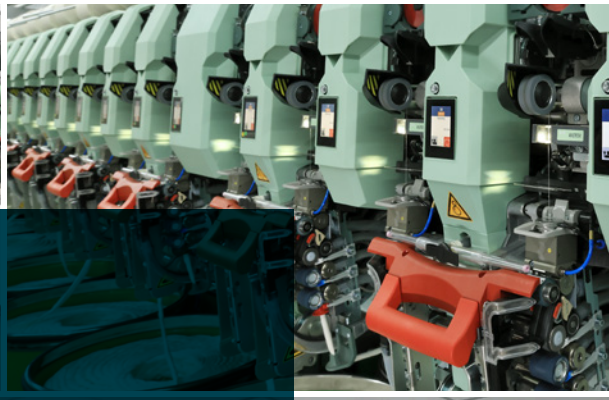
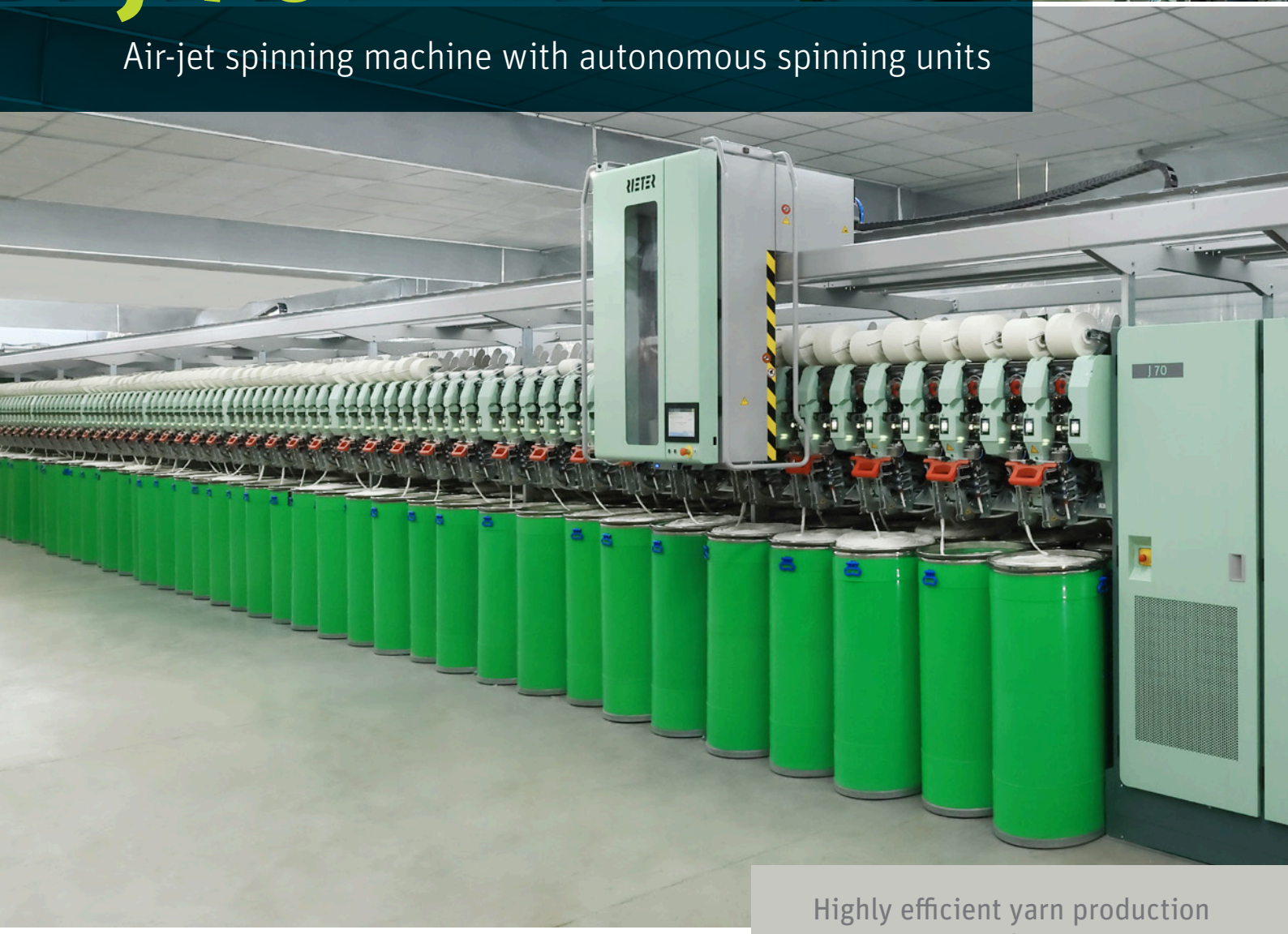
RIETER



J 70

Air-jet spinning machine with autonomous spinning units



Highly efficient yarn production
with maximum flexibility

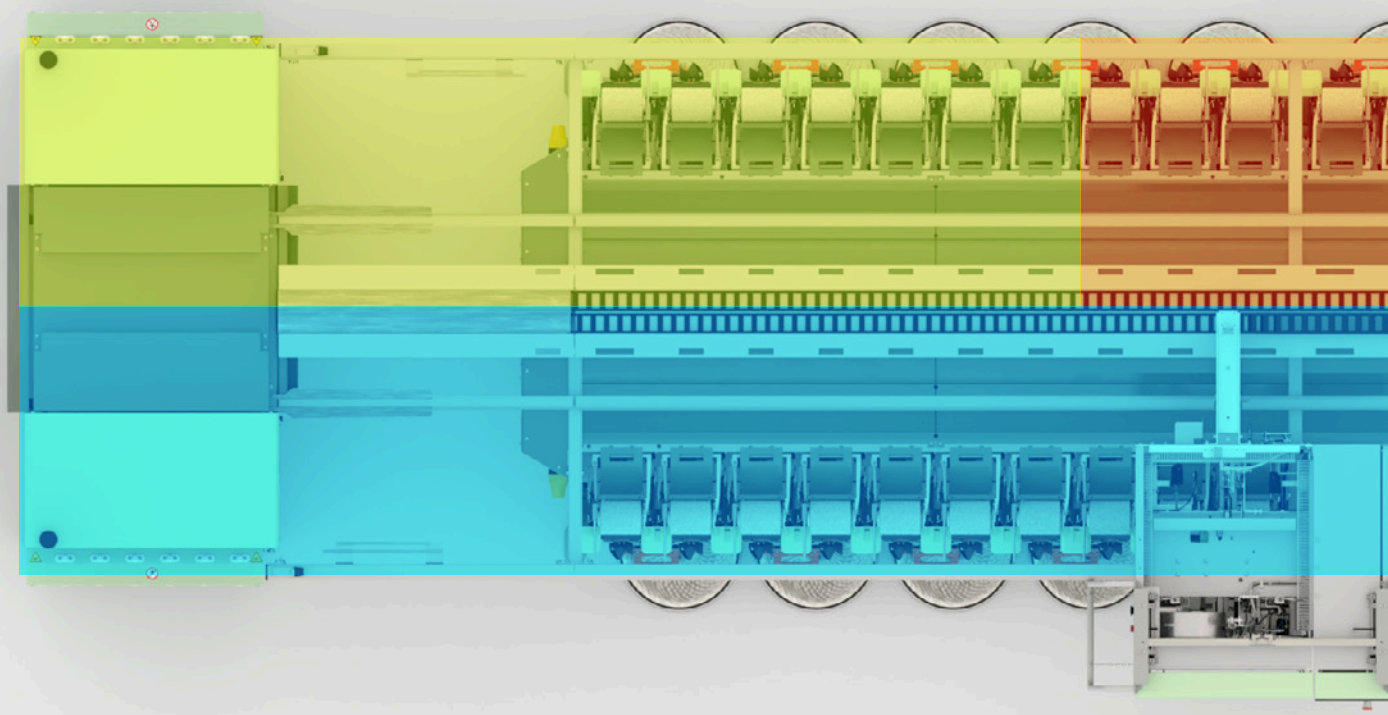
Maximum Productivity

200 individually automated spinning units with delivery speeds reaching 600 m/min ensure economical yarn production

Thanks to very low energy consumption and unrivaled high utilization of material, the J 70 keeps yarn conversion costs low.

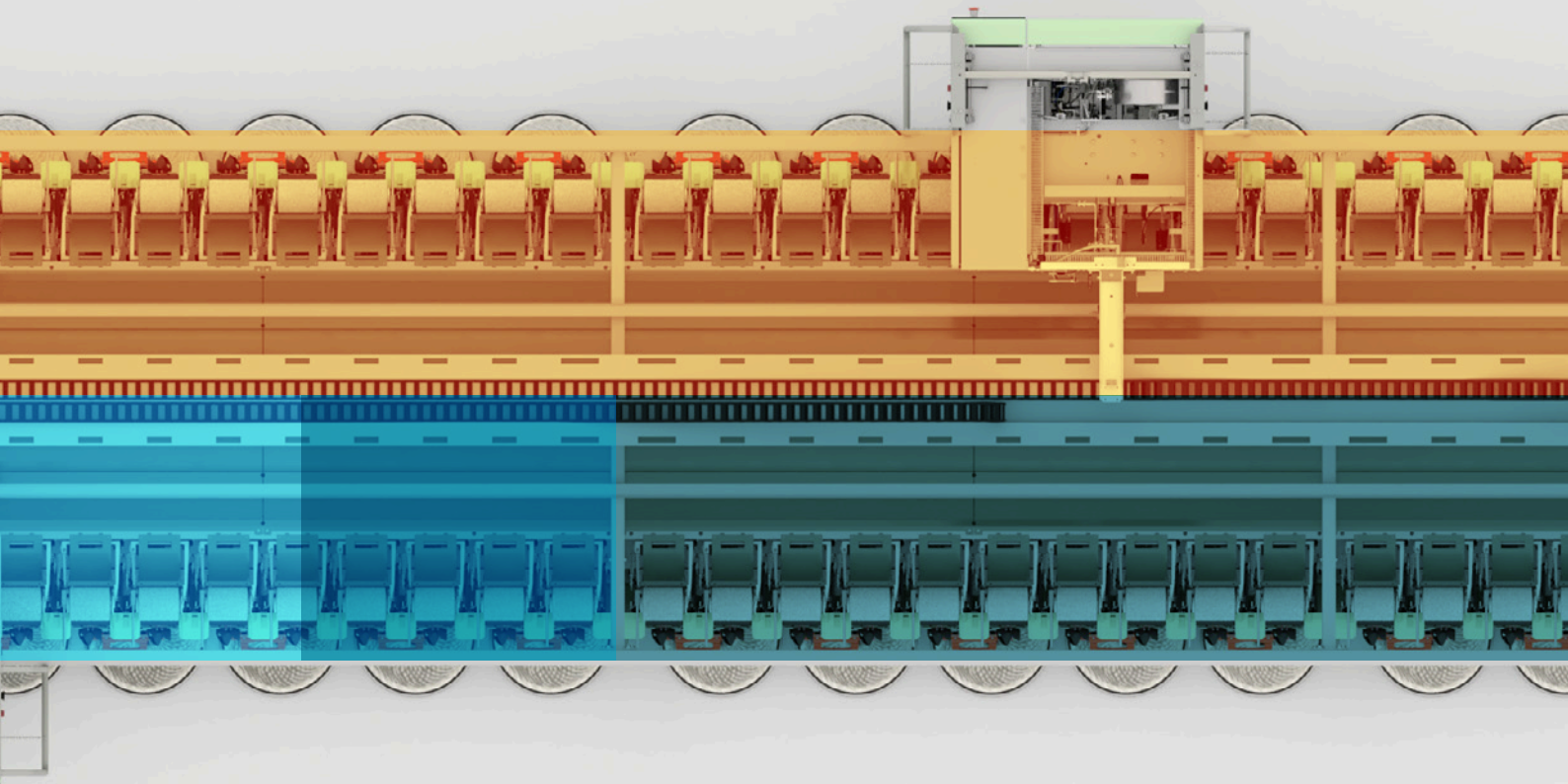

Low Yarn
Conversion Costs
J 70
RIETER
31
PG 1
Spinning
89.9 km
33

J 70



VARIOlot allows simultaneous spinning of four different lots – two per independent machine side.

Highest Flexibility with VARIOlot



J 70

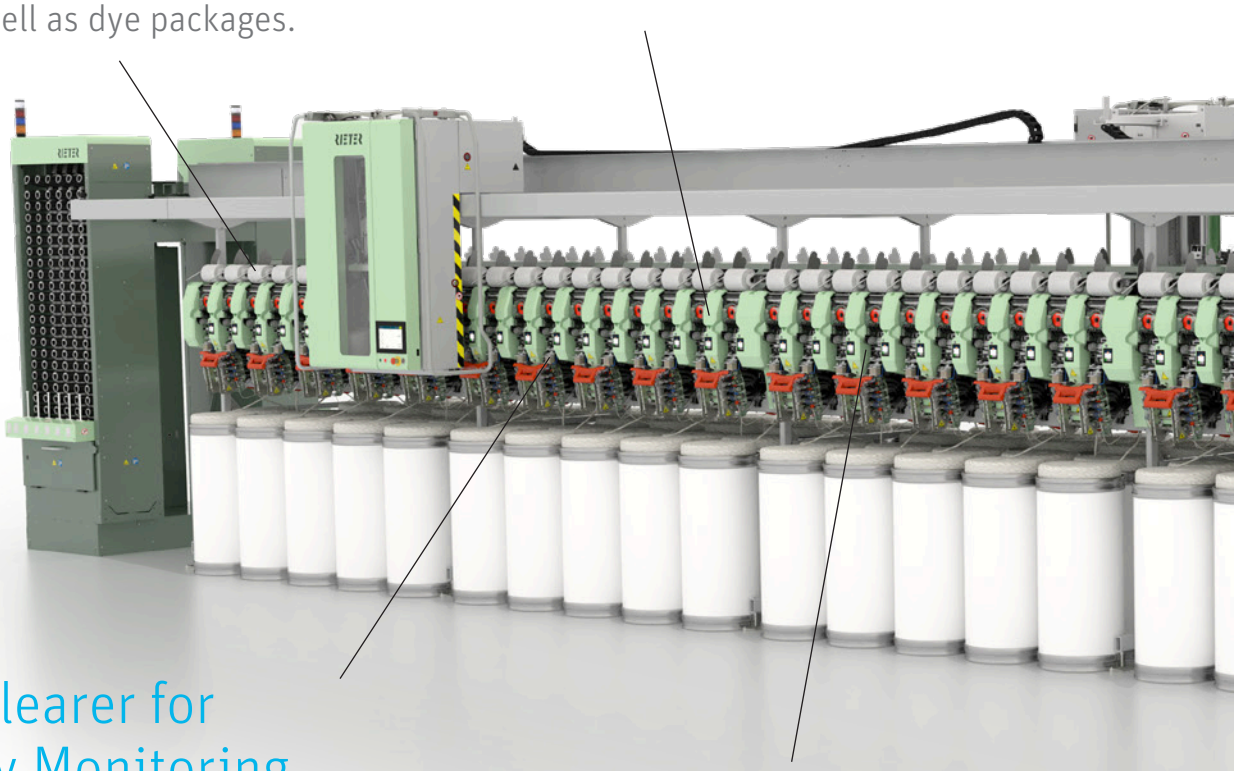
OUTSTANDING ADVANTAGES

Optimized Package Build-up

Step precision winding ensures heavy weight packages as well as dye packages.

Maximum Productivity

200 individually automated spinning units and delivery speeds of up to 600 m/min ensure economical yarn production.



Yarn Clearer for Quality Monitoring

The next generation of the yarn clearer Q 30A reliably delivers high-quality air-jet yarns, which are much valued in downstream processes.

Flexible Retrofitting

The Rieter yarn clearer Q 30A offers the options foreign fiber and weak yarn detection. Both can be retrofitted later via a software update.

Economical Production

Newly developed technology components, such as the ceramic twist element, enable an increase in production and quality across all applications.

Simple Operation

The best possible clearing thresholds for perfect yarn quality are easy to set on the machine operating unit.

Production Flexibility

The VARIOlot option makes it possible to spin four different lots at the same time – two per machine side.

Lower Yarn Conversion Costs

Increased energy savings combined with unrivaled material utilization.

Individually Automated Spinning Positions

The key to efficient air-jet spinning

Autonomy for maximum efficiency

Interruptions in the spinning process caused by quality cuts or natural yarn breaks on the spinning units mean significant losses in production. To overcome such inefficiencies, the J 70 has up to 200 fully independent, individually automated spinning units. Each of these spinning units independently repairs all quality cuts and natural yarn breaks. Up to 20 spinning units can do this at the same time, and they resume spinning after repairs are done. As a result, it is no longer necessary to wait for the robot that used to perform these tasks on previous models.

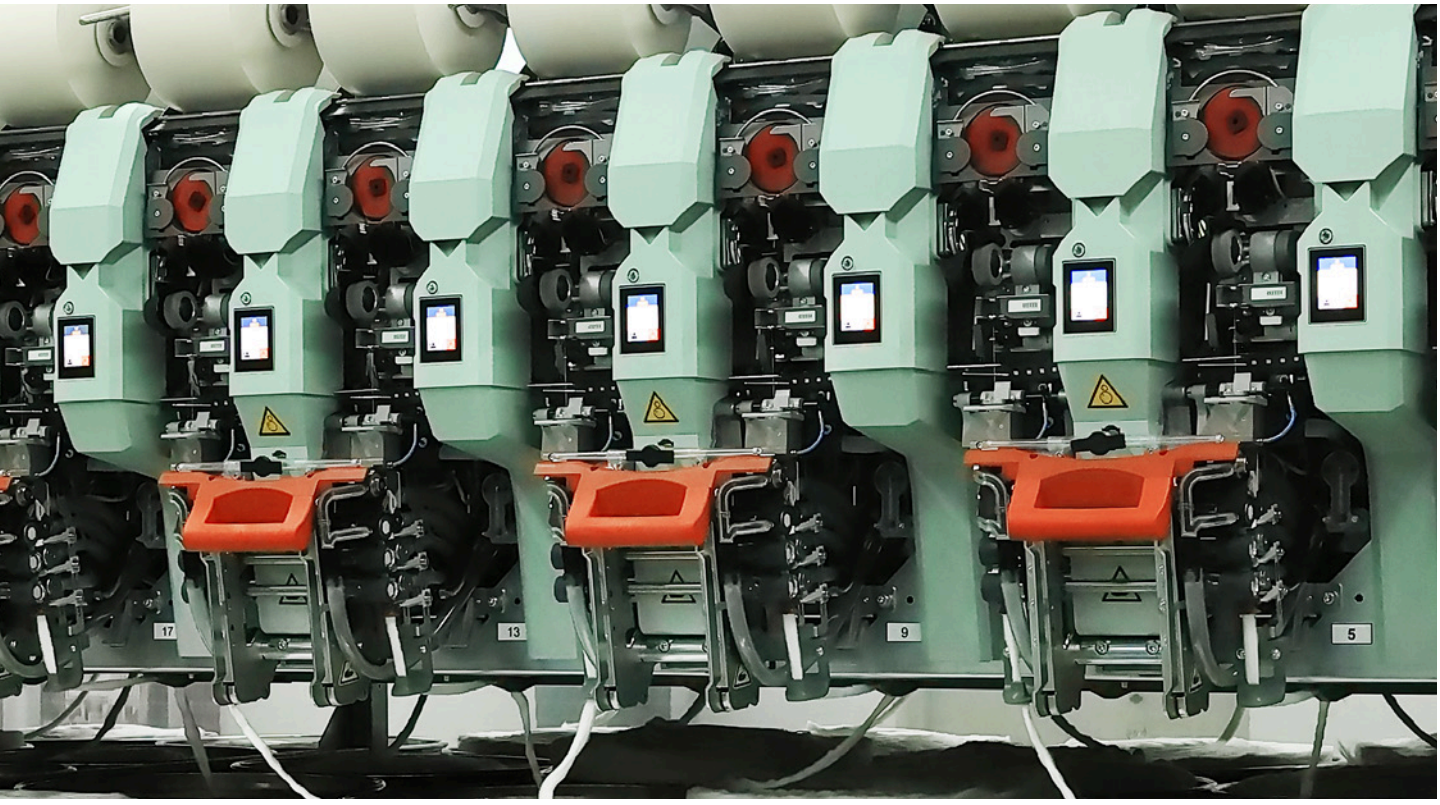
Even with highest delivery speeds the individually automated spinning units can handle a high number of ends down. These features make the J 70 the ideal choice for providing the best possible production efficiency.

High productivity in all conditions

Fluctuating ambient conditions in spinning mills can make production difficult. However, the air-jet spinning machine J 70 is robustly designed with individually automated spinning units to perfectly cope with ends down that often occur in fluctuating environmental conditions.

As a result, spinning mills no longer have to pay that much attention on perfect ambient conditions. This is highly appreciated in humid and hot areas, because maintaining a suitable spinning climate consumes an enormous amount of energy.

The J 70 can also handle variations in the quality of the infeed sliver. Thanks to the individually automated spinning units, a high productivity level is maintained even if the sliver quality is not perfect.



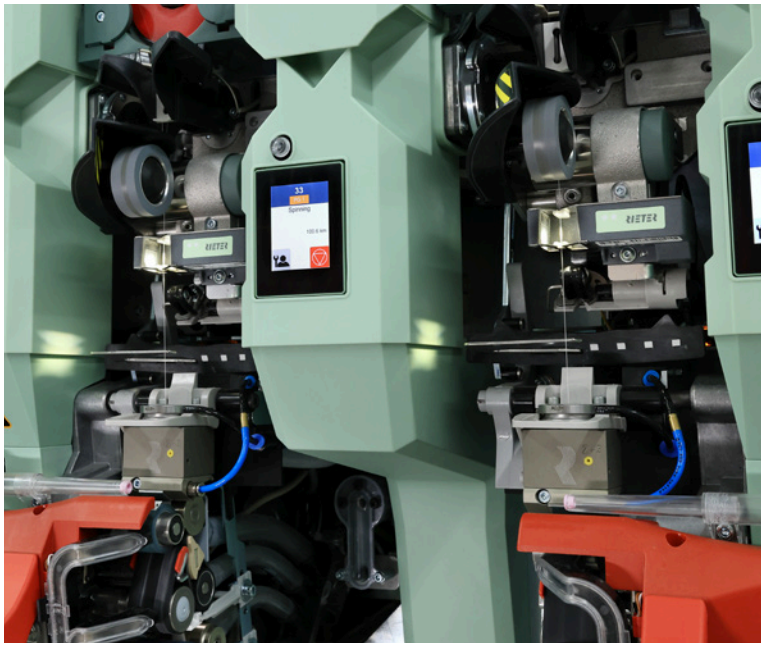
Maximum Delivery Speed up to 600 m/min

Four robots for highest efficiency

Innovative technology components

The J 70 combines the latest technology components with proof of practical use at customers' sites. Complex simulations were run to examine concepts on a wide range of variants, and the most promising solutions were combined and simulated again.

These new and further developments of a wide range of technology components enable higher production speeds. The machine operates at its full potential and is designed for delivery speeds of up to 600 m/min.



Simplified robots focused on doffing

With their simplified design, the robots of the J 70 air-spinning machine are responsible for changing packages, inserting the auxiliary yarn (piecing on empty tube), creating the yarn reserve on empty tube as well as cleaning the spinning positions as they pass by. Up to four robots can work on one machine – two per side.

For most applications, one robot on each side of the machine is sufficient, even for long machines. However, four robots are used to produce dye packages and packages with shorter yarn lengths. Two robots on each machine side are able to handle the more frequent package changes without any downtime.

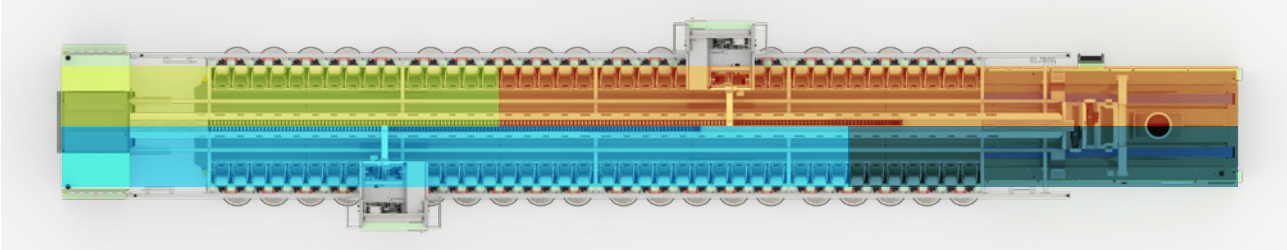
Outstanding Flexibility

Independent machine sides, connected with VARIOlot

Four different yarns at the same time

Like its predecessor, the J 70 provides separate, independent machine sides as a standard feature. This allows two different lots to be spun at the same time. The VARIOlot option extends this flexibility even more. Now four different lots can be produced independently on one machine – two per machine side.

Providing maximum flexibility, the option gives spinning mills the ability to quickly respond to market demands and deliver small lots in the shortest possible time. In addition, products can be developed without having to take entire machines out of production. This avoids high production losses.

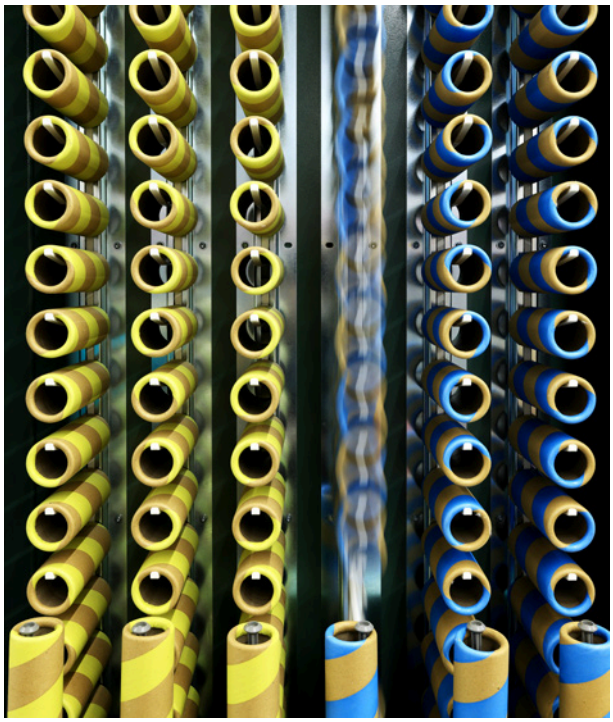


Each production group fully independent

The software option VARIOlot allows not only the production of two different lots on each machine, but also the adjustment of the los size as required. The smallest adjustable production group is one section. The second group is made up of the remaining sections on this side.

For each group, the machine parameters and yarn clearer settings can be configured as required. The tube loader assigns a different tube color to every group, to eliminate mix-ups during the palletizing process.

Of course, separate shift reports are created for each production group. As a result, quality and performance analyses can be performed for each group.



Yarn Conversion Costs Always Under Control

Improved air-jet technology

Reduced energy consumption

The yarn conversion costs are mainly determined by the factors of material, energy, and labor costs. Rieter's target is to reduce yarn conversion costs further with each development.

With the J 70, Rieter has succeeded in increasing the speed and efficiency of production. This requires optimizations in the entire system of the air-jet spinning machine.

At the winding unit, the damping and the yarn traversing must be adapted to match the higher delivery speed. Otherwise, the packages would not perform well in downstream processing, and they would cause production stops.

Various technology components such as the spinning nozzle housing and twist elements were further developed and redeveloped in order to improve the yarn quality. Higher production speeds with the same compressed-air consumption and lower inlet pressure reduce the yarn manufacturing costs.

The J 70 uses energy efficient drives to reduce energy consumption and the suction systems are optimized for improved flow.

The entire system is designed for higher productivity in all areas, combined with increased energy savings.

High utilization of material

The raw material is responsible for the largest share of the conversion costs. In terms of economic efficiency and sustainability, it is therefore essential to have a high utilization rate for the material used. Like its predecessor, the J 70 also sets the market standard.

Sophisticated technology in the spinning zone ensures up to 50% less fiber waste in direct comparison with other air-jet spinning machines. This translates into huge cost savings for spinning mills.

Perfect packages for any requirements

Higher energy costs and lower container availability have driven up the cost of freight enormously. Therefore, it is essential to transport as much yarn as possible in a single container. Precision step winding produces packages with a high specific density. As a result, there is more yarn on the package at the same diameter, and 5% more yarn can be transported in a single container.

This innovative type of winding on air-jet spinning machines achieves a high density combined with good unwinding behavior in downstream processes.

Precise winding also allows the production of dye packages directly on the air-jet spinning machine J 70. This feature prevents cost-intensive rewinding before dyeing or bleaching and thus bewares the yarn of damages.

Clever Solutions for Intuitive Operation

One display per spinning unit and housing with a wide opening

One display per spinning unit provides useful data

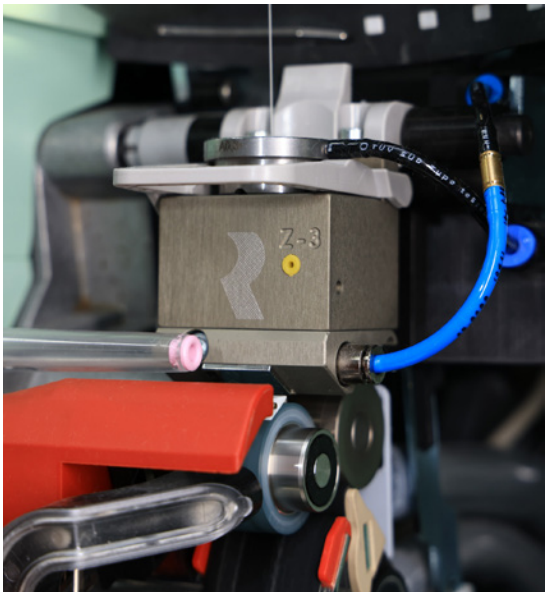
One display for each spinning unit simplifies the processes for operators and mechanics and clearly indicates when two lots on each side of the machine are active.

A color code at the top of the display shows the production groups for the operator. Operating requirements are easy to understand and can be easily solved by personnel with standardized processes.

If a fault occurs, the appropriate troubleshooting action steps are shown on the display of the spinning unit. Mechanics can quickly and easily take the right measures to execute and thus maintain high productivity.

Housing with a wide opening makes operation easier

The spinning nozzle housing is made of two parts to be opened widely. The spinning tip and the inside area are clearly visible and easy to access. Any blockages in the housing and at the spinning tip are detected immediately and can be removed efficiently by operators with just a single movement. The spinning unit can restart the production process, and high production efficiencies are maintained.



Standardized processes

For a highly productive machine like the J 70, the top priorities are simple operation and the efficient execution of required tasks.

Besides operating the independent spinning positions, operators also have to change the cans, unload packages, and re-insert empty tubes. Standardized processes help operators to do their job efficiently.

The fiber waste is automatically compacted and transported out of the machine after an adjustable interval. The operator only has to replace the fiber waste cart two to three times per shift.

Quality Insurance with the Q 30A

The next generation of the Rieter yarn clearer

Quality monitoring

The yarn clearer Q 30A introduces an innovative measuring method that enables the use of a wide yarn count range from Ne 12 to Ne 80.

The yarn clearer easily identifies which spinning units are producing yarns with increased cut counts or exceed quality limit. Based on selected criteria and their limits, spinning units that exceed or fall below the set limits are identified. This allows targeted investigation and elimination of causes as well as rapid return to production – which increases productivity and quality.

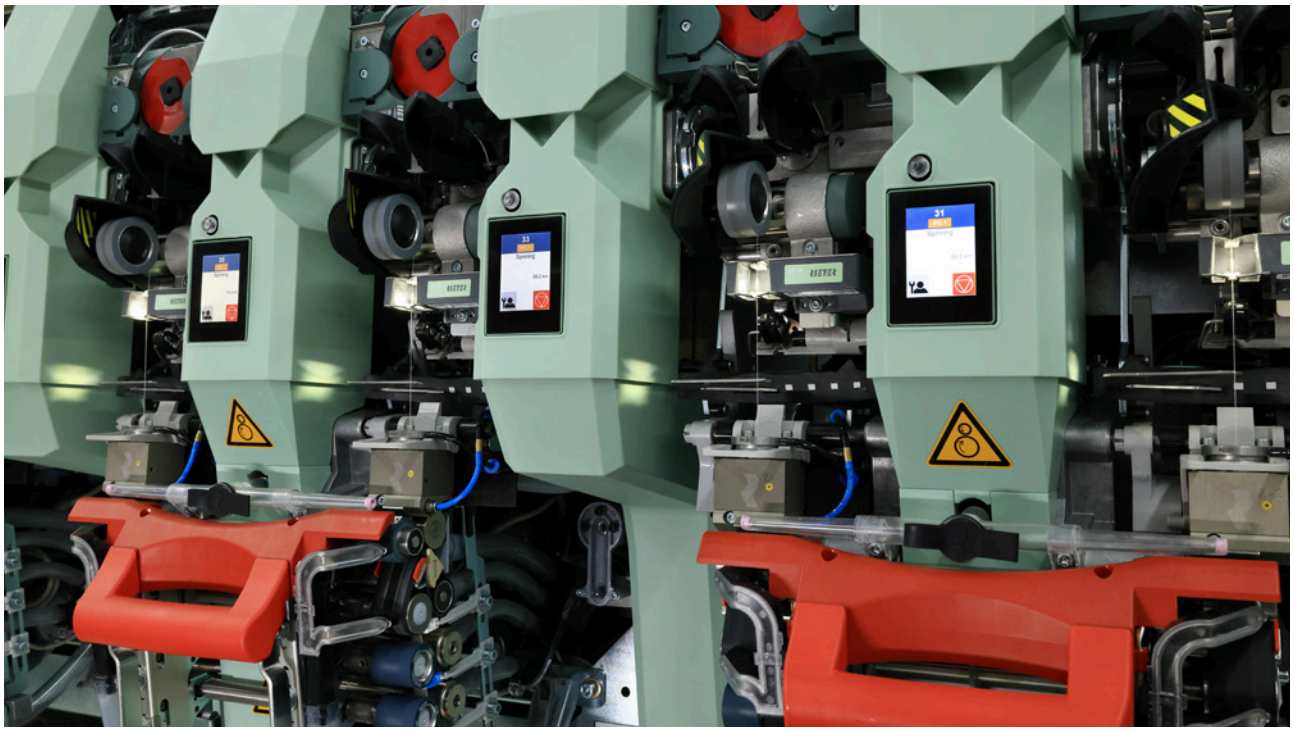
The Q 30A's significantly larger measuring slot considerably reduces contamination in the measuring area. This allows substantially longer production times, without time-consuming interruptions for cleaning. Should this nevertheless be necessary, the yarn clearer can simply be cleaned with compressed air.

Flexible retrofitting

The Q 30A offers unrivaled flexibility for air-jet spinning machines. The standard Q 30A offers the options "foreign fiber" and "weak yarn detection". These options can be ordered with a new machine or be retrofitted at a later stage without having to replace the yarn clearer itself. This allows the spinner to respond easily to any adaptations.

Optimized cleaner settings

It is now much easier to adjust the settings of the yarn clearer. The cleaning limit is now customizable for each lot. The cleaning limit can be adjusted precisely for each lot in accordance with the quality requirements. A scatter plot shows the new and existing cleaner settings. The spinner immediately sees what effect the new settings have on the number of possible quality cuts.



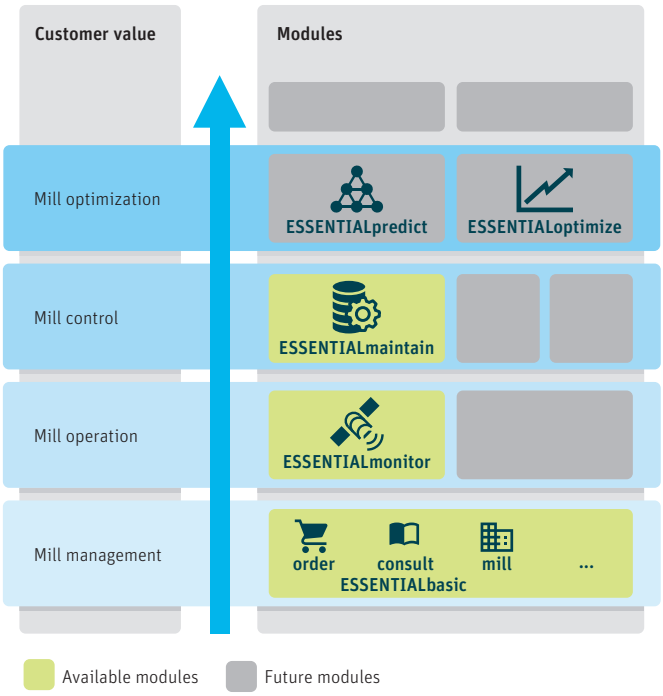
ESSENTIAL – Rieter Digital Spinning Suite

Rieter's all-in-one mill management system

ESSENTIAL leverages digital technology for the textile value creation. The Rieter Digital Spinning Suite analyzes data of the entire spinning mill in real-time and provides meaningful key performance indicators based on this.

With comprehensive and clearly arranged digital analysis, the system supports management in strengthening the expertise of mill staff, eliminating inefficiencies and optimizing processes across the entire system. Through its holistic approach, ESSENTIAL connects the dots in the spinning mill.

ESSENTIAL is a modular system, so the spinning mill can be gradually digitized.



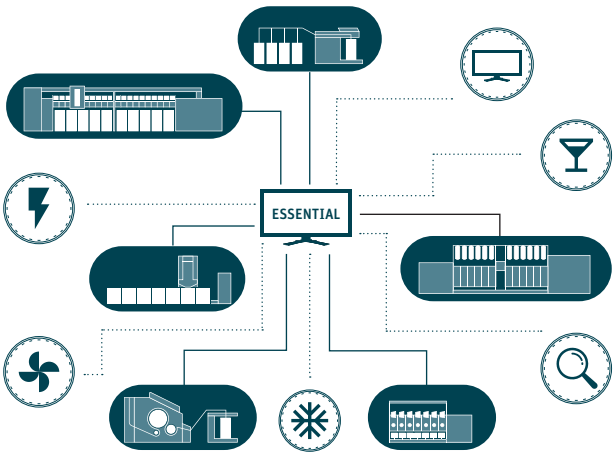
Modular set up of ESSENTIAL

ESSENTIALbasic

ESSENTIALbasic, the starter module of the Rieter Digital Spinning Suite, is available free of charge to all Rieter customers. This module includes solutions such as the Rieter calculator, ESSENTIALorder and ESSENTIALconsult.

Each user, from mill owner to operator, gets an overview of the relevant information needed for their daily tasks.

Customer values:
- Making work organization smooth
- Strengthening staff expertise



ESSENTIAL connects the entire spinning mill

ESSENTIALmonitor

ESSENTIALmonitor revolutionizes the spinning process by providing comprehensive data organization. With its advanced tracking capabilities, the system identifies process weaknesses and provides valuable insights to improve operational efficiency and cost-effectiveness.

Seamless integration of production, energy and quality data ensures fast response times and optimized spinning mill performance.

Customer values:
- Receiving improvement suggestions
- Optimizing machine operating hours with planned maintenance
- Enhancing machine productivity, output quality reduced energy consumption

ESSENTIALmaintain

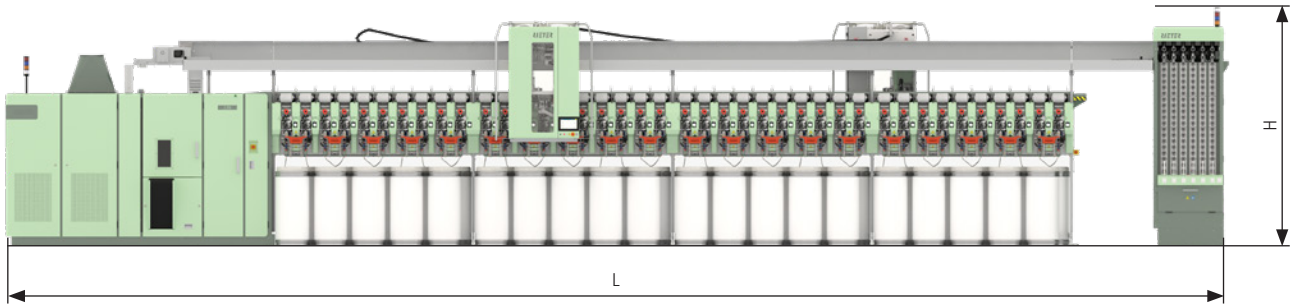
ESSENTIALmaintain enables intelligent spinning mill maintenance. It analyzes sensor data from critical machine components and identifies deviations to avoid outages. This improves machine productivity and lengthens the service life while reducing the overall costs of inspection and maintenance.

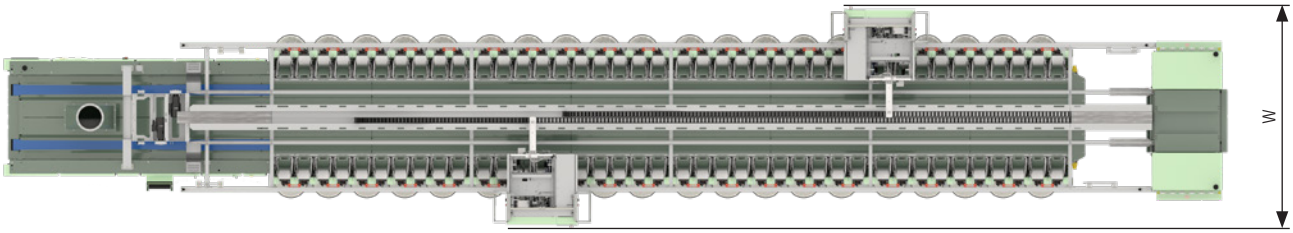
From Rieter to third-party spinning equipment and auxiliaries, ESSENTIALmaintain covers the entire spinning mill maintenance needs.

Customer values:
- Maintaining machines' highest availability
- Identifying potential failure of equipment upfront
- Planning maintenance schedules

Machine Data

Air-jet spinning machine J 70 with autonomous spinning units





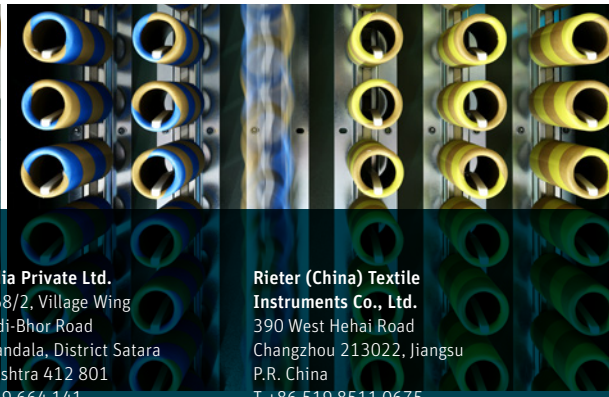
Dimensions				
Spinning units	**Sections**	**Robots**	**L [mm]** **Total machine length/min. handling space on each side**	**W [mm]** **Total machine width/min. handling space on each side**
40	2	2	11 113/3 500	3 029/600
120	6	2	21 853/3 500	
160	8	2	27 223/3 500	
200	10	2	32 593/3 500	

Can height/diameter [mm]	**H [mm]** **total machine height**	**Crane height [mm]**
1 070/up to 500	3 100	3 610
1 200/up to 500	3 230	3 740

Technological data				
Raw material	**Yarn count**			**Fiber specification**
100% cellulosic fibers	11.8 – 37 tex	Ne 16 – 50	Nm 27 – 85	Fiber length and fineness according to yarn count
100% cellulosic micro fibers	8.4 – 24.6 tex	Ne 24 – 70	Nm 40 – 118	
100% combed cotton	19.7 – 12 tex	Ne 20 – 50	Nm 50 – 85	
Blends of combed cotton < 65% PES	14.7 – 29.4 tex	Ne 20 – 40	Nm 34 – 68	
Blends of combed cotton and cellulosic fibers	14.7 – 29.4 tex	Ne 20 – 40	Nm 34 – 68	
Blends of cellulosic fibers < 80% PES	11.8 – 24.6 tex	Ne 24 – 50	Nm 40 – 85	

Machine data	
Machine design	Double-sided machine with sectional structure
Spinning unit gauge	255 mm
Drive concept	Individual drives for each spinning and winding unit
Winding unit	Winding unit with linear yarn traversing and edge displacement for best unwinding
Autonomous spinning units	Autonomous automated spinning units with individual piecing
Sliver and yarn traversing system	Traversing of sliver and yarn in the drafting zone by 3 – 4 mm
Robots	2 robots (one per machine side) as standard, with the option of 4 robots* (2 per machine side)
Waxing device*	Big wax blocks with 160 g and individual drives
Waste compactor	The soft waste is compacted and removed automatically from the machine
Maximum delivery speed	Up to 600 m/min
Independent machine sides	Different lot settings and report for each machine side; two package conveyor belts and independent tube handling
VARIOlot*	2 different lot settings and reports per machine side Free setting of number of spinning units per lot; different tube supply per lot
Total draft	Mechanical 43 – 320 Technological 140 – 240
Total yarn count range	8.5 – 37 Tex/Ne 16 – 70/Nm 27 – 118
Spin nozzle housing	Two part spinning nozzle housing for opening and easy access; spinning nozzle housings for Z and S twist
Spin tip	Ceramic spin tips with diameter 0.9/1.0/1.2 mm for different yarn counts
Package format	Cylindrical
Package dimension	Cylindrical packages up to 300 mm in diameter and 4.5 kg weight
Tube loader capacity	Storage capacity total 660 tubes (330 tubes per machine side); per side, two different tube colors can be assigned to the spinning units (one for each lot)
Rieter yarn clearer Q 30A*	Opto digital sensor for Ne 3 – Ne 100
ESSENTIAL*	Mill Management System; ESSENTIALmonitor provides simple, configurable data

* Option



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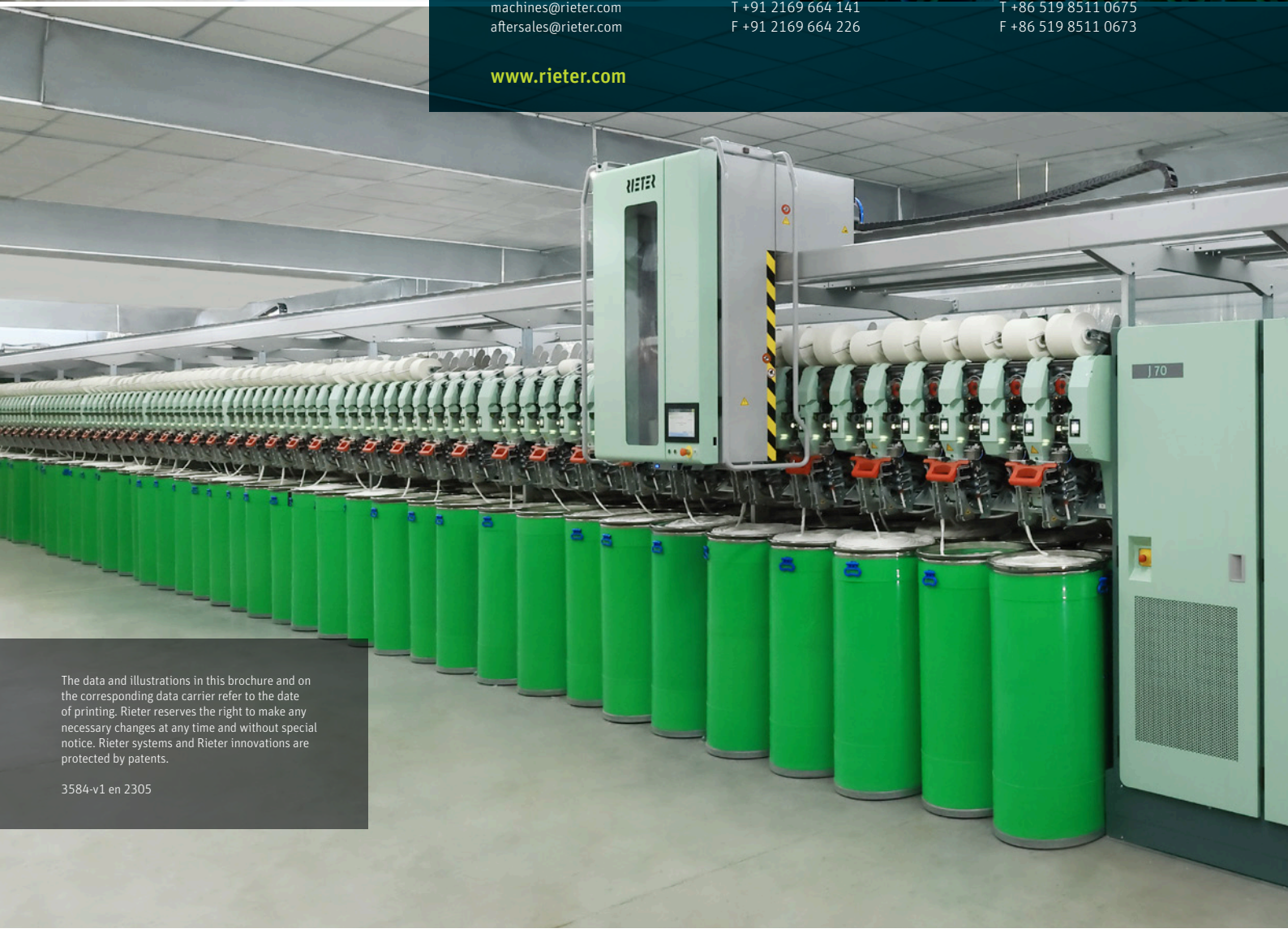

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