlap as their preferred combing preparation.

High batt uniformity



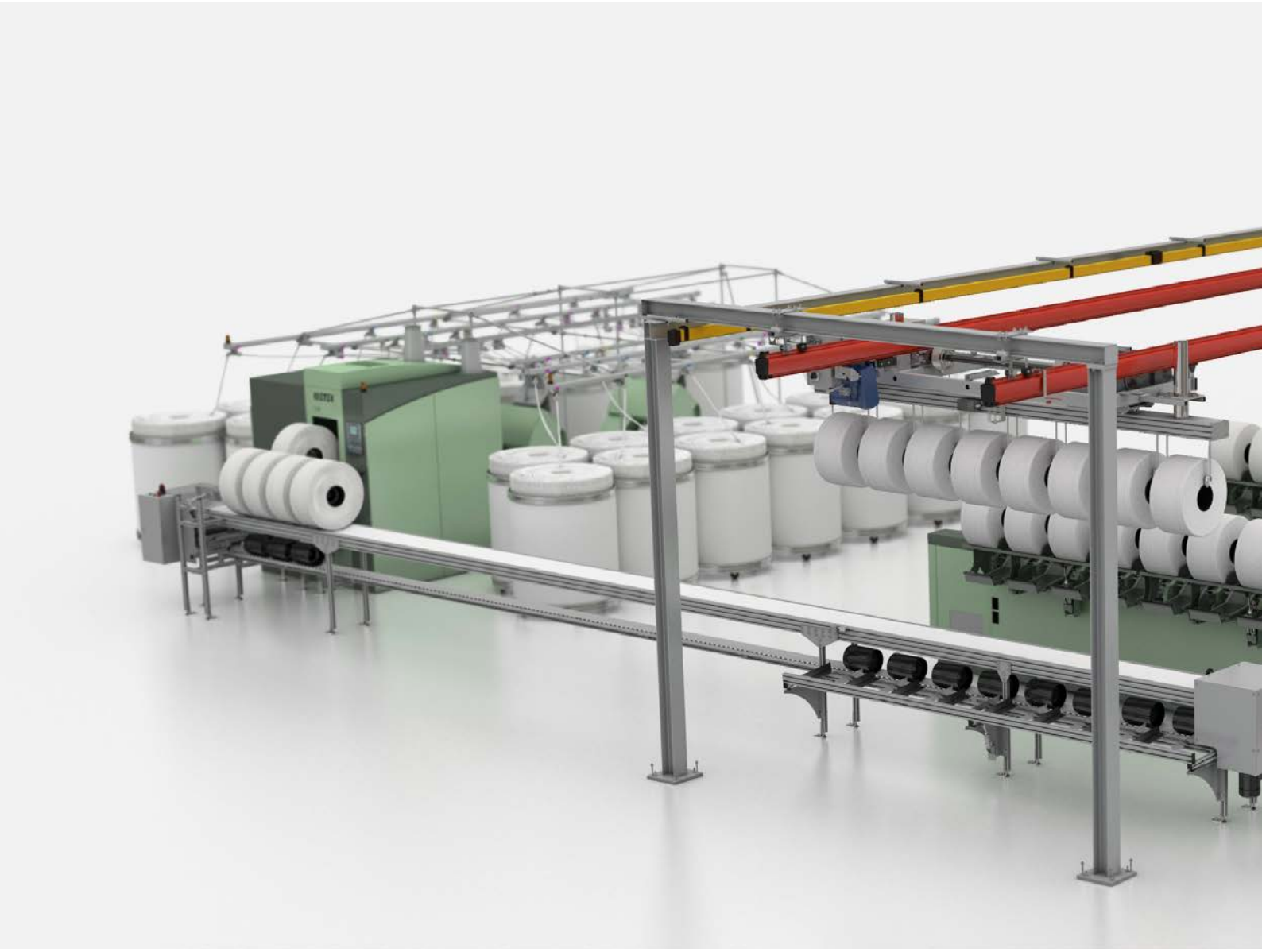
Faultless yarn quality



Highest Productivity

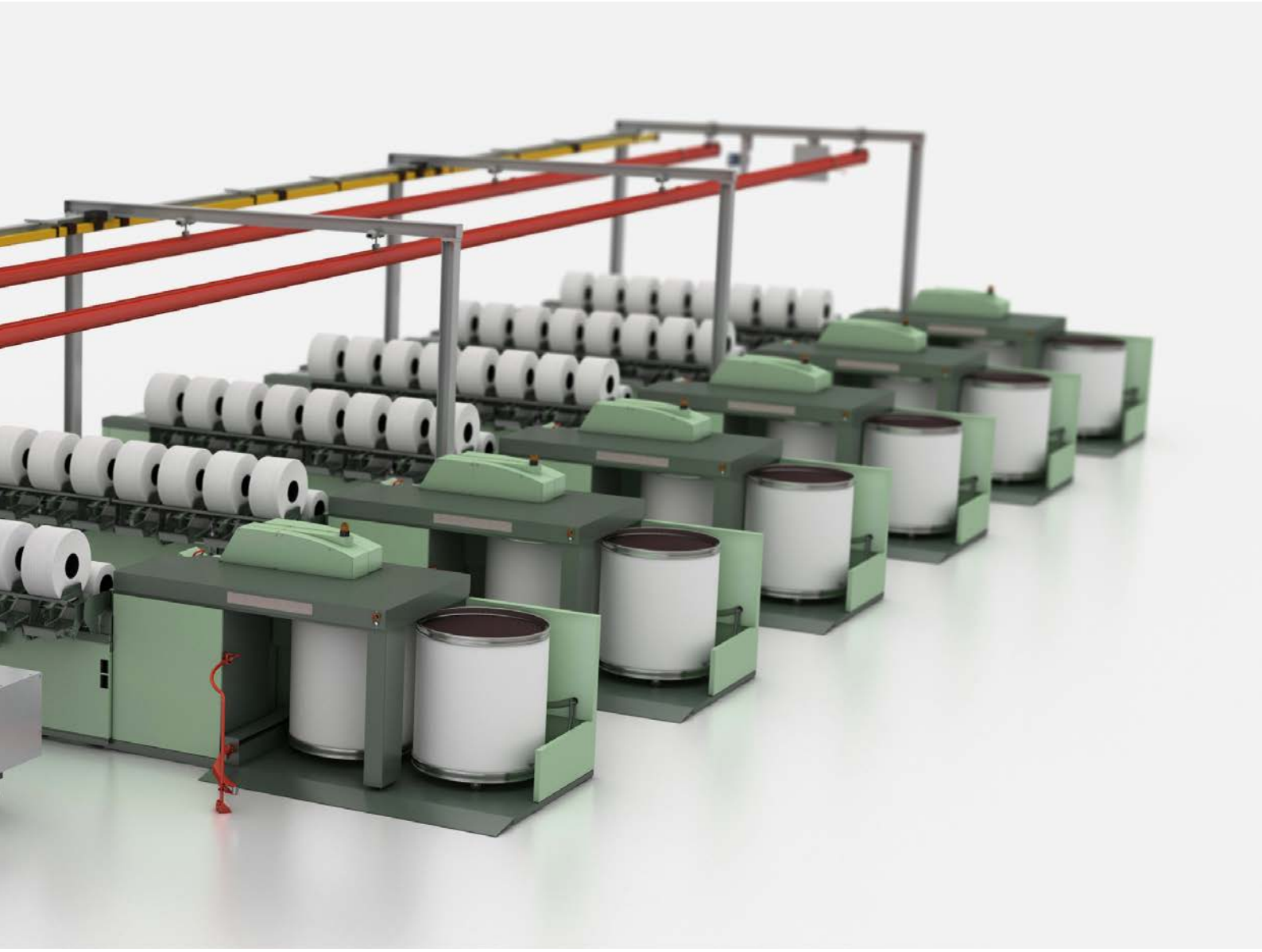
The most economical combing preparation machine with over 600 kg/h production

Regardless of raw material and lap diameter, the OMEGAlap E 36 has a constant production speed of 230 m/min. This allows the supply of larger and extremely economic combing sets. The most economic combing set comprises six Rieter combers E 86 and one OMEGAlap E 36. The resulting set production of over 540 kg/h sliver is the most productive combing set available on the market.



Ideal combing preparation for the combing process

A high-quality and efficient combing process demands an optimally coordinated combing preparation. Draw frames from Rieter meet the highest requirements and are consequently the ideal combination within a Rieter high-performance combing line.



Economic combing set with one OMEGAlap E 36, six Rieter ROBOlap combers E 86, one SERVOlap E 26 transport system

Sophisticated Machine Concept

Perfection from sliver to lap

The OMEGAlap E 36 consists of infeed, winding head and delivery sections.

- The infeed section comprises the centrally arranged creel, the web table with two linear positioned drafting units and the web doubling towards the winding head.
- The winding head accommodates the drive, four calender rolls as well as the belt winding and tensioning system.
- The delivery section can be supplied for semi-automatic or fully automated lap transport, according to the customer's requirements.

Draw frame slivers are fed to the OMEGAlap from cans.

The material runs over guide elements that treat the sliver gently and is supplied to the two drafting units where two webs are formed.

The webs are laid over one another on the web table and fed to the lap head. The material runs between the four calendar rolls, which compress the web to an even batt. Using belt technology, the batt is wrapped around a tube. The full lap is finally extruded from the lap head and placed on a lap truck or lap transport conveyor belt.

Operational Design

Spinning-plant-tested components for operator-friendly handling

Sliver-protecting feed creel

The feed creel is distinguished by its gentle guidance of the sliver. With the help of sensors, all sliver feed is monitored to detect missing or stationary slivers. Error messages allow operating personnel to eliminate sliver breaks precisely and quickly.

Web table with drafting system

The two-zone drafting system can be adapted to the raw material in the break and main draft zone and is equipped with efficient drafting system suction. Adjustable guide elements on the lap table ensure that the web is fed into the winding head at the optimal width.

Effective suction concept

An effective suction concept supplements the belt drive and tensioning system in the winding head and performs the following functions:

- suction of the batt onto the empty tube following lap change
- maintaining cleanliness of the calender rolls
- cleaning the lap belt

Lap Transport System

Flexible solutions for gentle and efficient lap transport

Gentle and efficient lap transport

The OMEGlap E 36 can be supplied with a semi-automatic or a fully automated lap transport system, according to requirements.

Semi-automatic transport system SERVOtrolley

Four laps can be transported with a SERVOtrolley. Transfer to the comber is carried out manually. The SERVOtrolley and comber are automatically loaded and unloaded.

System advantages:
- high degree of flexibility
- easy handling
- low capital costs

Fully automated transport system SERVOlap E 26

Eight laps are transported simultaneously using the fully automated SERVOlap E 26 transport system.

System advantages:
- reduced space requirements
- savings on operating personnel
- increased flexibility
- high quality consistency
- enhanced efficiency

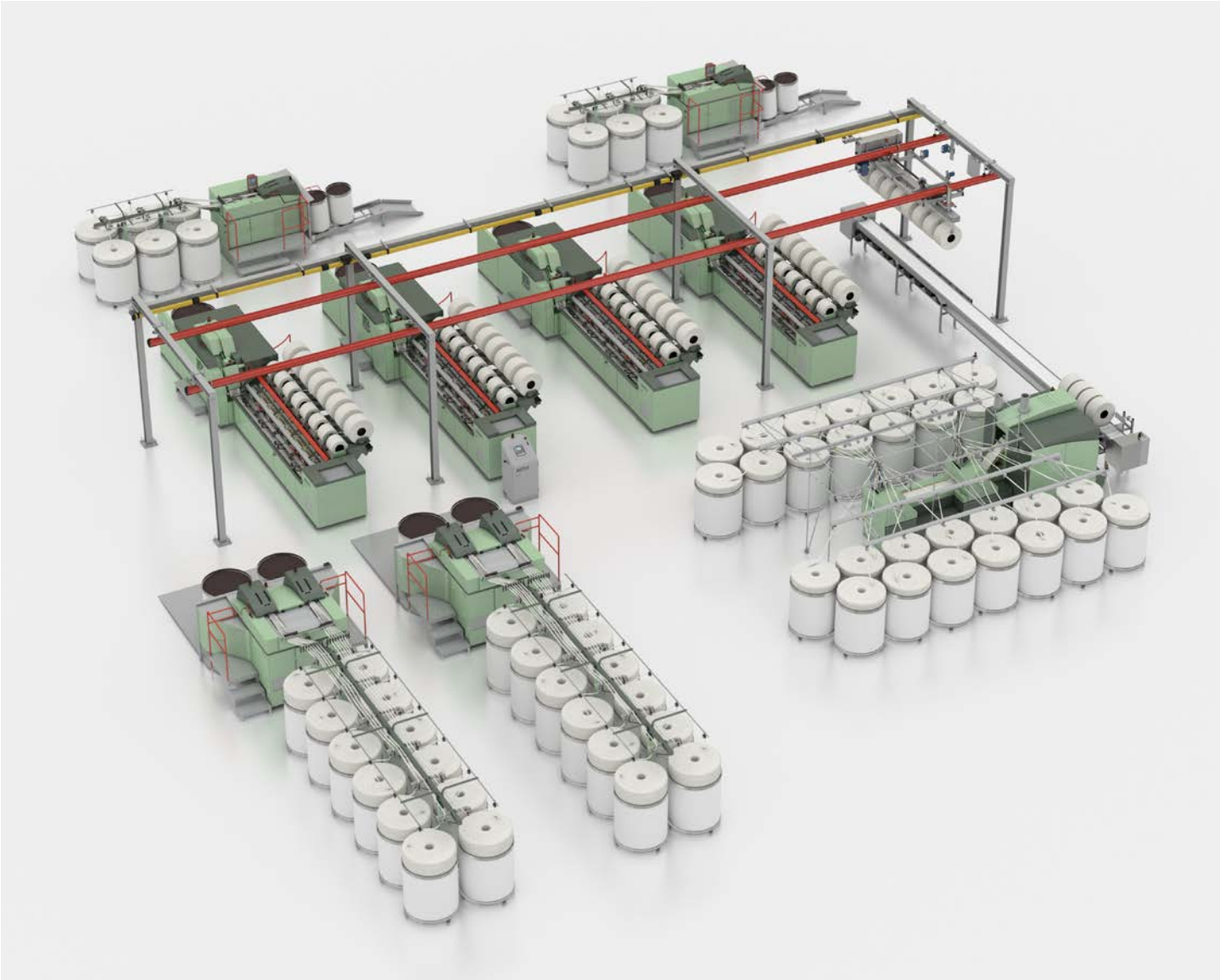
The most economical combing set consists of an OMEGAlap E 36 and six combers E 86 in combination with the SERVOlap E 26 fully automated lap transport system.

OMEGAlap E 36e

For smaller economic combing sets

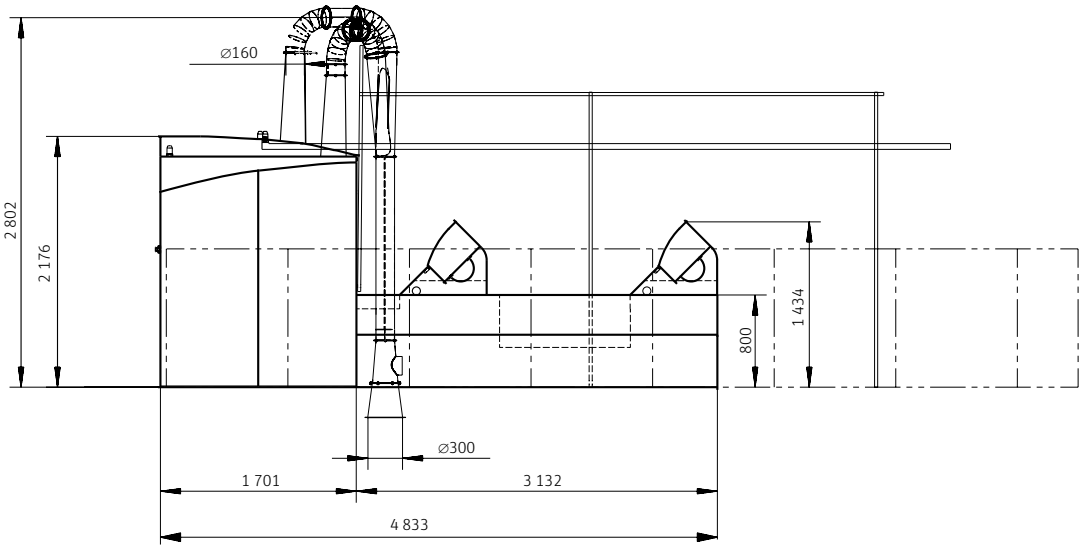
The combination of the OMEGAlap E 36e and the combers E 86 form the economic alternative for smaller combing sets. At the highest comber production, the combing set consists of four Rieter combers E 86 and an OMEGAlap E 36e.

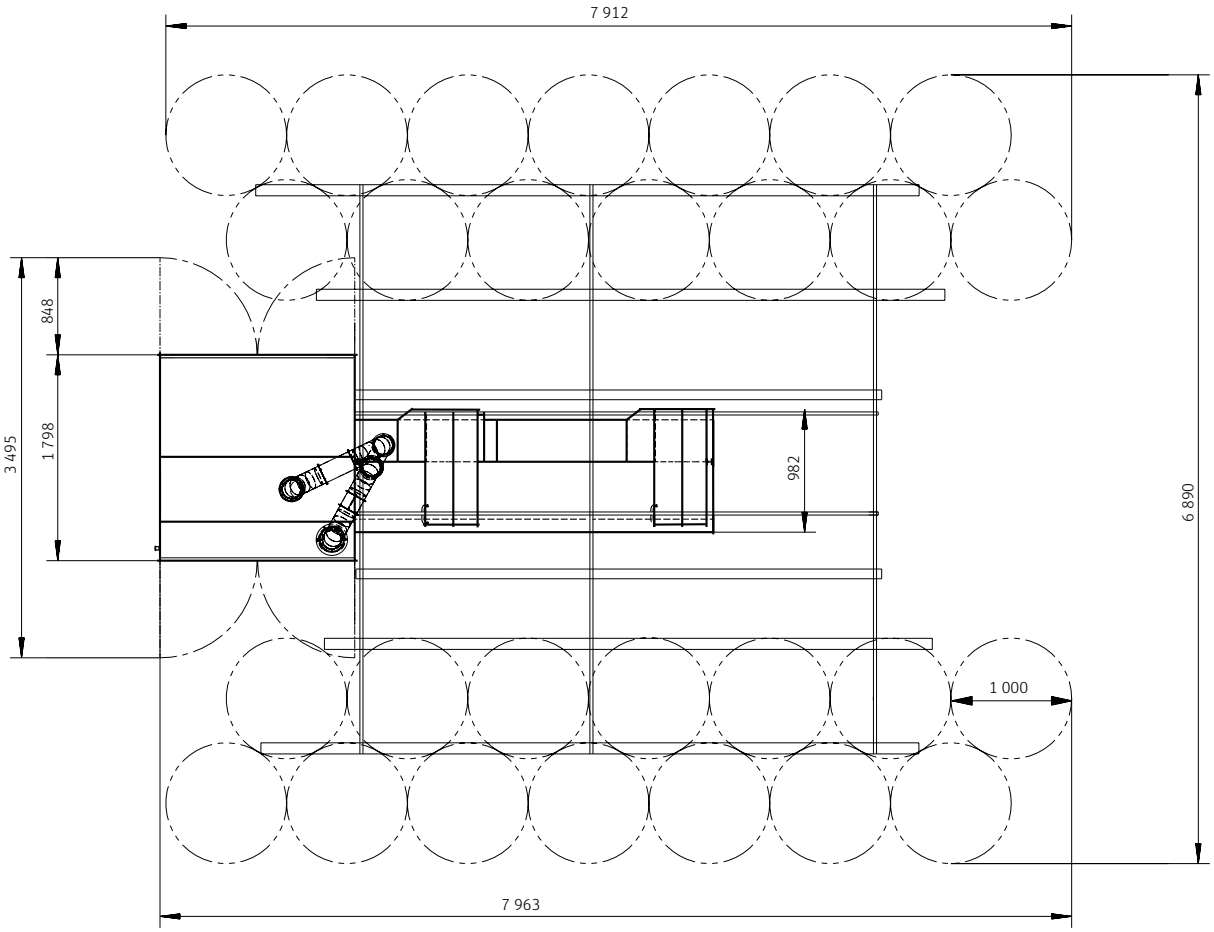
The E 36e is therefore the ideal combing preparation machine to make combing sets with a production of up to 336 kg/h a reality.



Machine Data

OMEGAlap E 36 / E 36e combing preparation machine





Technological data	**E 36**	**E 36e**
Application range	1 1/16 – 1 1/2 (1 3/4)	1 1/16 – 1 1/2 (1 3/4)
Sliver count range	3 – 6 ktex	3 – 6 ktex
Doubling	max. 28-fold	max. 28-fold
Infeed	max. 140 ktex	max. 140 ktex
Draft	1.4 – 2.4-fold	1.4 – 2.4-fold
Batt weight, delivery	max. 80 g/m	max. 80 g/m
Technical data		
Delivery speed (constant)	230 m/min	140 m/min
Production	over 600 kg/h	eff.: max. 400 kg/h
Winding width	300 mm	300 mm
Lap diameter max.	580 mm	580 mm
Lap weight max.	25 kg	25 kg
Energy consumption • Machine • Fiber separator	approx. 4.8 kWh (installed 14 kW) approx. 2.7 kWh (installed 3.0 kW)	approx. 3.8 kWh (installed 6.5 kW) approx. 2.7 kWh (installed 3.0 kW)
Compressed-air supply requirements, 7 bar	approx. 16.5 Nm/h^3	approx. 16.5 Nm/h^3
Machine data		
Can creel	∅ 600 x 1 200 mm (∅ 24 in x 48 in) ∅ 1 000 x 1 200 mm (∅ 40 in x 48 in) ∅ 1 000 x 1 500 mm (∅ 40 in x 59 in) ∅ 1 200 x 1 200 mm (∅ 48 in x 48 in)	
Drafting System	3 over 3 cylinders	
Dedusting	Connection to external systems or fiber separator	

Machine dimensions	with cans ∅ 600 mm	with cans ∅ 1 000 mm	with cans ∅ 1 200 mm
Machine length incl. cans (without transport system)	6 406 mm	7 963 mm	8 658 mm
Machine width incl. cans	5 040 mm	6 890 mm	7 609 mm
Machine height max. (with central upward suction)	2 950 mm	2 950 mm	2 950 mm


RIETER

Rieter Machine Works Ltd.
Klosterstrasse 20
CH-8406 Winterthur
T +41 52 208 7171
F +41 52 208 8320
machines@rieter.com
aftersales@rieter.com

Rieter India Private Ltd.
Gat No. 768/2, Village Wing
Shindewadi-Bhor Road
Taluka Khandala, District Satara
IN-Maharashtra 412 801
T +91 2169 304 141
F +91 2169 304 226

Rieter (China) Textile Instruments Co., Ltd.
390 West Hehai Road
Changzhou 213022, Jiangsu
P.R. China
T +86 519 8511 0675
F +86 519 8511 0673

www.rieter.com

2611-v7 en 2007