OMEGAlap E 40

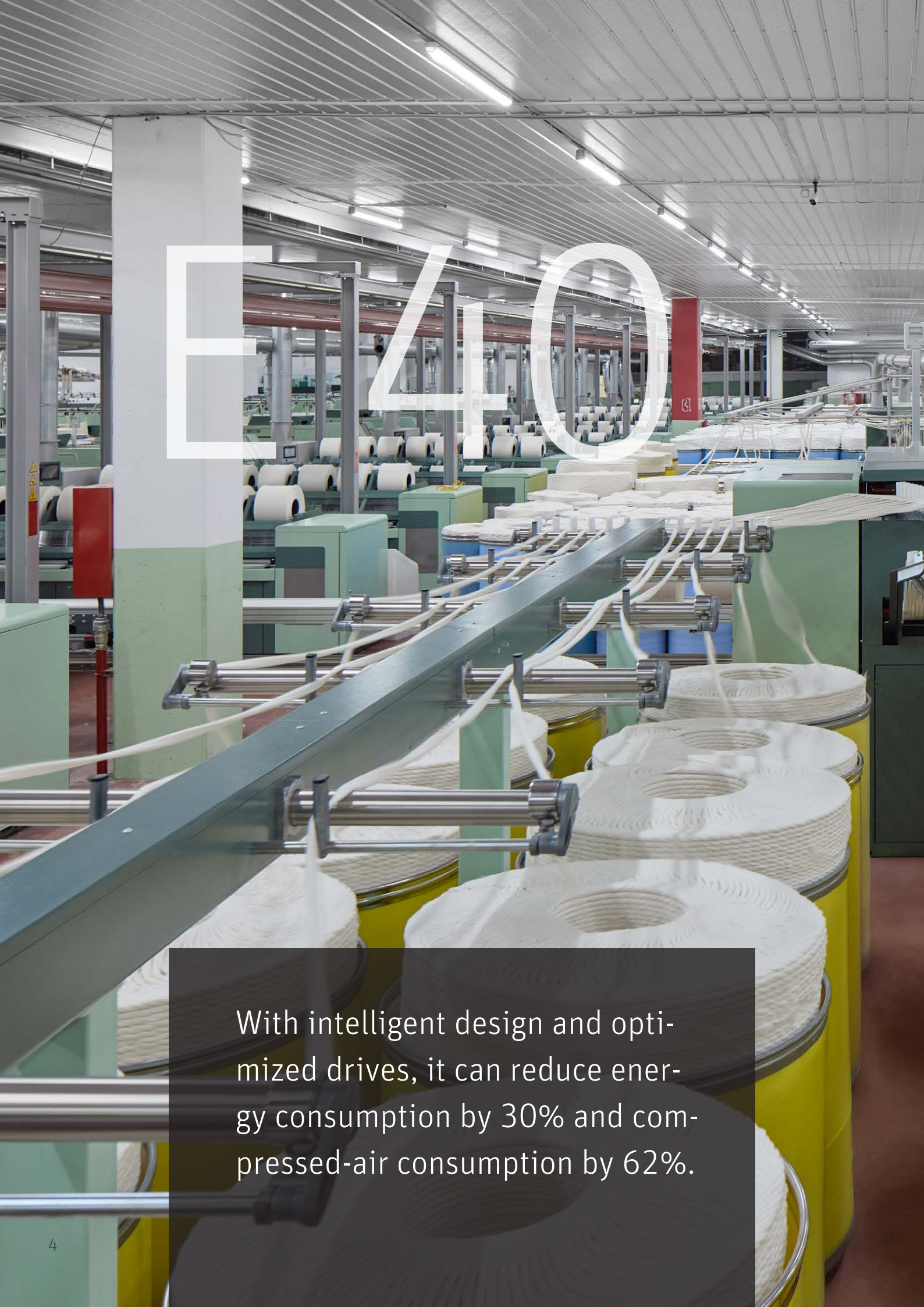
Combing preparation

The market leader
in lap production

E 40

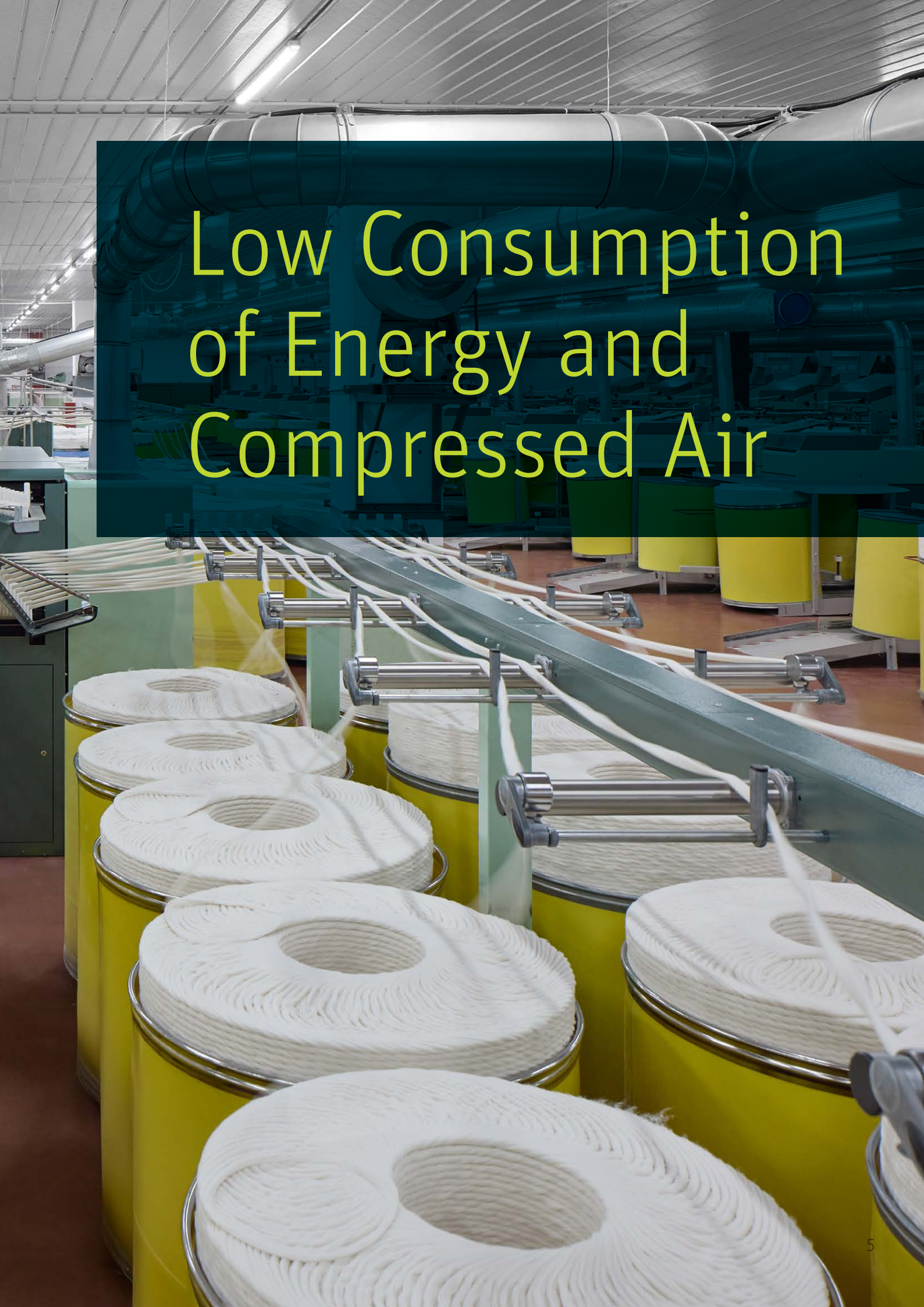
Highest Production of up to 800 kg/h

The OMEGAlap E 40 achieves a rate of up to 800 kg/h thanks to fast lap change and a consistent winding speed of 230 m/min.

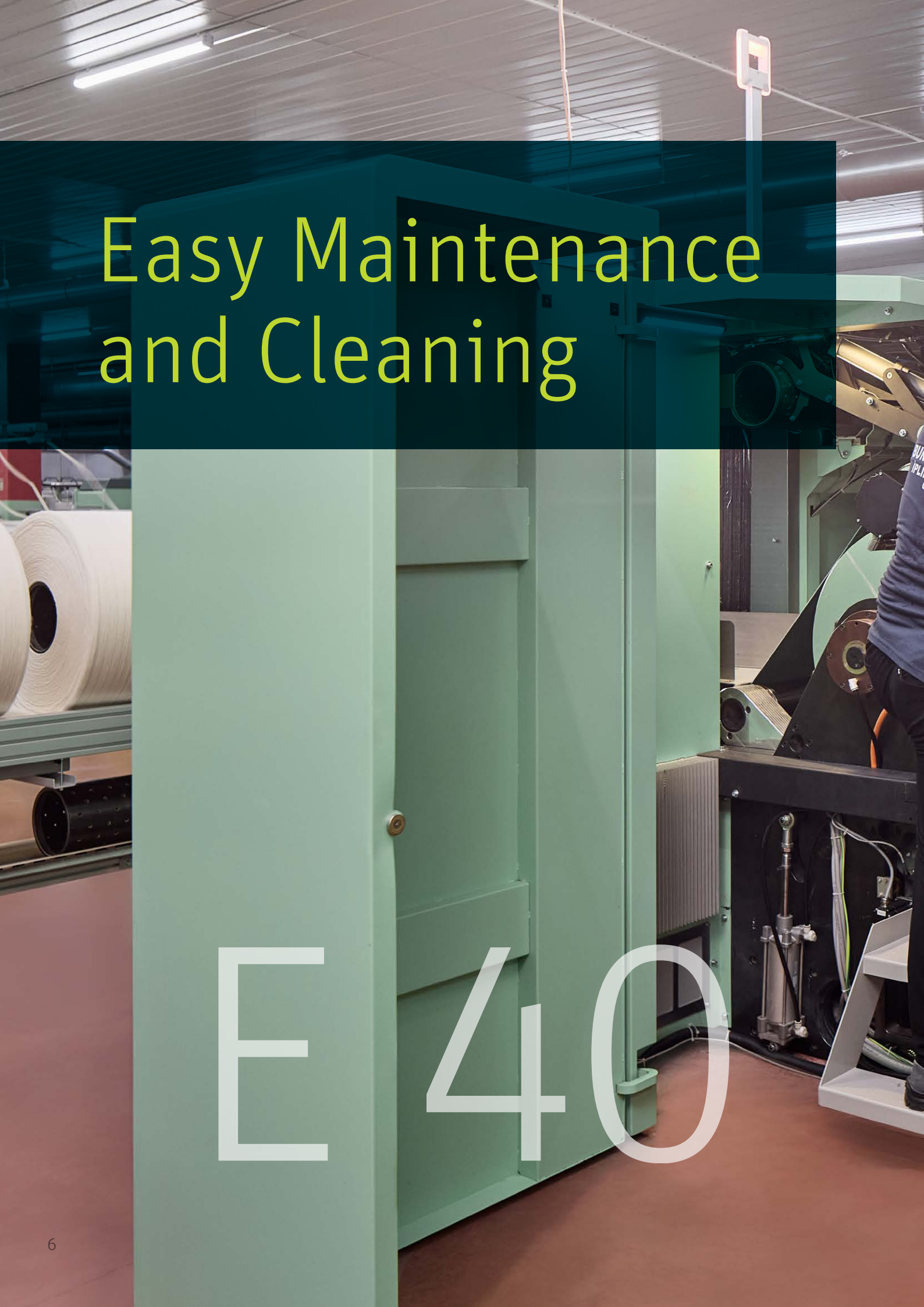


E40

With intelligent design and optimized drives, it can reduce energy consumption by 30% and compressed-air consumption by 62%.



Low Consumption of Energy and Compressed Air



Easy Maintenance and Cleaning

E 40

All important components are in the winding head and therefore in one central location.

E 40

OUTSTANDING FEATURES

Up to 800 kg/h

33% more productive at a consistently high winding speed of 230 m/min

Intuitive Display

Quick adjustment and monitoring of production data

Fast Lap Change

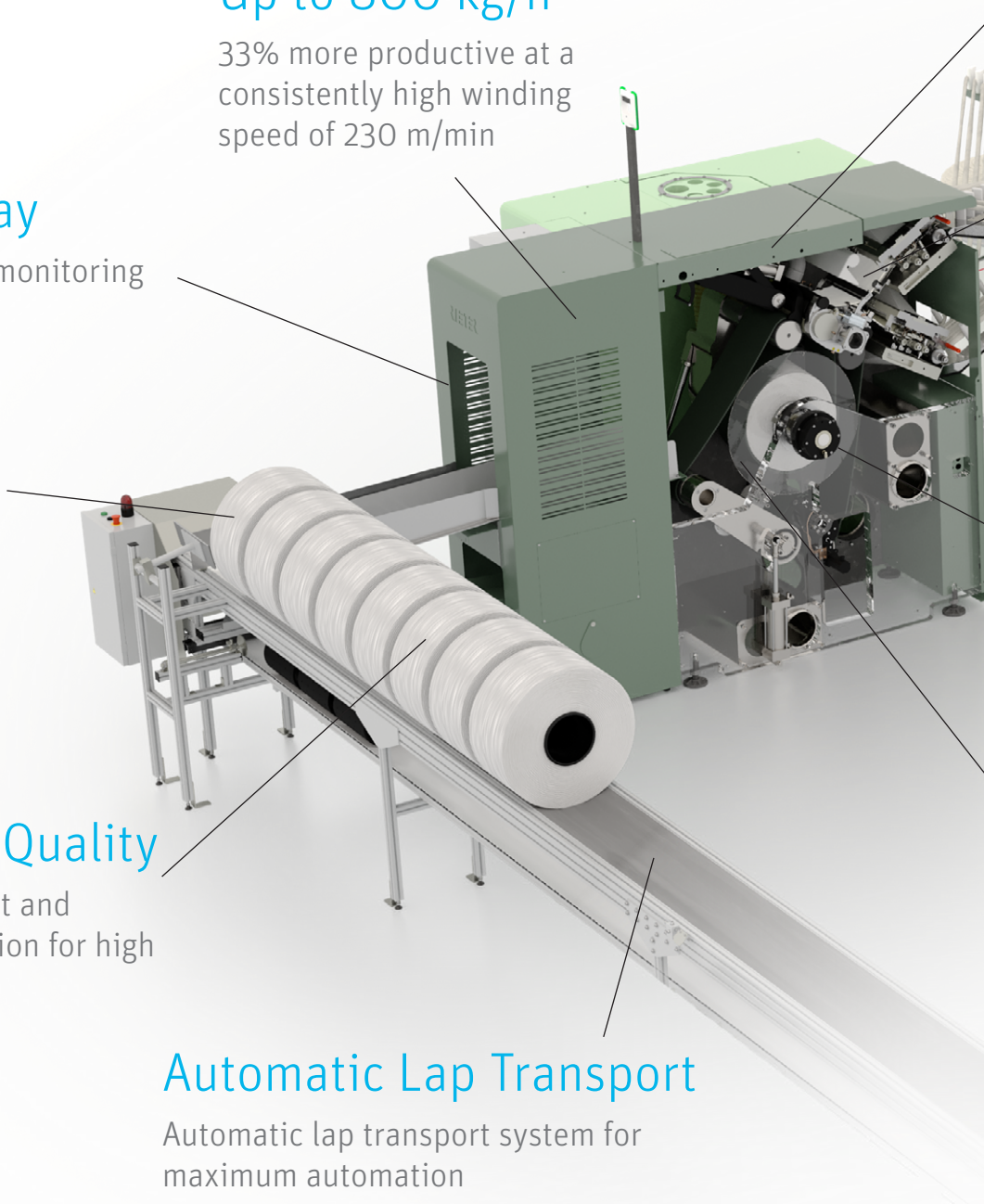
66% faster lap change as the basis for high productivity

Excellent Lap Quality

Consistent batt weight and optimal fiber orientation for high combing quality

Automatic Lap Transport

Automatic lap transport system for maximum automation

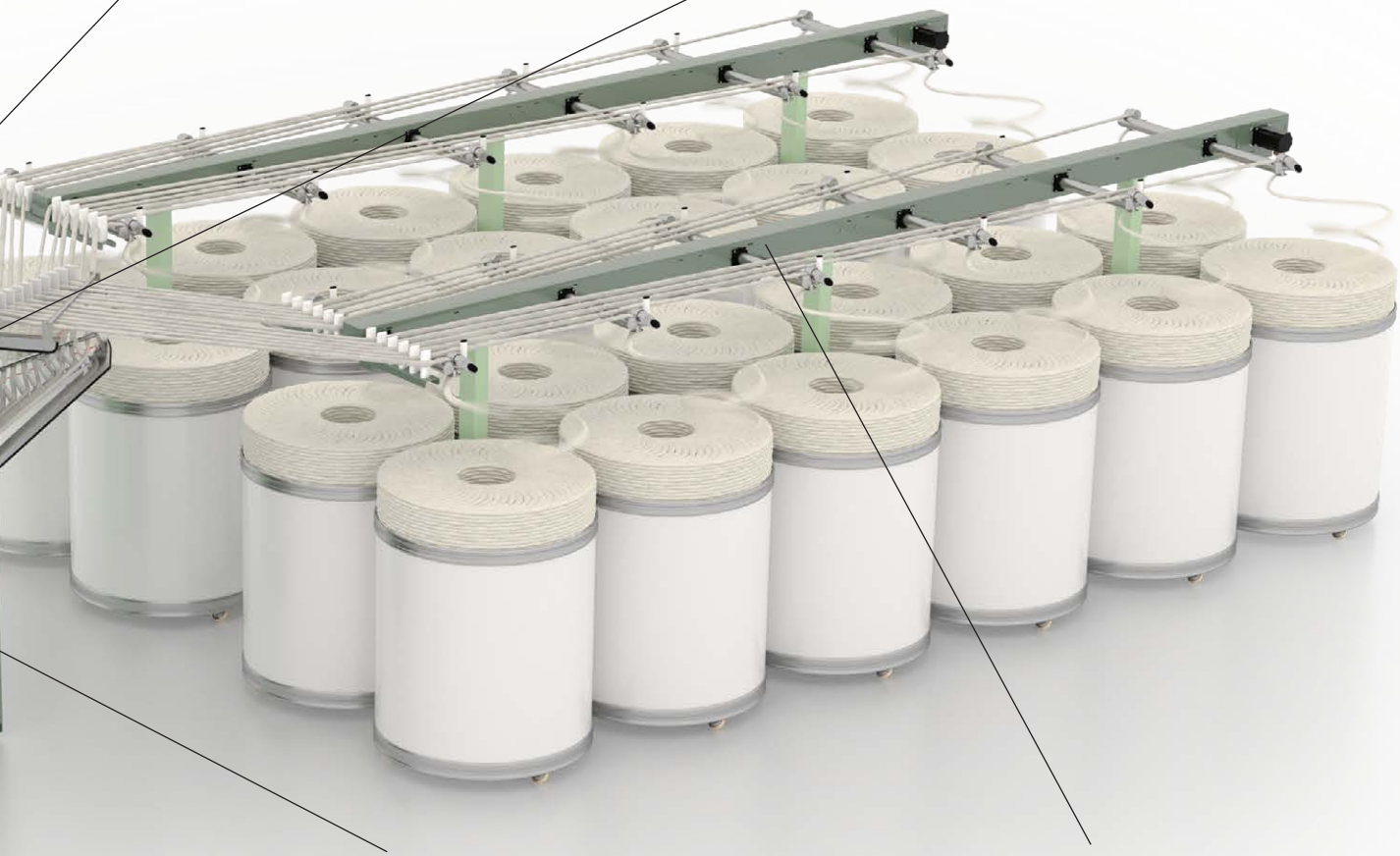


Low Energy Consumption

Up to 30% lower energy consumption and more than 62% lower compressed-air consumption

Easy Operation and Maintenance

Drafting systems and key components in one location; no longitudinal section necessary



Fewer Wear Parts

Optimized drive system results in fewer belts

Reliable Sliver Feeding

Proven, positively driven creel on the draw frame

Good Unwinding Behavior on the Comber

Unique winding belt technology enables homogeneous lap formation

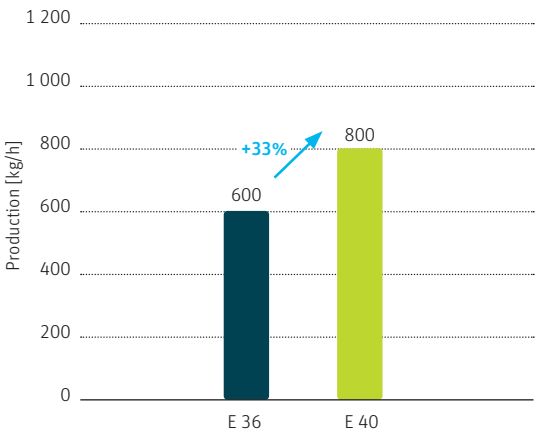
Outstanding Productivity

Up to 800 kg/h production thanks to fast lap change

The OMEGAlap E 40 achieves a lap production of 800 kg/h. This high productivity is the result of two decisive factors:
1. short lap change time of 12 seconds and
2. consistently high winding speed of 230 m/min.

The lap change is completed in just 12 seconds – 66% less time compared to the previous model. This is made possible by an optimized motion sequence and the use of a smaller pneumatic cylinder, which is solely responsible for ejecting the laps. This significantly increases machine efficiency.

Lap Production



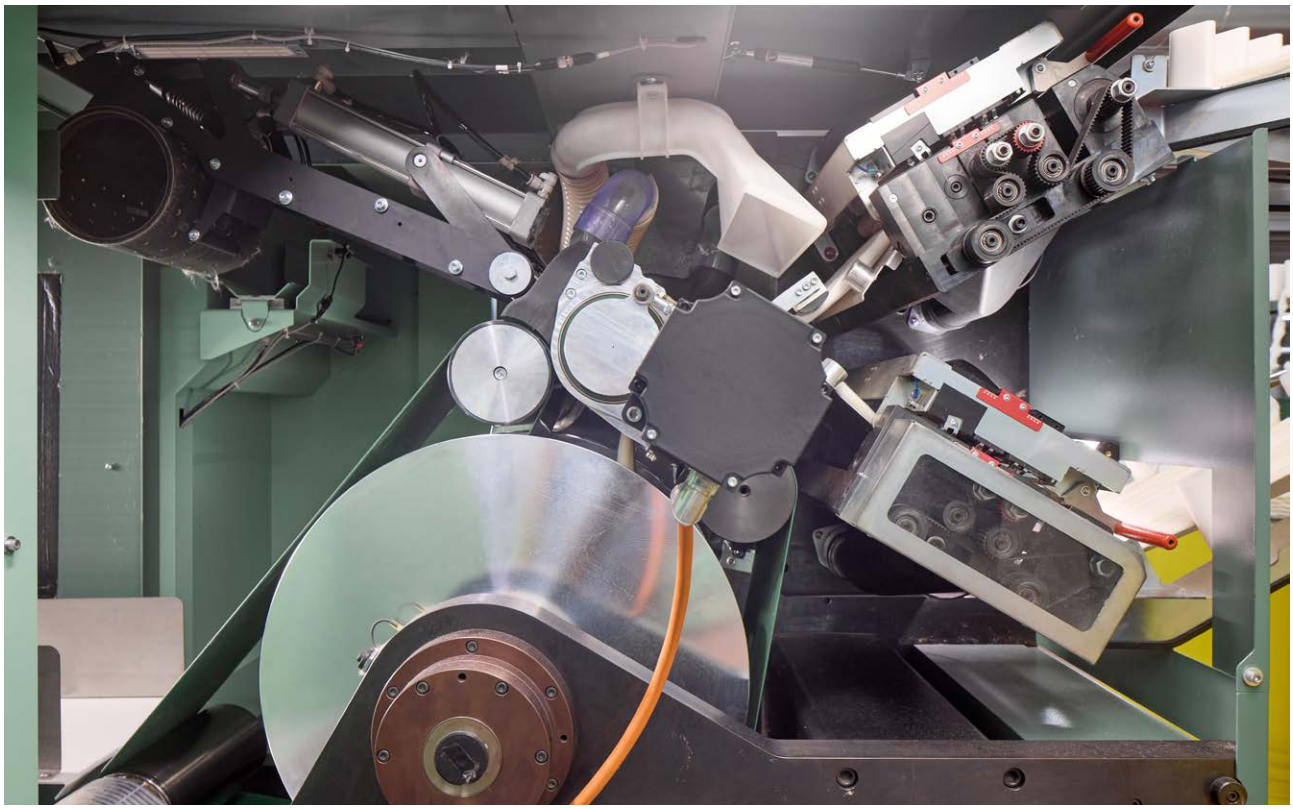
OMEGAlap E 40 features impressively high productivity.

Rieter's proven belt technology is the key to achieving the consistently high winding speed of 230 m/min. From the first to the last meter, the fiber web is wound precisely and gently onto the tube. The belt almost completely wraps around the lap throughout the entire production process. This ensures even pressure distribution over the entire circumference and prevents undesirable centrifugal forces, which is a decisive advantage over other systems. And it is the precondition for outstanding lap quality.

1. Putting the empty tube into the belt

2. Wrapping around the lap during production

3. Ejecting the full lap through belt tension



Reduce Operating Costs

30% lower energy consumption, 62% lower compressed-air consumption

The E 40 features impressive, highly resource-efficient energy consumption. The result is lower operating costs and a valuable contribution to environmental protection.

Reduced compressed-air consumption with intelligent design

The 62% reduction in the amount of compressed air required is based on two key design improvements:

- more efficient motion sequences when a lap is ejected and
- optimized lever geometry of the belt drive.

These adjustments make it possible to use smaller pneumatic cylinders that require significantly less compressed air.

Reduced energy consumption with an optimized drive concept

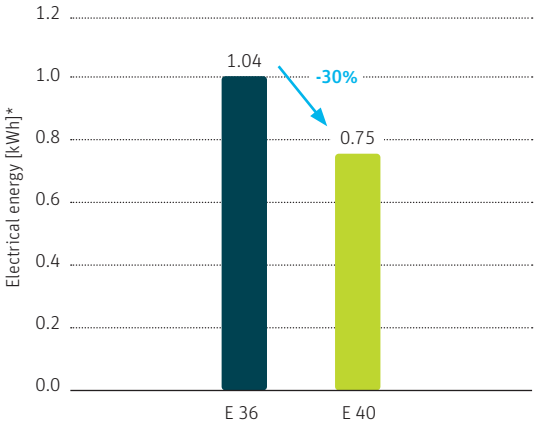
The E 40 relies on a modern, decentralized drive concept with eight energy-efficient servomotors – one each for the main drive, the drafting systems, the calenders, and the creel.

Compared to the previous solution with a central main motor, it reduces energy consumption by 30%. At the same time, the mechanical complexity has been significantly decreased: The number of pulleys and drive belts is now 4 instead of 14.

The results are:

- less maintenance effort,
- higher control accuracy and
- considerably more efficient operation.

Energy Consumption During Lap Production



OMEGAlap E 40 features impressively low energy consumption.

*Measurement: 5 laps, without interruption

Outstanding Lap Quality

Consistent combing quality, high process reliability

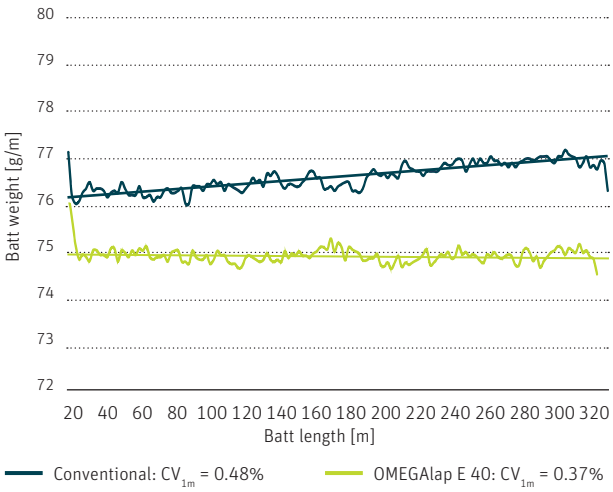
The E 40 guarantees excellent lap quality and very good unwinding behavior on the comber – even at a consistently high winding speed of 230 m/min and regardless of staple length and short-fiber content.

The unique, proven winding belt technology makes this possible. It ensures even pressure distribution on the lap throughout the entire winding process and significantly reduces the frictional work during lap formation.

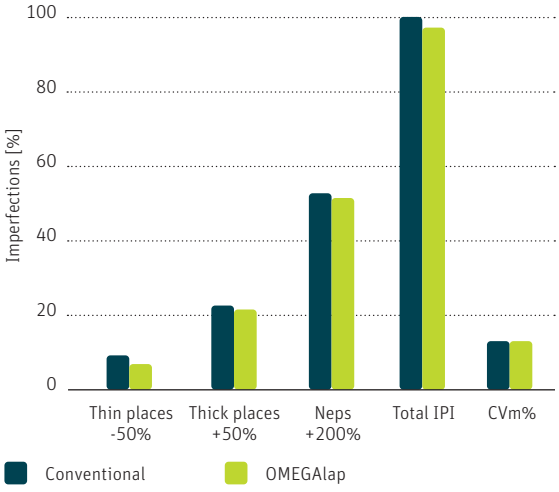
The high lap quality is based on:
- good fiber orientation and batt structure,
- consistent batt weight and
- homogeneous lap formation.

The result is consistent combing quality over the entire lap.

Consistent Batt Weight



Faultless Yarn Quality



As a system supplier, one of Rieter's top priorities is to ensure quality across all process stages. With the OMEGAlap E 40 the yarn quality achieves results that are equivalent to or better than those achieved with conventional winding systems – for better process reliability and end product quality.

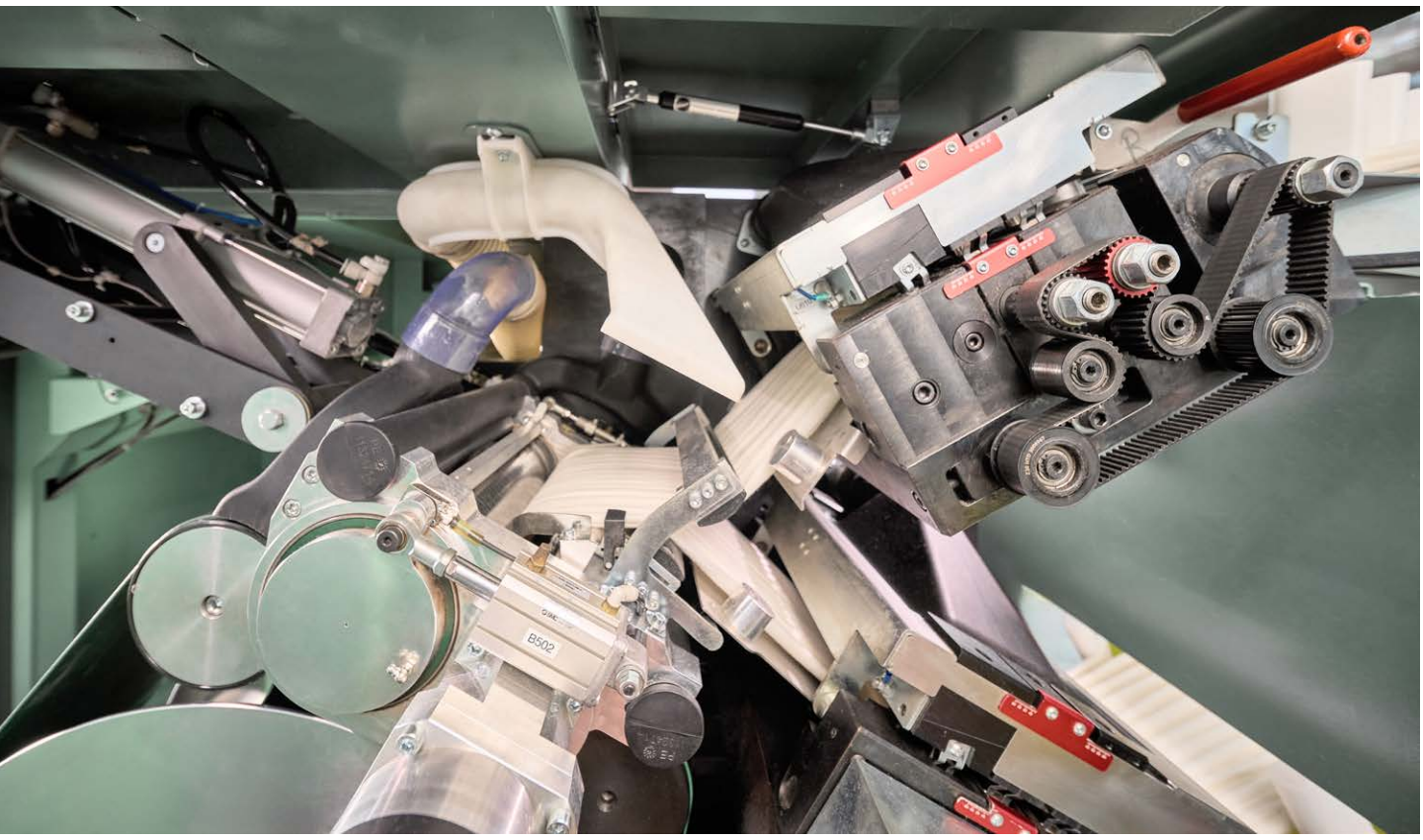
Easy Operation and Maintenance

Drafting systems and key components in one location

Clever machine design simplifies operation and maintenance

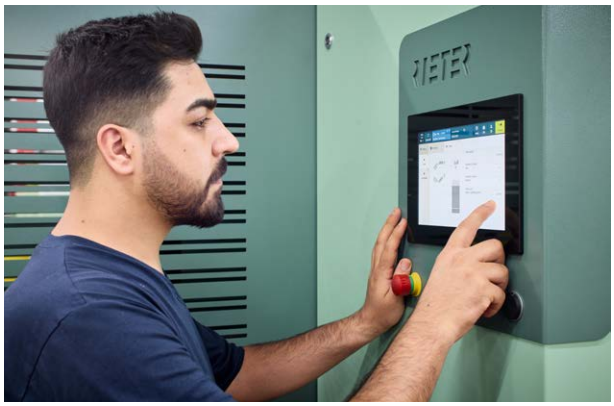
In the OMEGAlap E 40, the two drafting systems are integrated into the winding head. No longitudinal section is required. This has many benefits:

- better all-around machine accessibility,
- cans on the creel can be moved freely from one side to the other,
- all important components, including the drafting system, are in one central location and
- routine maintenance and cleaning are much easier and faster.



Quick and easy production data monitoring

The enlarged machine display, intuitive icons, and graphical representations make navigation easier for operators. They can set production data quickly and monitor it easily.



Reliable sliver guide

The stable power creel of the Rieter draw frames with actively driven feeding rollers ensures that the high-quality slivers are guided precisely and fed into the winding head with consistent quality. Rieter recommends using tall cans with a large diameter.

Reduce Personnel, Monitor Processes

Ready for automation and digitization

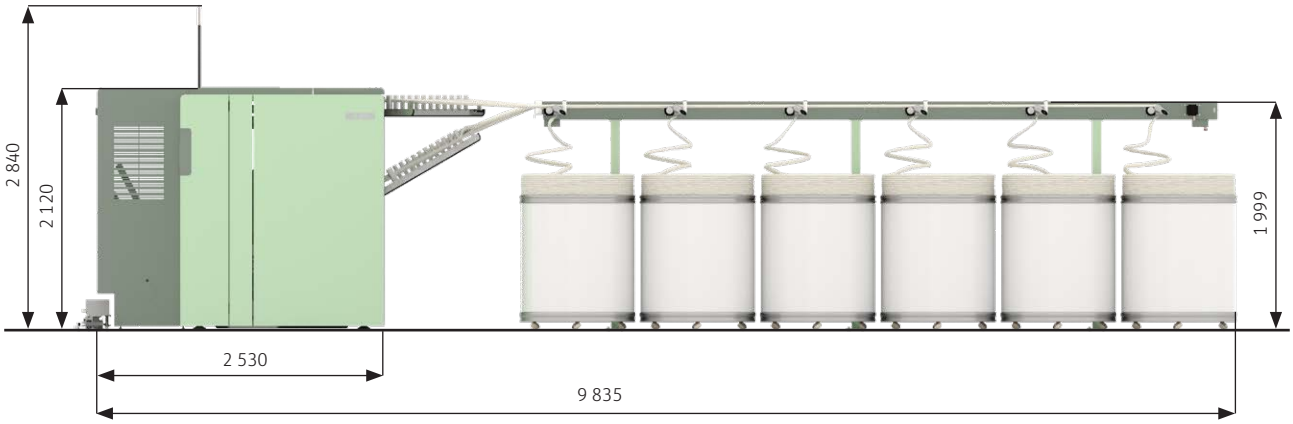
The E 40 can be combined with the automated lap transport system SERVOlap. In interaction with combers equipped with ROBOlap, Rieter's automated lap change and batt piecing system, it is possible to achieve considerable savings in personnel in the combing section. Alternatively, the OMEGAlap E 40 can be connected to the semi-automatic lap transport system SERVOtrolley.

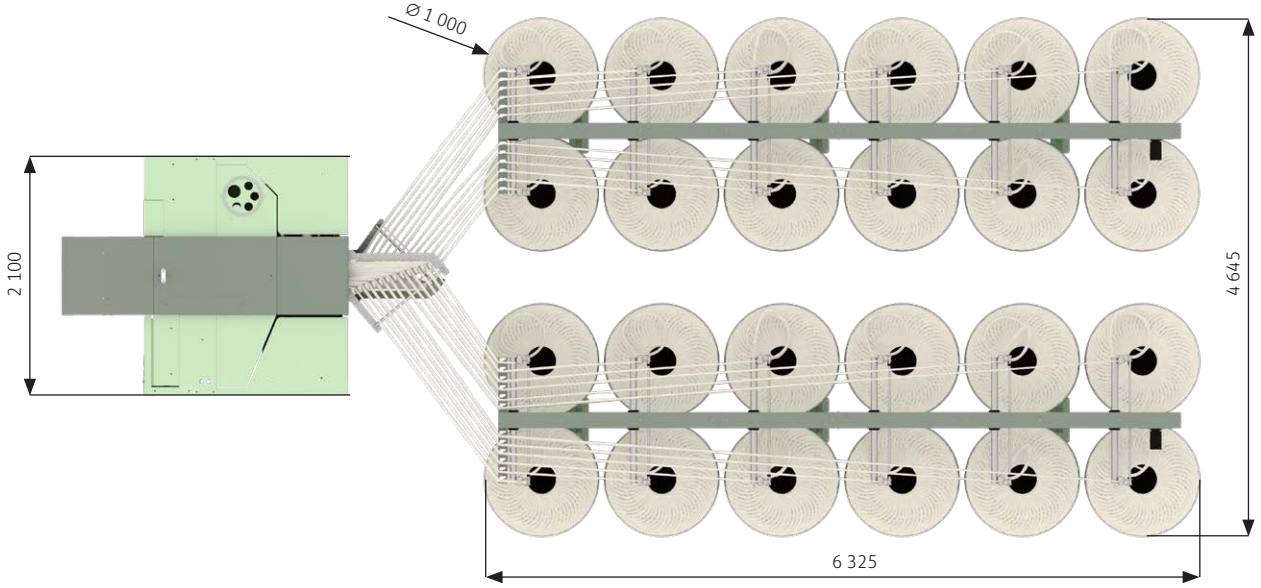
Automation and digitization are the ideal combination for more economical spinning. The digital platform ESSENTIAL connects machines and organizes, compares, and visualizes data, thus enabling maximum transparency in the production process.

In real time, ESSENTIAL shows how efficiently the spinning mill is running and how much yarn is currently being produced. Whether production, efficiency, energy consumption, or quality – all the relevant key indicators are always in view.

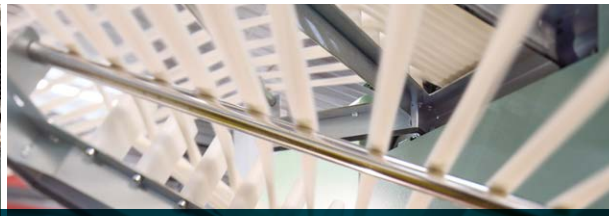
Machine Data

OMEGAlap E 40





Technological data E 40			
Fiber length	1 1/16 – 1 1/2 (1 3/4) in		
Sliver count	3 – 6 ktex		
Doubling	max. 28-fold		
Infeed	max. 140 ktex		
Draft	1.4 – 2.4-fold		
Batt weight	max. 80 g/m		
Technical data			
Delivery speed (consistent)	230 m/min		
Production	up to 800 kg/h		
Lap width	300 mm		
Max. lap diameter	580 mm		
Max. lap weight	25 kg		
Installed power	21.5 kW		
Compressed-air requirement	7 bar		
Machine data			
Can creel	∅ 1 200 × 1 200 mm (∅ 48 in × 48 in) ∅ 1 000 × 1 500 mm (∅ 40 in × 59 in) ∅ 1 000 × 1 200 mm (∅ 40 in × 48 in) ∅ 600 × 1 200 mm (∅ 24 in × 48 in)		
Drafting system	3 over 3 cylinders		
Dedusting	Connected to external system		
Machine dimensions with 28 cans	With cans ∅ 600 mm	With cans ∅ 1 000 mm	With cans ∅ 1 200 mm (only 24 cans)
Machine length with cans (without transport system)	7 685 mm	10 160 mm	10 309 mm
Machine width with cans	3 925 mm	4 645 mm	5 480 mm
Max. machine height (with central suction system upward)	2 840 mm	2 840 mm	2 840 mm



Rieter Ltd.
Klosterstrasse 20
CH-8406 Winterthur
T +41 52 208 7171
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 664 141

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

www.rieter.com

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