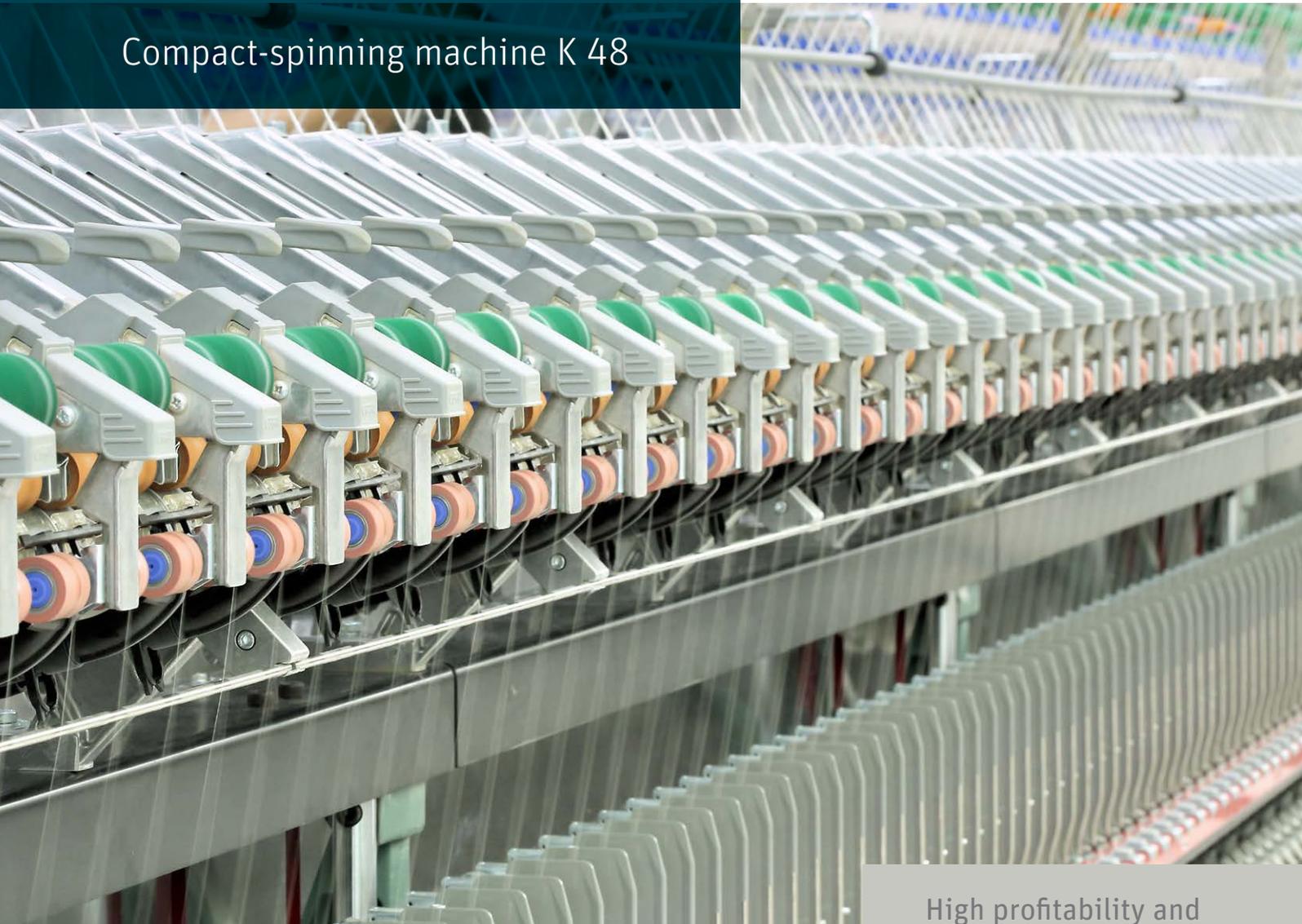


Compact spinning  
Compact-spinning machine K 48

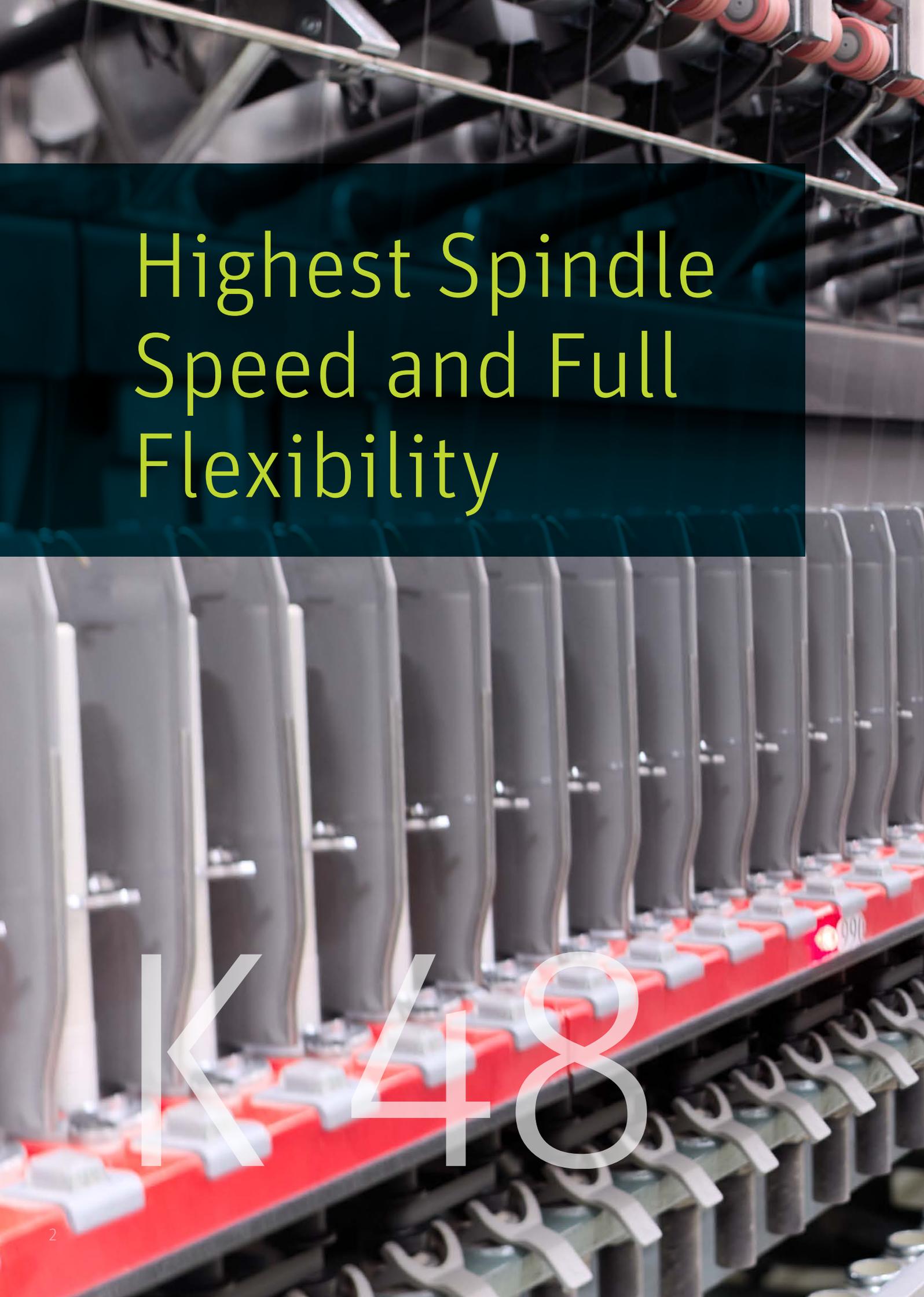
**RIETER**

**K 48**

Compact-spinning machine K 48

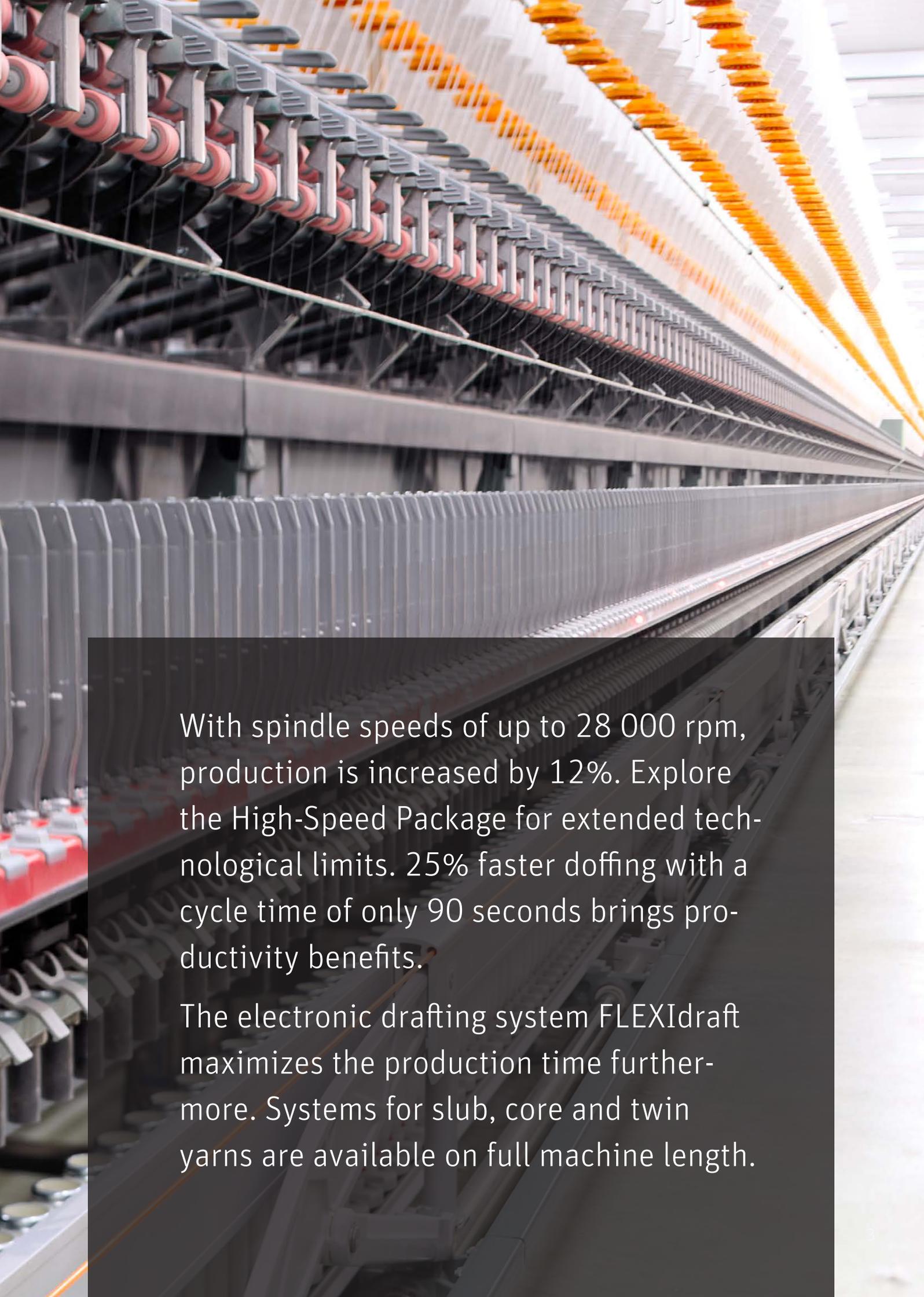


High profitability and  
low energy consumption



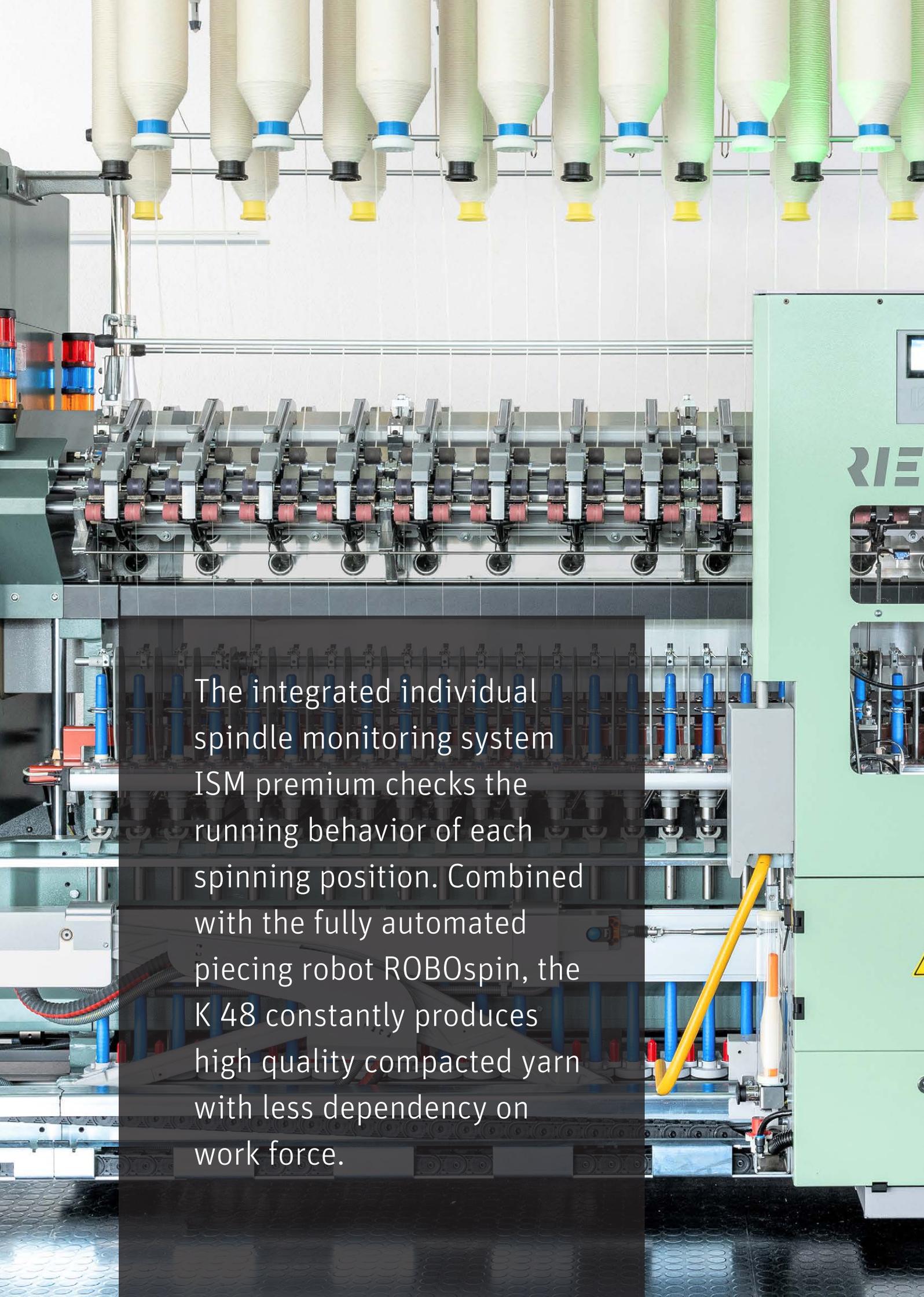
# Highest Spindle Speed and Full Flexibility

K48

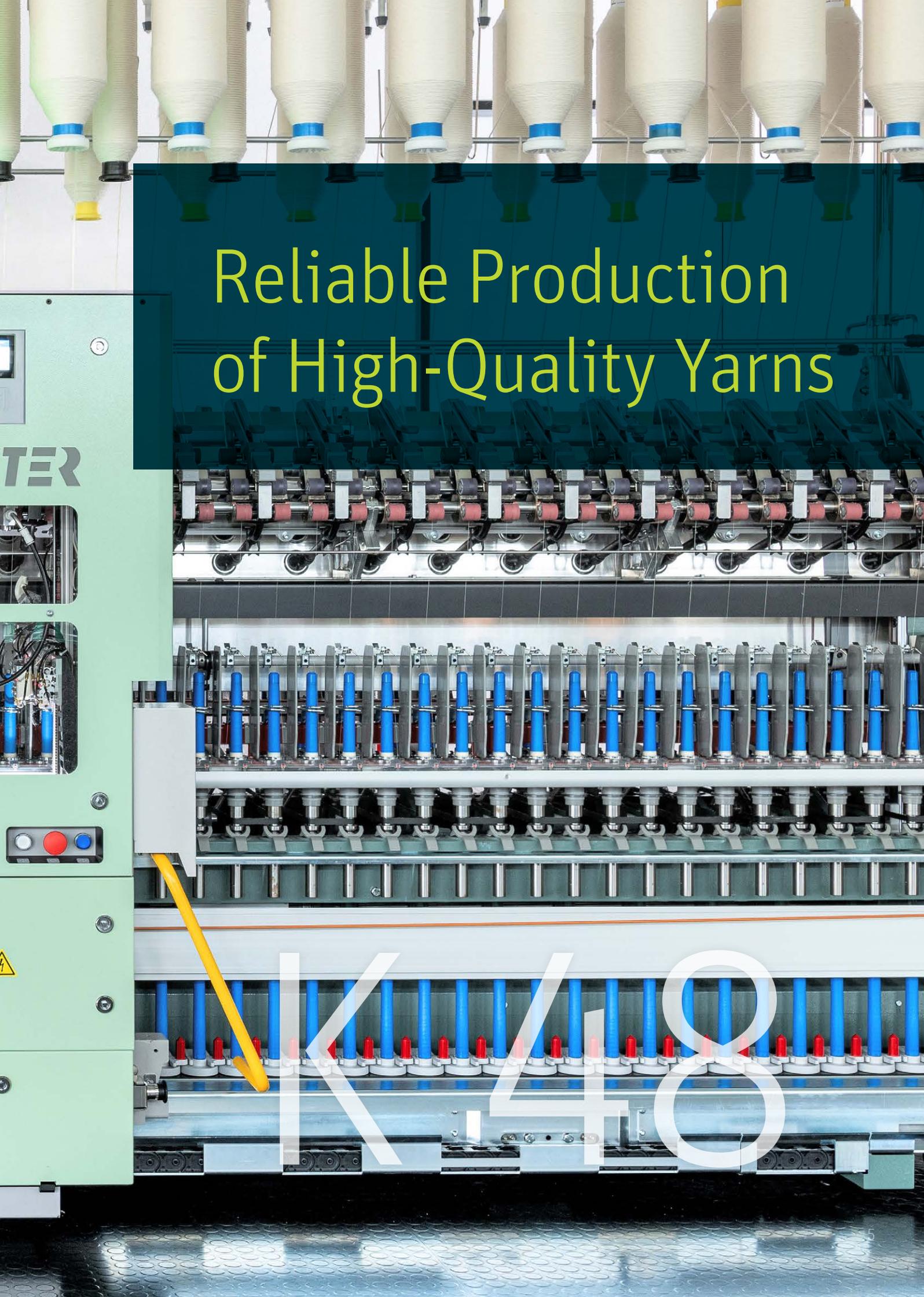
A long, industrial textile spinning machine with many spindles and bobbins. The machine is composed of numerous rows of spindles, each with a bobbin. The spindles are arranged in a long, straight line, and the bobbins are mounted on them. The machine is made of metal and has a complex structure. The background is a bright, industrial setting.

With spindle speeds of up to 28 000 rpm, production is increased by 12%. Explore the High-Speed Package for extended technological limits. 25% faster doffing with a cycle time of only 90 seconds brings productivity benefits.

The electronic drafting system FLEXIdraft maximizes the production time furthermore. Systems for slub, core and twin yarns are available on full machine length.



The integrated individual spindle monitoring system ISM premium checks the running behavior of each spinning position. Combined with the fully automated piecing robot ROBOspin, the K 48 constantly produces high quality compacted yarn with less dependency on work force.



# Reliable Production of High-Quality Yarns

K48

# Successful Concept to Save Energy



# K 48



The K 48 consumes minimal energy thanks to energy efficient components such as LENA 28 spindles, IE4 main motors and optimized suction systems for compacting.

## Consistent Performance

Fully automated piecing robot ROBOspin for minimal personnel deployment

## Concept for Low Energy Spinning

Energy-savings with efficient suction system, IE4 motors, LENA spindles and 4-spindle drive

## Highest Spinning Speed with High-Speed Package

Special components plus new short-balloon setting push the limits

## Most Reliable Compact Sieve Drum with Unique Air Guide Monitoring

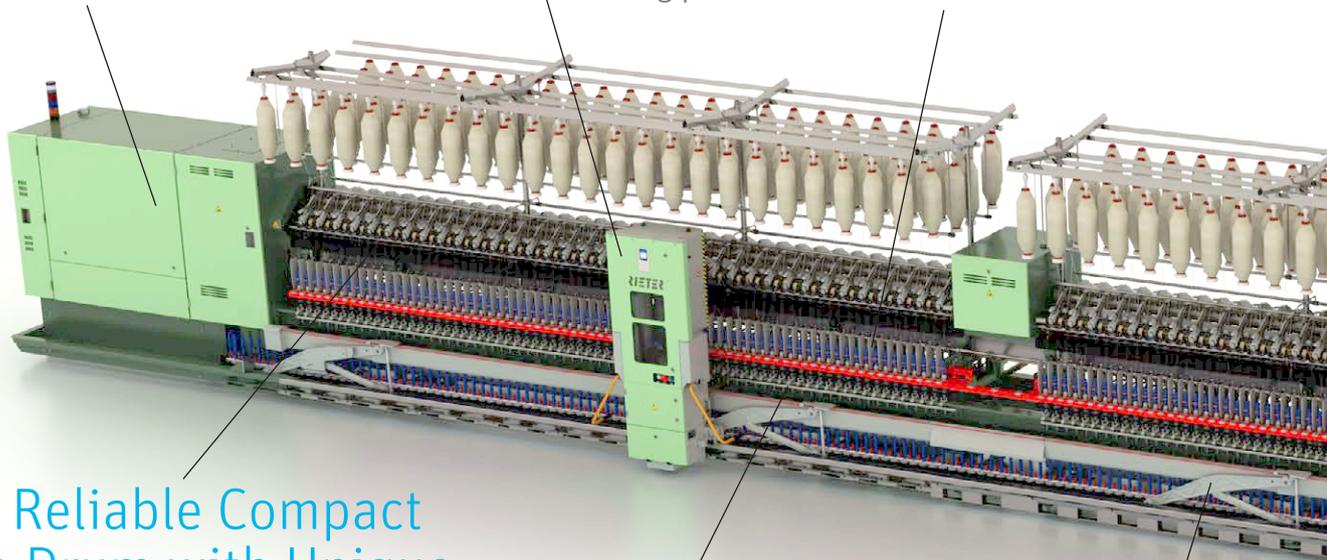
Wear-resistant sieve drum with no compacting apron exchange and efficient air guiding for minimum energy consumption

## High Efficiency with ISM

Integrated individual spindle monitoring ISM premium for efficient operator guidance

## Faster Doffer and New SERVODisc Increase Efficiency

Unique and self-monitoring SERVOGrip makes yarn underwinding redundant



3D picture represents ring and compact-spinning machines

# OUTSTANDING ADVANTAGES

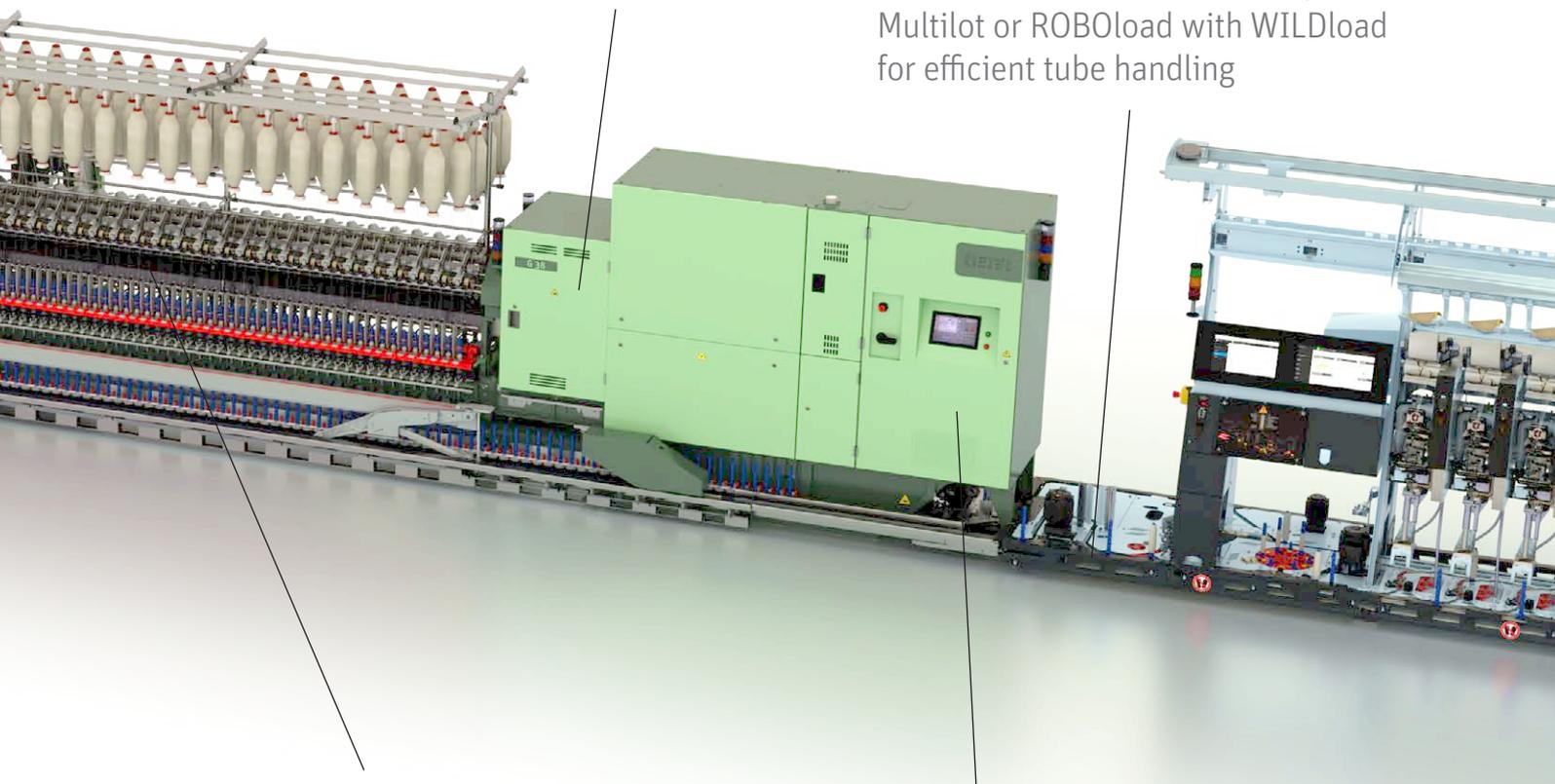
# K48

## Fast Change of Yarn Parameters

Electronic drafting system FLEXIdraft for easy change of parameters on the operating unit

## Intelligent Linking with Winding Machine

Automation solutions Multilink/ Multilot or ROBOload with WILDload for efficient tube handling



## Compact Yarns of Highest Perfection from Any Fiber

Special components available for recycled raw material and man-made fibers

## Full Flexibility for Special Yarns

Systems for core, slub (VARIOspin) and twin yarns are available for all machine lengths

# Highest Spinning Speeds

Raising the bar with the new K 48

## High-Speed Package for maximum productivity

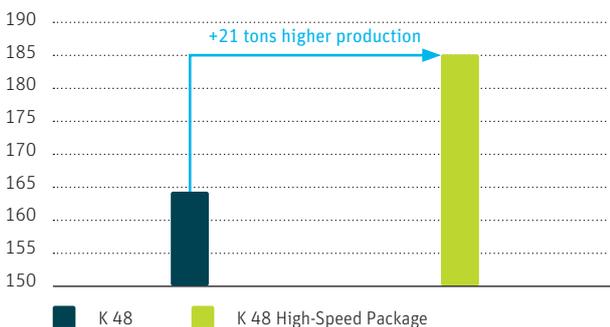
Maximizing the productivity in ring and compact spinning is an enormous challenge for spinning mills. The Rieter specialists have put together a High-Speed Package, in which the components are optimally matched to one another: LENA 28 spindle + smaller spinning ring with a 34 mm diameter + spinning tubes with smaller DUI of 16 mm.

The K 48 achieves up to 28 000 rpm spindle speed mechanically. This is an increase of 12% compared to 25 000 rpm achieved until now. The High-Speed Package includes a smaller spinning ring with a diameter of just 34 mm. The traveler needs less distance and less time for one revolution on the smaller ring. With a smaller spinning ring diameter, the traveler speed is reduced, opening up potential for an increase in spindle rotation. A plus of 3 000 rpm means a higher production of 21 tons/year, exemplary realized with cotton yarn, Ne 60.

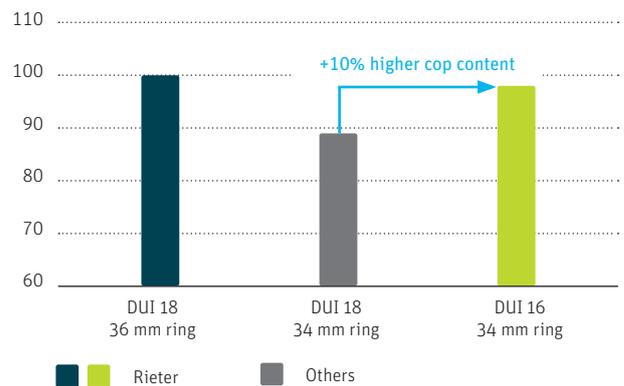


A smaller spinning ring diameter means less space for yarn on the tube. This would lead to more doffing processes and reduce profitability. To prevent this, a tube with a smaller bottom inner diameter (DUI) was designed, and the energy efficient LENA 28 spindle was adapted accordingly. The tube with the smaller DUI dimension can thereby take almost the same yarn weight as a conventional tube. So, the number of doffing processes on the spinning machine and number of cop changes on the winding machine remain the same.

12% higher production: CO, Ne 60 [tons/year/mc]



10% higher cop content: DUI 16, 34 mm ring [%]



## Highest delivery speed

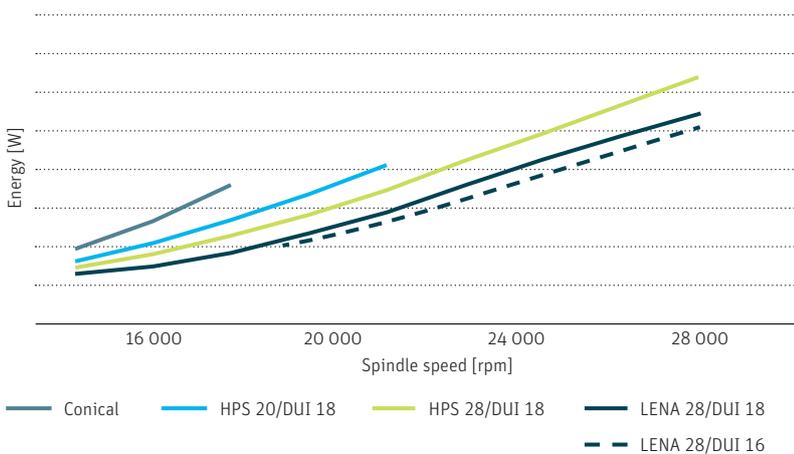
Depending on the yarn specification and spinning parameters, the compact-spinning machine K 48 can produce ring and compact yarns with highest delivery speeds of up to 40 m/min. This increase is particularly important for the efficient production of coarse yarns and makes the ring spinning machine even more competitive compared to other spinning systems.

## Spindle LENA 28 for high speed and low energy consumption

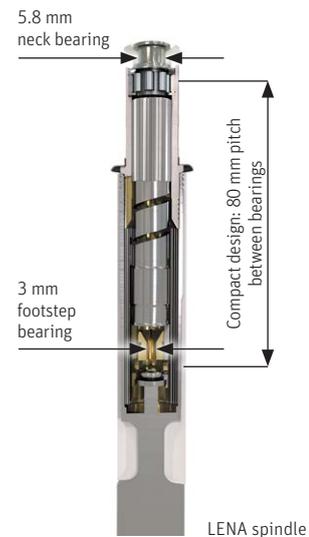
The selection of the optimum spindle is a key factor for high productivity with consistently uniform yarn quality. With the new HPS 28 and LENA 28 spindles, revolutions of up to 28 000 rpm can be run. Both spindles have a second damping system to remarkably reduce the bearing load and the noise level. Low vibration, low maintenance and a long service life are the distinguishing features of these spindles.

Compared to conventional spindles with a whorl diameter of 18.5 mm or 25 mm, the LENA spindle with 17.5 mm brings significant advantages for finer yarn counts. LENA has a neck bearing of 5.8 mm and a foot bearing of 3 mm. These bearing dimensions together with the whorl diameter of 17.5 mm, make LENA 28 fast and highly energy efficient. The high-precision LENA 28 spindle is available in two DUI dimensions (DUI 18 and DUI 16) and achieves the highest production values in practice. LENA stands for Low Energy Noise Absorption.

### Energy consumption comparison



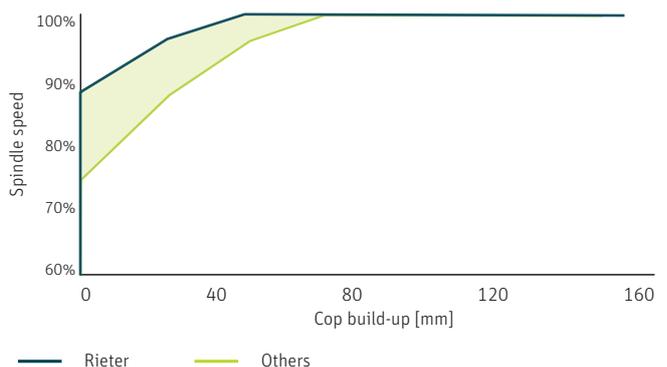
LENA 28, HPS 28 and HPS 20 are compatible with new Rieter ring and compact-spinning machines.



## Faster to maximum spindle speed

Highest productivity levels and minimal energy consumption lead to low yarn production costs. With its unique Rieter spinning geometry and the consistent use of high-quality technology components, the K 48 runs at very high spindle speeds. Spinning can be performed at high speed, even when the cops are in the build-up phase. With a yarn count of Ne 30, for example, up to 2% more yarn can be produced per machine per year.

### Up to 2% higher productivity using the same maximal spindle speed



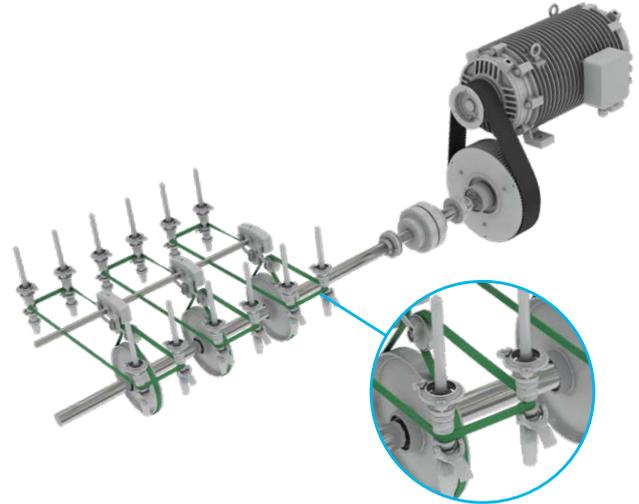
# Proven Concept for Low Energy Spinning

## Energy-saving 4-spindle tape drive

The Rieter 4-spindle tape drive is energy-efficient and easy to handle. The large enlacement of 90 degrees ensures that every spindle operates without failure, even with minimal contact pressure. The low contact pressure guarantees low energy consumption.

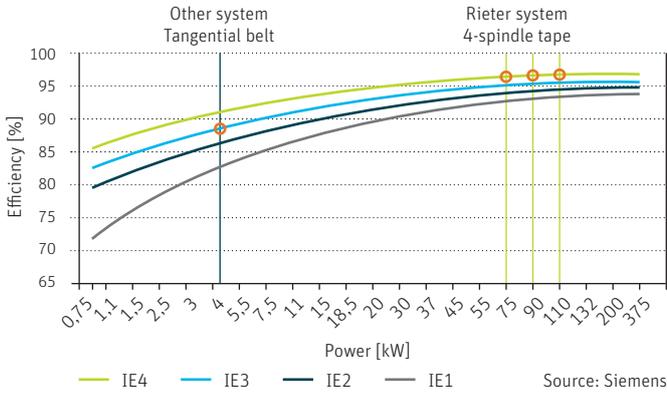
## Save up to 6% energy with the LENA spindle

The LENA spindle has been specially developed for high spindle speeds and low energy consumption. A whorl diameter of 17.5 mm and other optimizations make a significant impact on energy efficiency.



Optimal power transmission due to the 90° enlacement, reducing energy consumption

Efficiency depends on technology and motor size



## Efficient IE4 main motor drive

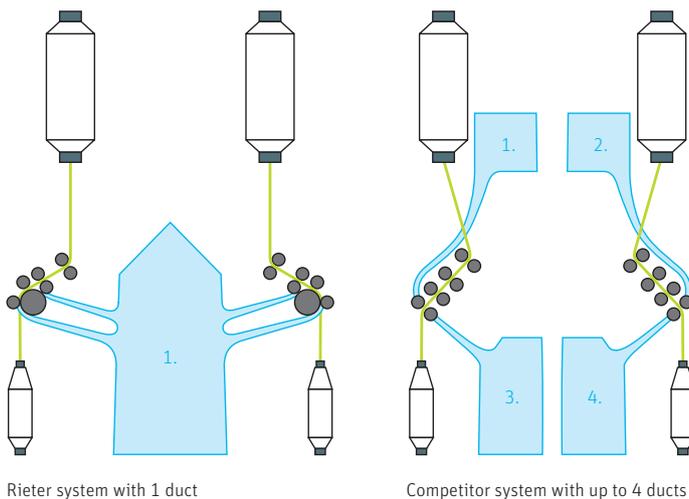
The extremely efficient IE4 main motor drive was developed for high speeds to save energy. It can also be used profitably on machines with fewer spindles and low speeds due to its permanent magnetic functioning.

Efficiency is not only related to motor technology but also to motor size. With one single spindle motor and the choice of IE4 motors, Rieter invests in sustainable yarn production.

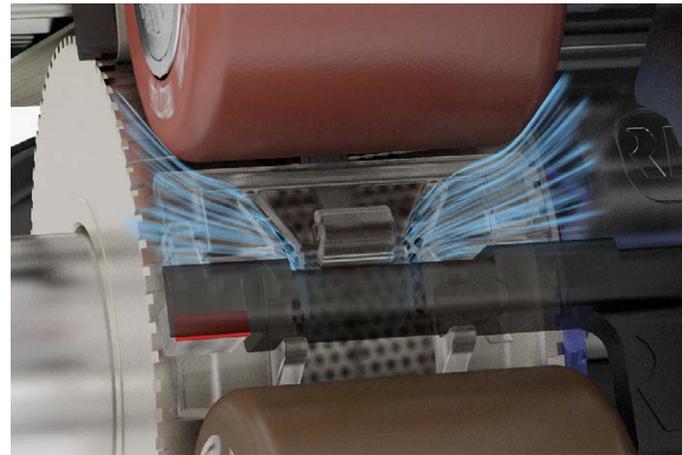
## Low energy consumption due to one-duct system

The K 48 requires significantly less energy for compacting in comparison to other solutions. This is thanks to a unique compacting system and energy-efficient technology components. The one-duct system for suction reduces the energy consumption needed to generate the necessary underpressure. The large cross-section of the suction duct lowers the air speed and reduces the air resistance.

**Rieter one-duct system for ring and compact spinning lowers air speed and energy consumption**



## Lower air flow rate thanks to air guide element

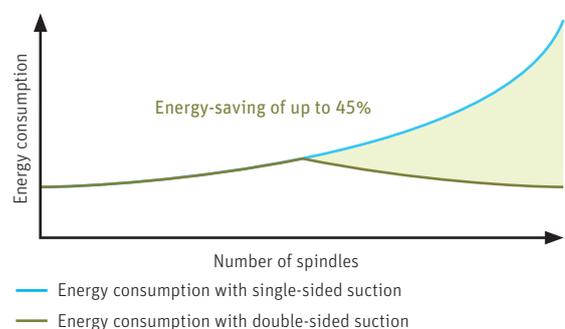


Lower air flow rate thanks to air guide element

The air guide element Detect covers the compacting zone. As a result, the air flow is directed in a targeted manner, significantly reducing the air flow rate required for compacting. Detect also contributes to the reduction in energy consumption.

## Less energy required with double-sided suction

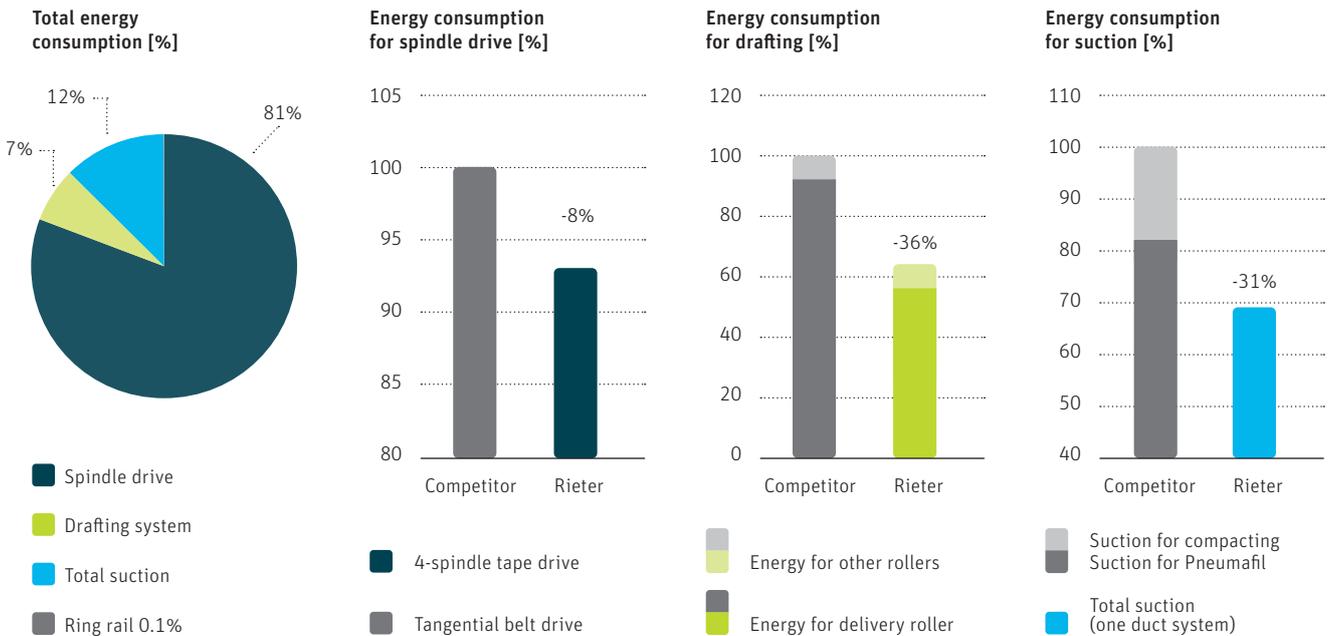
The double-sided suction optimizes the aerodynamics of the entire suction system. This reduces the energy that is required to generate the necessary underpressure on machines with up to 1 824 spindles. Compared to single-sided suction system, the same air volume can be transported using less energy.



## Break down of total energy consumption

The end spinning machine accounts for a large part of the energy consumption in ring and compact yarn production. For this reason, Rieter is particularly investing in energy-efficient technologies and developments.

More than 80% of the energy is consumed for the spindle drive and here the proven 4-spindle tape drive with only one large drive motor shows advantages. Lower torque requirements in the drafting system with the sieve drum result in significantly lower energy consumption. Field tests have shown a saving of 36% compared to an apron system. The optimized suction system saved 31% energy compared to another system, also determined in the same field test.



Rieter vs. competitor tangential belt and apron system: Ne 30, 19 500 rpm, 775 T/m, 1 824 spindles

# Fast and Easy Parameter Change

## Set yarn parameters electronically

The electronic drafting system drive FLEXIdraft for the compact-spinning machine K 48 uses frequency-controlled motors. This electronic drafting system drive means less work for operating personnel. Parameters such as yarn count and twist can easily be adjusted on the machine display. There is no need to change gear wheels or make any other mechanical adjustments.

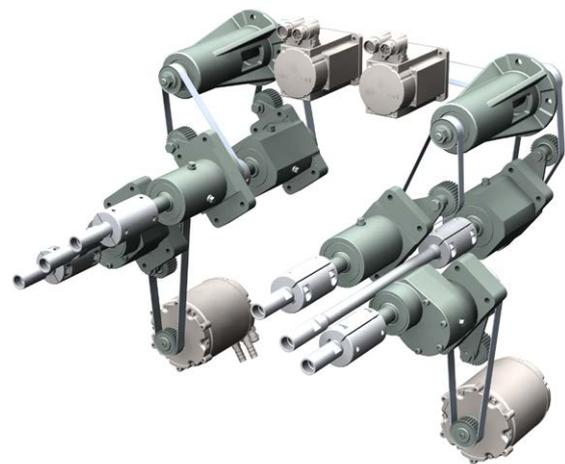
The operator can also change the Z yarn twist direction or the S yarn twist direction on the operating unit.

Mechanical adjustments to the belt tensioner for the spindle drive are now a thing of the past. The balloon control ring is designed so that it does not have to be replaced when the yarn twist direction is changed. This reduces the amount of work required by operating personnel.

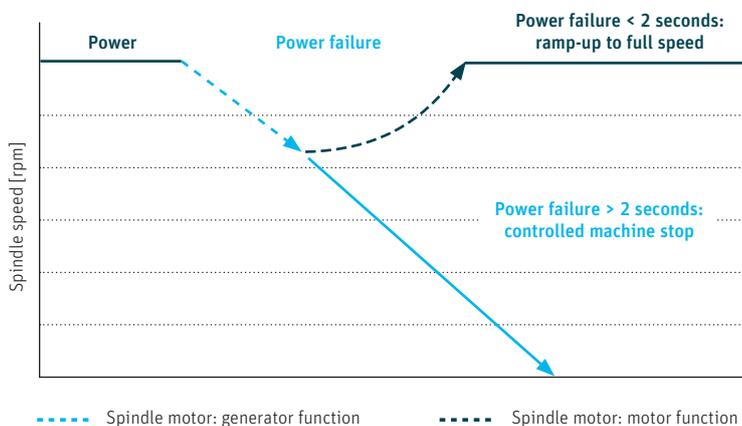


## Economic startup with FLEXIstart

The function FLEXIstart allows the drafting system to be switched on and off in stages. This allows a more efficient machine startup. Depending on the machine length, a quarter or half of the machine is operated. This avoids unnecessary material waste.



## Full control during a power failure reduces production loss



## No ends down in the event of a power failure

If a power failure occurs, the rotation energy of the spindles is used to supply the machine controls with electricity. At this time, the main motor switches to generator mode. In a power failure lasting up to two seconds, the machine automatically accelerates to the previous operating speed. The machine comes to a controlled stop in extended downtimes. thus avoiding ends down.

# Most Reliable Compact Sieve Drum with Unique Air Guide Monitoring

## Basis for a wide range of applications



The highly abrasion-resistant sieve drum requires minimal maintenance compared to competitor solutions. The surface of the sieve drum ensures a good running behavior and uniform yarn quality over long operating periods. The new coating increases the application range even more. Different raw materials, blends and yarn counts can be spun with the shortest time for a machine changeover. Special inserts for twin yarn production make the K 48 compact-spinning machine even more flexible.

## Controlled compacting

The compacting unit forms the heart of the compact-spinning machine. The compacting unit comprises the sieve drum, suction insert Bright, and air guide element Detect. The optimal shape of the air guide element and suction insert ensures that the air is guided in a targeted manner.

The fibers to be spun are neatly and continuously incorporated into the yarn body via the air flow drawn in at the sides. The targeted air routing in the compacting unit prevents dust and fiber particles from being deposited inside the machine. By doing so, the machine is always able to produce fully-compacted yarn with the highest strength and low hairiness.

## Simple quality monitoring

The air guide element Detect monitors the air flow at each spinning position. If the underpressure reaches a limit value, a red marking on the air guide element indicates that the compacting unit must be checked. This feature prevents non-compacted yarn being produced. Monitoring each individual spinning position guarantees a consistently high yarn quality.



The red marking on the air guide element indicates that the compacting unit must be checked.

## Proven intermediate drive ensures quality

For machines with an intermediate drive unit, the middle bottom roller is partially driven from within the center of the machine. This reduces the torsional forces on the bottom roller. The precise running of the bottom roller ensures a consistent quality of the yarn.

## Q-Package – the quality package for cotton

The quality package Q-Package for cotton contains a stepped nose bar, an “active” cradle and a corresponding pressure bar (pin). Fiber guidance between the cradle and the nip point of the delivery roller is further improved with the Q-Package. The evenness of the yarn (CVm%) is improved by up to one percentage point. At the same time, yarn imperfections are reduced by 10 to 30%.

## Ideal fiber guidance in the drafting system

The Ri-Q-Draft drafting system ensures the ideal fiber guidance for most applications and very stable running behavior. The nose bar Ri-Q-Bridge is a key component in the spinning process. The optimal position and form of the cradle reduce the distance to the nipping point of the delivery roller. All the listed technology components, including the bottom aprons, are perfectly tailored to each other. This ensures ideal fiber guidance in the main draft zone.

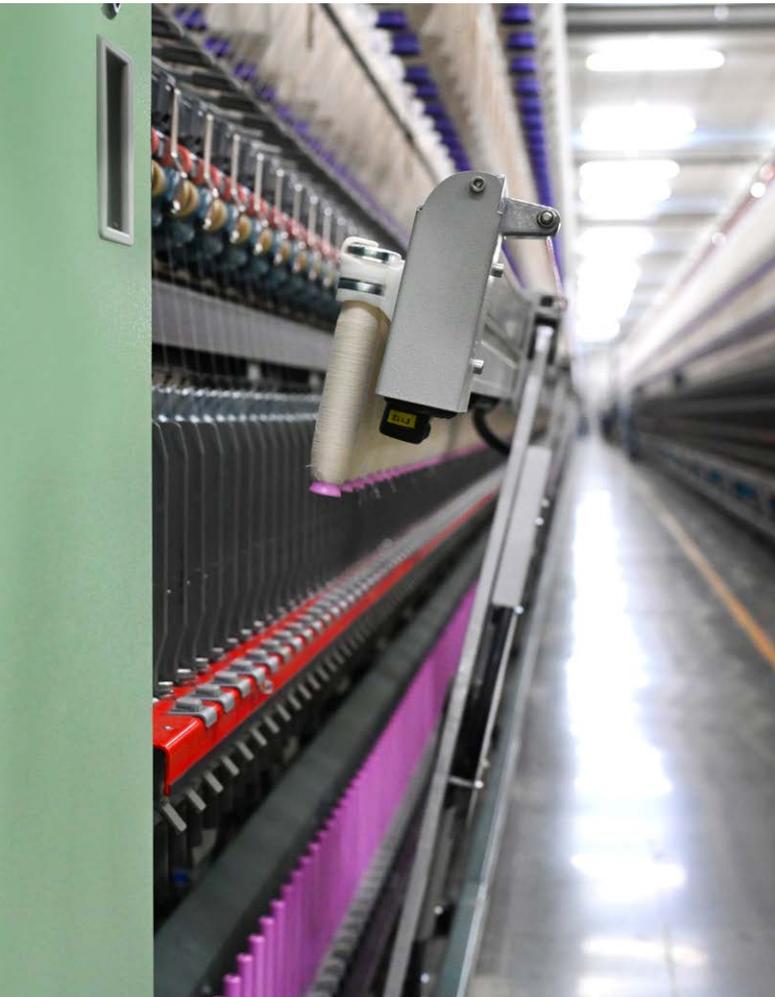


# Faster Doffing for Highest Production Time

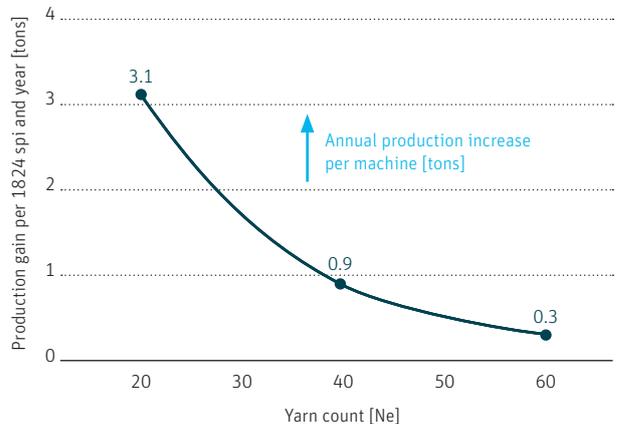
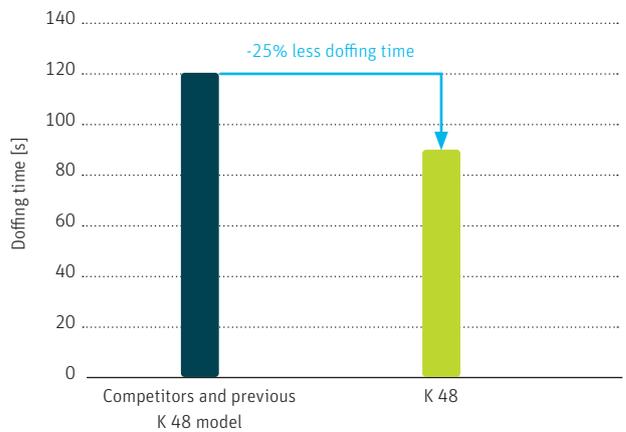
## Doffing in only 90 seconds

The new generation of the compact-spinning machine K 48 redefines the boundaries. The new and most reliable automatic doffing system with a perfect alignment of gripper, tube and cop tray enables a fast sequence of all doffing process steps. The redesigned doffing system completes its cycle in just 90 seconds, showcasing a remarkable 25% reduction compared to the prior version of the K 48 and all known competitors, whose cycles typically take 120 seconds. The reduced doffing time results in shortest machine downtime and therefore a significant production gain. The advantage is particularly evident with coarse yarn counts. With Ne 20 the annual production gain is 3.1 tons per machine with 1 824 spindles.

Thanks to the sophisticated monitoring system, doffing requires no human intervention. The system includes a special profile of the doffer beam and releasable grippers. In the event of faults, the doffing process is automatically stopped by a pressure monitor, ensuring highest process reliability. With the integrated SERVOfrip system, doffing can be performed without underwinding.



Doffing time and its influence on yarn production



25% faster doffing system leads to remarkable production gain

## New and faster cop transport system SERVODisc

The new cop transport system SERVODisc for link systems to the winding machine is 12% faster than the previous solution. It forwards up to 45 cops per minute directly to the winding machine and positions empty tubes. This open rail system is fast enough to remove all cops on time before the next doffing cycle is due. This is important for long machines with short spinning cycles and very coarse yarn counts. The new SERVODisc is even more reliable and needs less maintenance. The solid steel profile with less contact points reduces friction, and the positive driven pulley enhances the lifetime of machine components. Intelligent cop trays (Smarttray) with integrated RFID chip are available with the link system to the Rieter winding machine Autocorner X6 for information and material flow control.

The cops transport system SERVODisc is an open system that requires less maintenance. The system is driven by two diagonally offset 70 W motors. This requires only 10% of the energy compared to those of a pneumatic system.

## Self-monitoring doffer grippers

The optionally available, redesigned gripper GRIPPEReasy has a safety clip for a more precise and reliable tube positioning. The long lasting gripper membrane with improved grip is abrasion resistant and easy to replace. Changing of the membrane can be done directly on the machine within 15 seconds. This corresponds to a time saving of 80%.

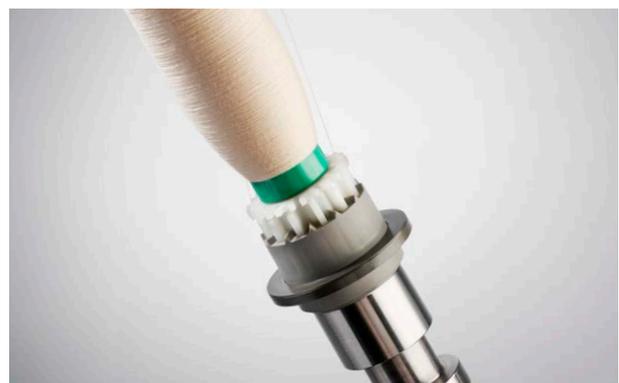


New SERVODisc drive concept for less maintenance

## Save yarn with the SERVOGrip system

The proven and unique Rieter SERVOGrip system enables doffing without underwinding. By using SERVOGrip, no yarn ends need to be removed from the whorl. This saves yarn and keeps the machine clean. Ends down caused by fiber fly and yarn ends are also avoided, thus increasing yarn quality.

The SERVOGrip system contains a clamping crown. Rieter is the only manufacturer whose clamping crown is opened and closed using the ring rail. This guarantees precise and controlled fixing of the yarn. Ends down following cops changes are thus largely avoided.



# Fully Automated Piecing Robot ROBOspin

The industry's first piecing robot in ring and compact spinning

## Fully automated yarn piecing

One robot per machine side repairs ends down that occur during startup or while the machine is running. The robot travels directly to the affected spinning position and repairs the ends down in the shortest time possible. As a result, the complete piecing cycle runs fully automatically – from finding the yarn on the cop to threading the traveler and placing the yarn behind the delivery roller. The robot receives the required information from the integrated individual spindle monitoring system ISM.

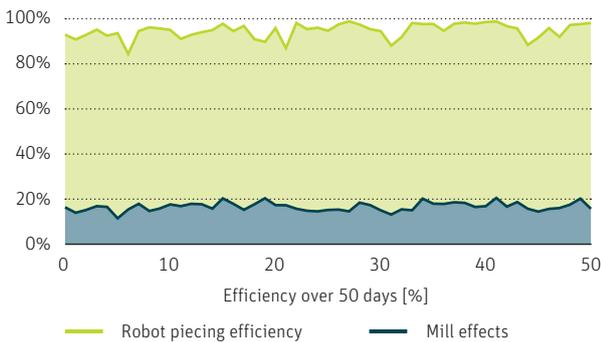
## Consistent quality, 24/7

The automated piecing process ensures consistent quality of the yarn piecing. Human contact with the cop is avoided during the cycle. The outer layer does not get contaminated and topquality yarn is produced.

## Consistent high performance proven in spinning mills

ROBOspin runs with consistent high performance in various spinning mills around the world. The piecer efficiency reaches over 80% in the first attempt. In the second attempt an auxiliary yarn is used which achieves additional 10% efficiency. Piecing with auxiliary yarn helps to protect the sensitive yarn layers and thus improves quality.

**The robot reliably reaches up to 95% piecing efficiency**  
 Ne 30, 100% cotton carded G 37 with ISM premium, 18 000 rpm,  
 1 824 spi/machine



## Maximum productivity with minimal personnel deployment

ROBOspin has consistently high productivity level – 24 hours a day. It significantly reduces personnel requirements in the ring spinning section by 50%, noticeably lowers personnel costs and helps overcome labor shortages. Human resource planning and spinning mill organization are also made easier.



# Short-Balloon Setting for Enhanced Performance

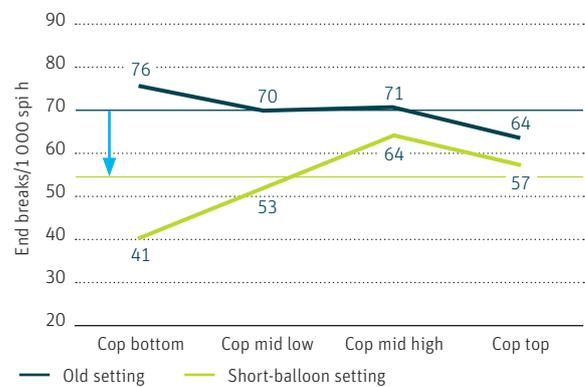
## Explore the enormous potential

The limiting factors in ring and compact-yarn production are yarn tension peaks and the interaction with ring and traveler. One of the most important tasks therefore is to balance the various balloon forces during cop build-up. The short-balloon setting optimizes these ratios and brings clear advantages in terms of up to 10% less ends down rates in average and longer traveler lifetime. Alternatively, the ends down rate can be kept constant, but production can be increased up to 2%. The traveler must continue to optimally compensate tension peaks and help that the yarn balloon is formed evenly during the entire ring rail movement.

## Lower ends down rate

The short-balloon setting reduces tension peaks and balances various balloon forces during cop build-up. Lower end breaks can be expected especially at the cop bottom stage for fine yarn counts. Less end breaks in average and significantly lower rate at cop bottom stage is possible with short-balloon setting for example for 100% cotton, Ne 60 and twist TM 4.2.

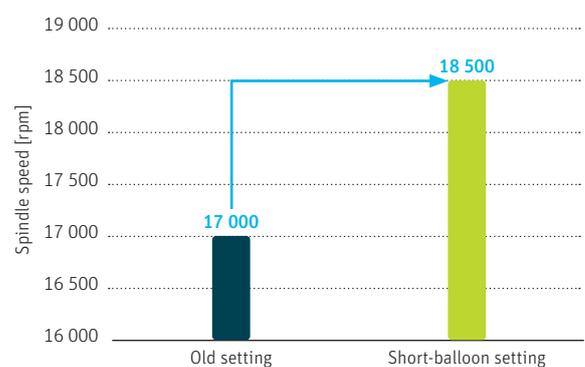
Lower ends down at different cop stages



## Expand technological limits

With the short-balloon setting the spindle speed increased from 17 000 to 18 500 rpm with ends breaks within customer limits and without traveler fly. The spindle speed increased by 9% for 100% cotton carded, Ne 20 and twist TM 4.3.

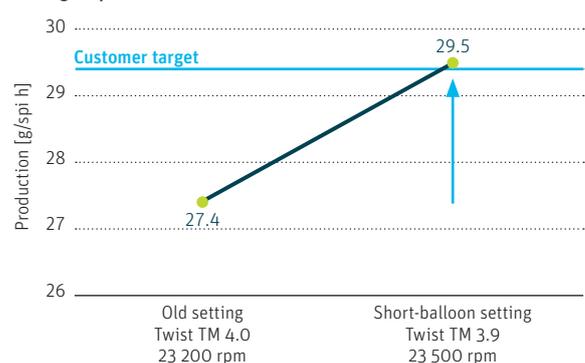
9% higher spindle speed



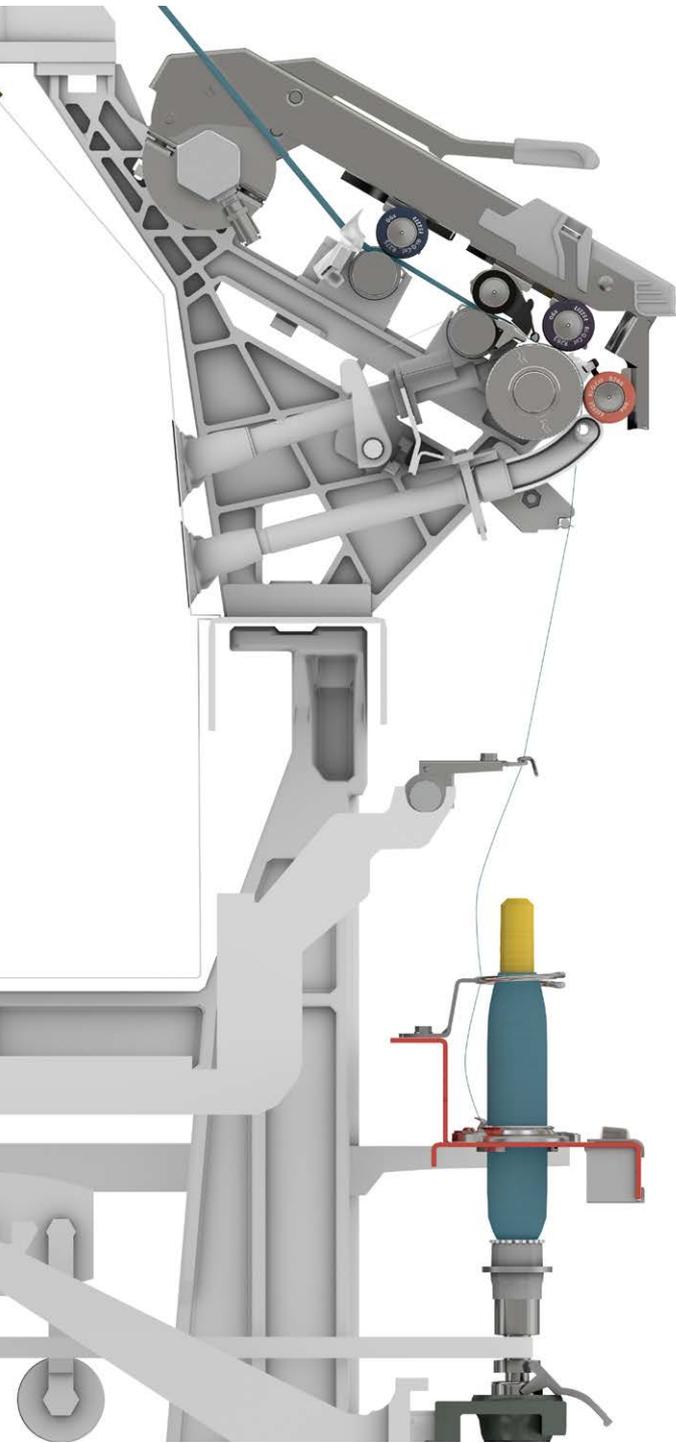
## Surpass production target

The new setting allowed a yarn twist reduction from TM 4.0 to 3.9 and higher spindle speed to increase production by 8%. The machine with short-balloon setting was able to surpass the production target and achieved 29.5 g/spi h for 100% cotton, Ne 30 and twist TM 3.9.

8% higher production



# Compact Yarns of Highest Perfection from Any Fiber



## Premium components as standard

The top roller cots Ri-Q-Cot developed by Rieter ensure perfect yarn quality. Different cots are available depending on the processed raw material and the yarn count.

High-quality TITAN spinning rings from Bräcker are included in the K 48 standard package. These spinning rings have a long service life.

All machines are delivered exclusively with proven Novibra quality spindles, which have excellent running characteristics. Energy consumption and noise levels are lower compared to those of other products. Higher spindle speeds can be achieved as the Novibra spindles reduce vibrations to a minimum when running.

Rieter's precise quality spinning tube Ri-Q-Tube is made from a particularly stable polymer mixture and has a high true-running accuracy. The spindle bearings experience minimal load even at high speeds.

## Premium sieve drum for low spinning costs

With the K 48, the labor-intensive and expensive exchange of compacting aprons is not needed. Additional machine downtimes are avoided. Increased efficiency can be achieved as a result, making it simpler to plan production.

## Special components for recycled raw material, man-made fibers and blends



Rieter offers a full package of components especially for man-made fibers like SERVOflex knife, bottom rollers with a larger diameter, and reinforced separators. It is a modular set. The individual elements can be configured based on customer requirements. The man-made fiber package improves spinning performance for yarns made of man-made fibers and blends.

The bottom rollers have a larger diameter and improve the running characteristics of the machine when long man-made fibers are used.

The metal-reinforced front edge of the separators prevents notching from rotating thread ends. No fibers get caught. The run of the thread is not interrupted by flying fibers; as such, the ends down rate is very low.

## Reliable yarn cutting for man-made fiber yarns with the SERVOflex knife

The SERVOflex knife reliably cuts the yarn during doffing and prevents ends down during startup. Rieter has developed a technology that reduces yarn twisting before doffing. When combined with the SERVOflex knife, even high-strength yarns or core yarns can be cut properly when doffing.

## Ring yarns with up to 40% recycled cotton

The production of ring and compact yarn with acceptable quality from heterogenous, recycled raw materials with a high short-fiber content brings new challenges. Thus, ring yarns made of recycled cotton can rarely be found on the market up to now. Rieter sets new standards and offers a complete ring spinning system that is designed to process recycled fibers in the best possible way. High-quality ring yarns with a share of 38% recycled cotton are possible. Due to the better integration of the fibers especially during compact spinning, such yarn has a higher tenacity. This opens a wider range of applications for yarns made of recycled cotton.



# Full Flexibility for the Production of Standard and Special Yarns

## Efficient production of slub yarns

The compact-spinning machine K 48 is an all-rounder that allows the business to respond quickly to changing market requirements. Optionally, the machine can be equipped with the Rieter VARIOspin slub yarn system. The latest generation servo motors are ideal for the high dynamics involved in slub yarn production.

A range of slub designs can easily be programmed on the operating unit or an external computer with the appropriate software. This allows slub yarns to be produced efficiently and profitably with outstanding Rieter quality.

## Precise production of core yarns

With the different core yarn devices, soft, hard, and dual core yarns can be produced. The filament is always precisely integrated into the yarn. The core yarn devices work with a traversing guide roll for the filament. The traversing system for the filament is aligned with the traversing system of the roving.

## Easy production of twin yarns

To produce a twin yarn, two rovings are required for one spinning position. In the drafting system, both are drafted separately. The rovings are then twisted together in the spinning triangle. Due to their ply-yarn-like characteristics, twin yarns improve the quality of the yarn and the end product.



# Advantages for Downstream Processing

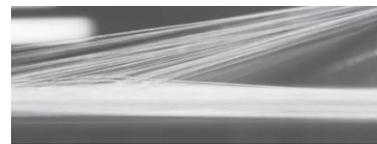
## Better efficiency of the weaving machine

High strength and low hairiness are important factors for good running behavior on the weaving machine. These characteristics are provided by the Com4 compact yarns produced on the K 48. The high strength improves the load capacity of the warp threads and the low hairiness reduces the clinging tendency during shed formation. This results in high efficiency levels and low costs thanks to reduced machine downtimes.

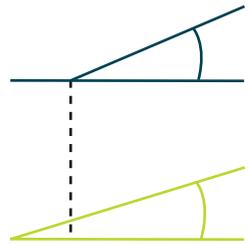
Reduced clinging tendency with Com4 compact yarns



Ring yarn



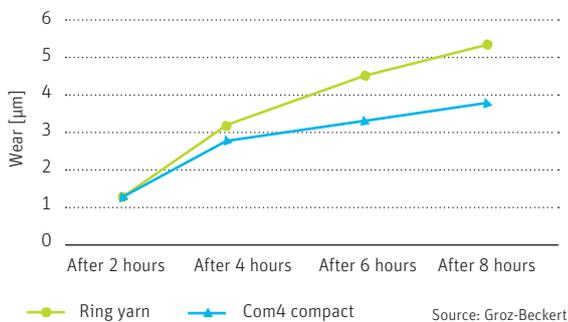
Com4 compact



Clear, open weaving shed

## Reduced needle wear on the knitting machine

Needle wear on the knitting machine



In the knitting mill, having yarn that is not as hairy supports the smooth running of the knitting machine. Less fiber fly is generated and the smoother yarn reduces wear on the needles. Fewer machine standstills lead to a better utilization capacity of the knitting machine.

## High flexibility in finishing

The finishing of woven and knitted fabrics places high demands on the yarns used. The popular non-iron finishing of shirts and blouses, for instance, reduces the strength of the yarns used by up to 50%. The high strength of the Com4 compact yarn provides the necessary reliability and flexibility for customer-friendly and high-quality fabric finishing.



# High Machine Efficiency Through Digitization

## Efficient production with ISM premium

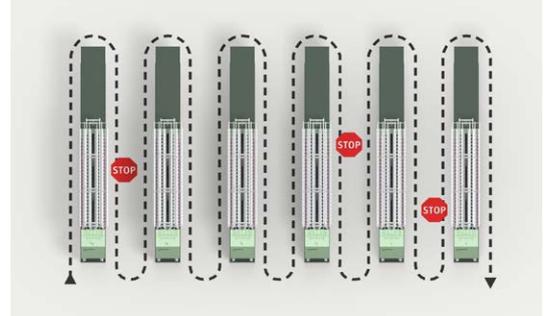
The individual spindle monitoring system ISM premium is built into the machine as a standard. In addition to LEDs at each spinning position, it also has an LED at each section and signal lamps at the head and end of the machine. The LEDs light up as soon as the individually defined limit for ends down is exceeded. Thanks to the three-stage display concept, operating personnel are guided to the ends down even more efficiently.

Another function is the permanent monitoring of the speed of each spindle. If a spindle runs outside the defined specifications, this is indicated by the LED flashing. This allows the operator to quickly and easily recognize which spindle is not running correctly. The operator can then intervene immediately, which avoids loss of raw material and quality.

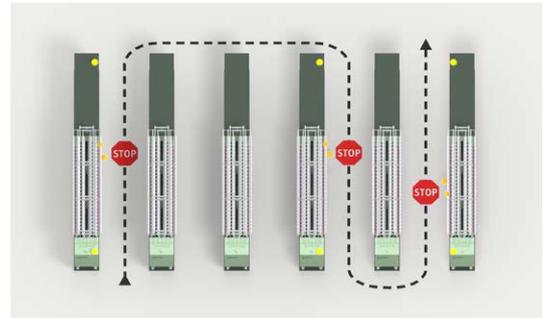
## Options for spinning position identification and roving stop

Using the SPID system of the winding machine Autoconer X6 in linked installations, the winding unit can detect faulty cops and assign it to the defective spinning position. The operator is guided directly to the spinning position that is not operating correctly and can intervene immediately.

ISM premium is the basis for the roving stop device. If ends down occur, the ISM sends a signal to the roving stop device, which stops the roving feed. This saves raw material.



Without individual spindle monitoring – long distances for the operator



With individual spindle monitoring – optimized path saves time and improves efficiency



# ESSENTIAL – Rieter Digital Spinning Suite

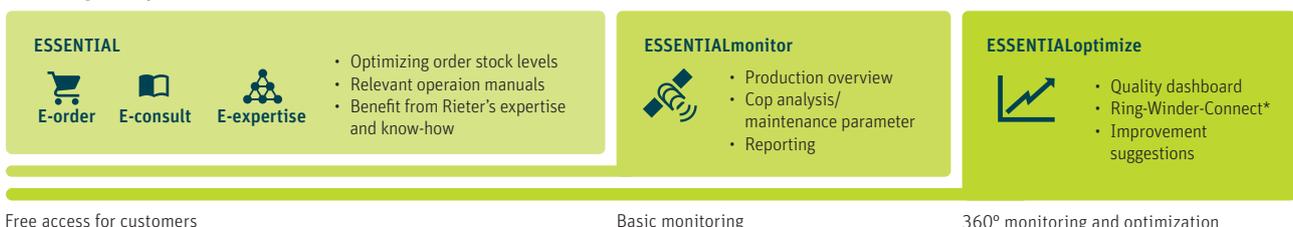
Rieter’s all-in-one mill management system for production traceability

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.

## Mill management platform



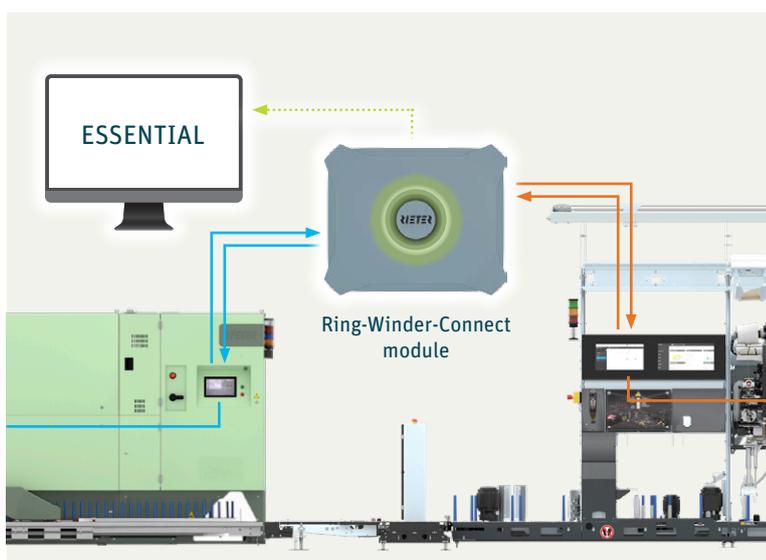
Free access for customers

Basic monitoring

360° monitoring and optimization

\*only for customers with ring spinning and winding machines

## Ring-Winder-Connect in ESSENTIAL



The Rieter ring and compact-spinning machines form an intelligent subsystem with the winding machine Autoconer X6. Proven monitoring systems are already integrated: ISM premium in the ring spinning machine, SPID online quality monitoring in the winding machine. The new separate module Ring-Winder-Connect compares and analyzes data from both machines. Ring-Winder-Connect saves valuable raw material and always keeps yarn quality within the defined limits. The integration into ESSENTIAL creates a new level of process optimization.

# Highest Level of Automation and Performance

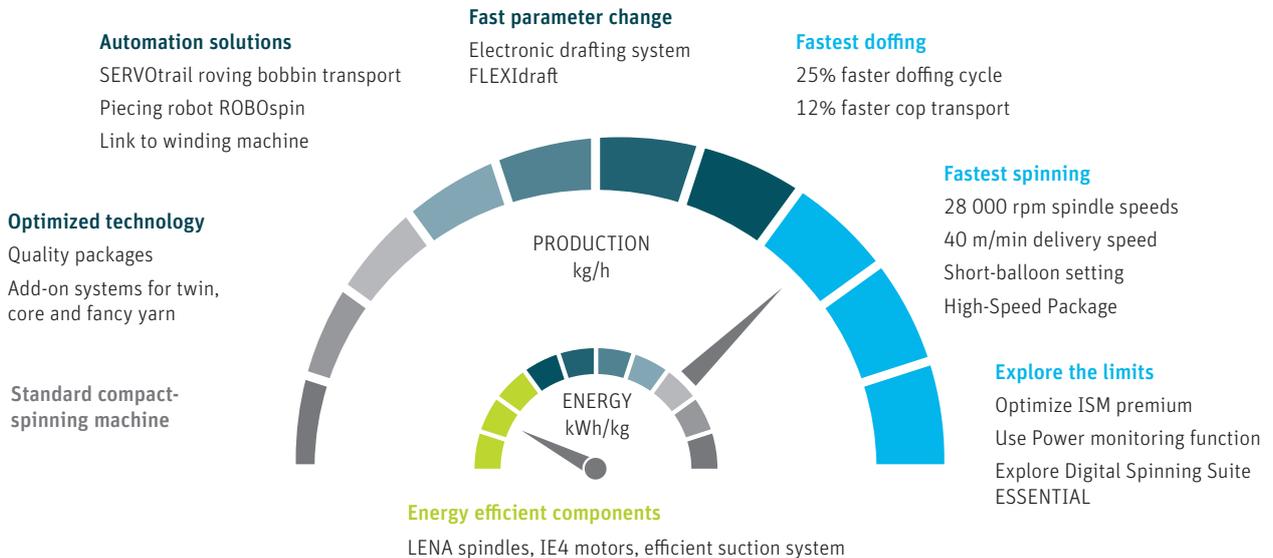
Customized roving bobbin transport SERVOrail for all customer requirements



The modular roving bobbin transport system SERVOrail offers the optimal material flow between the roving frames and the ring or compact-spinning machines. It reduces personnel requirements, increases machine efficiency, and ensures excellent roving quality. Customers can choose from several technical variants and levels of automation. Different assortments can be managed flexibly as the roving bobbins are assigned to the corresponding ring or compact-spinning machine in a targeted manner. SERVOrail saves space, reduces the distance that operators are required to travel, and ensures that the spinning machines are freely accessible.

## Redefine performance

Maximum production in ring and compact-spinning not only means offering the highest automation level. Enormous production benefits can be achieved by highest spindle speeds, lowering energy consumption and significantly reducing machine downtimes.



# Minimal Workload

## Intelligent automation

The linking of Rieter ring and compact-spinning machines to the winding machine Autoconer X6 enables the most intelligent process automation. Cops and tubes circulate directly in a closed process system of ring spinning and winding machines. Customers benefit from intelligent cop and tube logistics with complete material tracking. RFID chips turn peg trays into Smarttrays. Position and status of all cops and tubes is known at all times. RFID is the basis for intelligent lot changes and online yarn quality monitoring.

## Automation solutions Multilink/Multilot

Multilink is characterized by highest throughput rates (up to 60 cops/min for the interface) and for highest productivity (up to 96 winding units). With Multilink, customers can connect up to four ring spinning machines with one winding machine in various positions. Multilot manages the processing of up to four different materials on one Autoconer. Multilot is unbeatable thanks to the unique color-coded operator guidance, the simple lot handling at the operating unit and the flexible material flow configuration.



Link to the winding machine with Multilink system

## Individual link solutions

Whether direct link or underfloor link: Rieter creates an individual solution, suitable for the requirements of a spinning mill. The new Multi-link offers even more flexibility in spinning mill design, with optimum space utilization and cost-saving potential. Links with machines in parallel or serial positioning are possible.

## Tube loader ROBOload with add-on system WILDload and trolley

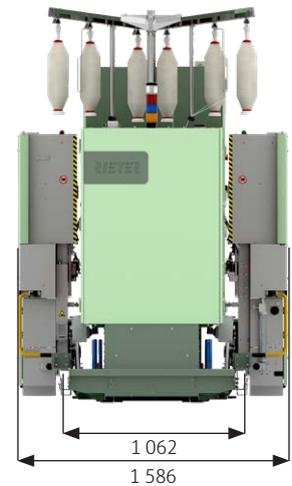
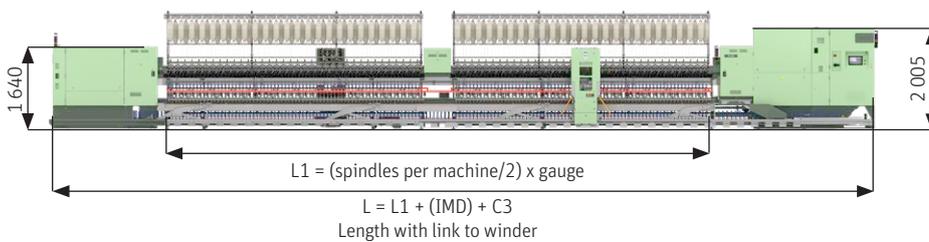
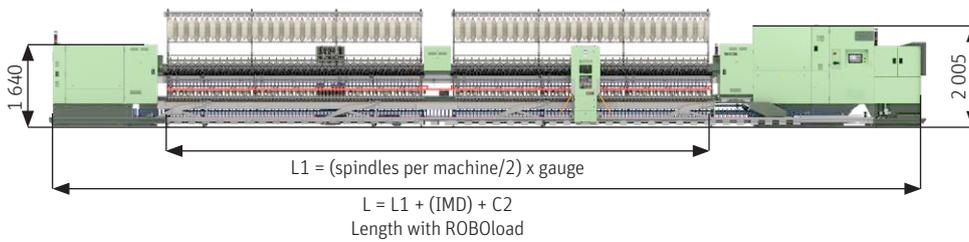
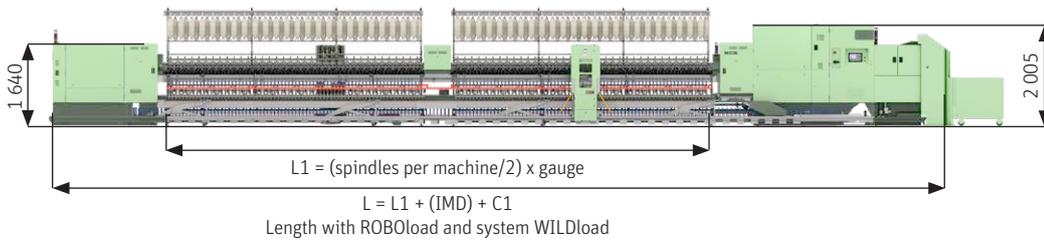
The system WILDload means significantly less work for operating personnel. The tubes are loaded into a trolley at the winding machine which is then clicked directly onto the ROBOload. No manual work is required.



System WILDload: The tubes are picked up one after the other then aligned and fed to the tube loader ROBOload.

# Machine Data

## Compact-spinning machine K 48 with electronic drafting drive



### Machine length L [mm]

$L = (\text{no. spindles}/2 \times \text{gauge}) + \text{intermediate drive (IMD)} + \text{constant (C)}$

### Maximum number of spindles

Up to 1 824 spindles per machine with 70 mm gauge  
Up to 1 632 spindles per machine with 75 mm gauge

### Machine without intermediate drive (IMD)

Up to 1 248 spindles: all raw materials, 70 and 75 mm gauge  
Up to 1 440 spindles: 100% cotton, 70 mm gauge

### Length of intermediate drive (IMD):

630 mm (70 mm), 600 mm (75 mm)

Length of ROBOload: 1 040 mm

Length of add-on system WILDload: 643 mm

Length of trolley: 980 mm and 1 200 mm available

### Endstock length depending on version [mm]

Suction	Single-sided*	Double-sided*
C1: ROBOload and system WILDload without trolley	5 828	7 284
C2: ROBOload without trolley	5 185	6 641
C3: Link to Rieter, Murata, Savio	4 180	5 636

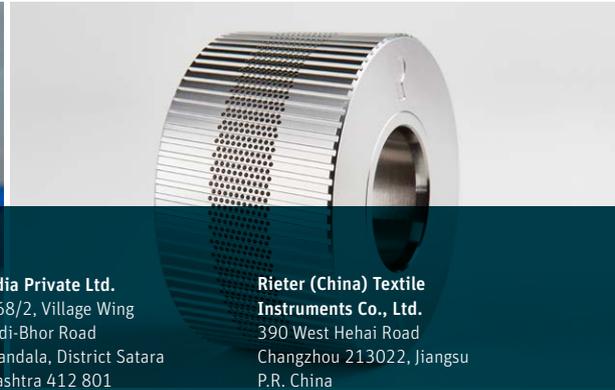
\*Single-sided suction is available for up to 1 440 spindles. Double-sided suction always has an intermediate drive and is available from 1 296 spindles.

### Example calculation for machine length L [mm]

1 824 spindles, 70 mm gauge, intermediate drive, double-sided suction, link  
 $L = ([1\ 824/2] \times 70) + 630 + 5\ 636 = 70\ 106\ \text{mm}$

Technological data	
<b>Material</b>	Cotton ≥ 27 mm (1 1/16 in); Man-made fibers and blends up to 51 mm (2 in)
<b>Yarn count</b>	
Standard	Cotton 29.5 – 3.7 tex Nm 34 – 270 Ne 20 – 160
	Man-made fibers and blends 29.5 – 6 tex Nm 34 – 169 Ne 20 – 100
Optional	Cotton 29.5 – 2.4 tex Nm 34 – 423 Ne 20 – 250
<b>Twist range</b>	200 – 3 000 T/m (5.1 – 76.1 T/in)
<b>Draft</b>	
Standard	8 – 130 fold (mechanical) 8 – 80 fold (technological)
VARIOspin	6 – 250 fold (mechanical)
Machine data	
<b>Number of spindles (gauge 70/75 mm)</b>	
Max.	1 824 with 70 mm gauge 1 632 with 75 mm gauge
Min.	288 (144 on request)
Per section	48
<b>Spindle gauge</b>	70; 75 mm
<b>Ring diameter</b>	
70-mm gauge	34; 36; 38; 40; 42; 45 mm
75-mm gauge	... 42; 45; 48; 51, (54) mm
<b>Tube length</b>	
70-mm gauge	180 – 230 mm
75-mm gauge	220 – 250 mm
<b>Tube and spindle diameter DUI</b>	
DUI 18; DUI 20	Rieter spindle range
DUI 16	LENA 28 spindle with 34 mm ring
<b>Machine width</b>	
Over center of spindle	660 mm
Doffer retracted	1 062 mm
Doffer extended	1 380 mm
ROBOspin data (option)	
Machine width with ROBOspin	1 586 mm
Compressed air Min. supply pressure	7 bar
Installed power	2 x 0.48 kW

Technical data		
<b>Spindle speed</b>	Mechanical up to 28 000 rpm	
<b>Installed power</b>		
<b>Main drive motor depending on spindle number</b>	55 kW 75; 90; 110 kW (IE4)	
<b>Drafting system drive</b>		
Standard	5 – 17.5 kW	
Without IMD	4.4 – 8.8 kW	
VARIOspin	4.4 – 15.6 kW	
<b>Ring rail drive</b>	1.75 kW	
<b>Single-sided suction on the power supply (50/60 Hz)</b>		
up to 960 spindles	6.5 kW	
1 008 – 1 200 spindles	9.0 kW	
1 248 – 1 440 spindles	12.6 kW	
1 488 – 1 632 spindles	14.0 kW	
<b>Single-sided suction with frequency converter</b>		
Up to 960 spindles	6.5 kW	
1 008 – 1 440 spindles	12.6 kW	
<b>Double-sided suction with frequency converter</b>		
1 296 – 1 824 spindles	2 x 6.5 kW	
<b>Mains connection</b>		
Rated voltage	380 – 440 V; 50/60 Hz Other rated voltages available on request	
<b>Compressed air</b>		
Min. supply pressure	7 bar	
Consumption	approx. 1.5 Nm <sup>3</sup> /h (up to 1 440 spindles) approx. 1.75 Nm <sup>3</sup> /h (up to 1 632 spindles) approx. 2 Nm <sup>3</sup> /h (up to 1 824 spindles)	
<b>Exhaust air</b>		
Air volume during double-sided suction (even split of air volume in the head and foot of the machine)	12 420 m <sup>3</sup> /h with 1 632 spindles 13 824 m <sup>3</sup> /h with 1 824 spindles	
<b>Required underpressure at transition point</b>	50 – 200 Pa	
Options		
<ul style="list-style-type: none"> <li>• Twin yarn device</li> <li>• Core yarn device</li> <li>• Slub yarn VARIOspin</li> <li>• Q-Package</li> <li>• Man-made fiber package</li> <li>• High-Speed Package</li> </ul>	<ul style="list-style-type: none"> <li>• LENA 28 spindles (DUI 18; DUI 16)</li> <li>• 75; 90; 110 kW IE4 equivalent main motor</li> <li>• Highest delivery speed</li> <li>• ROBOspin</li> <li>• GRIPPEReasy</li> </ul>	<ul style="list-style-type: none"> <li>• Fast Doffer</li> <li>• DOFFlock</li> <li>• ROBOload with system WILDload</li> <li>• Roving stop device</li> <li>• ESSENTIALmonitor</li> <li>• ESSENTIALoptimize</li> </ul>

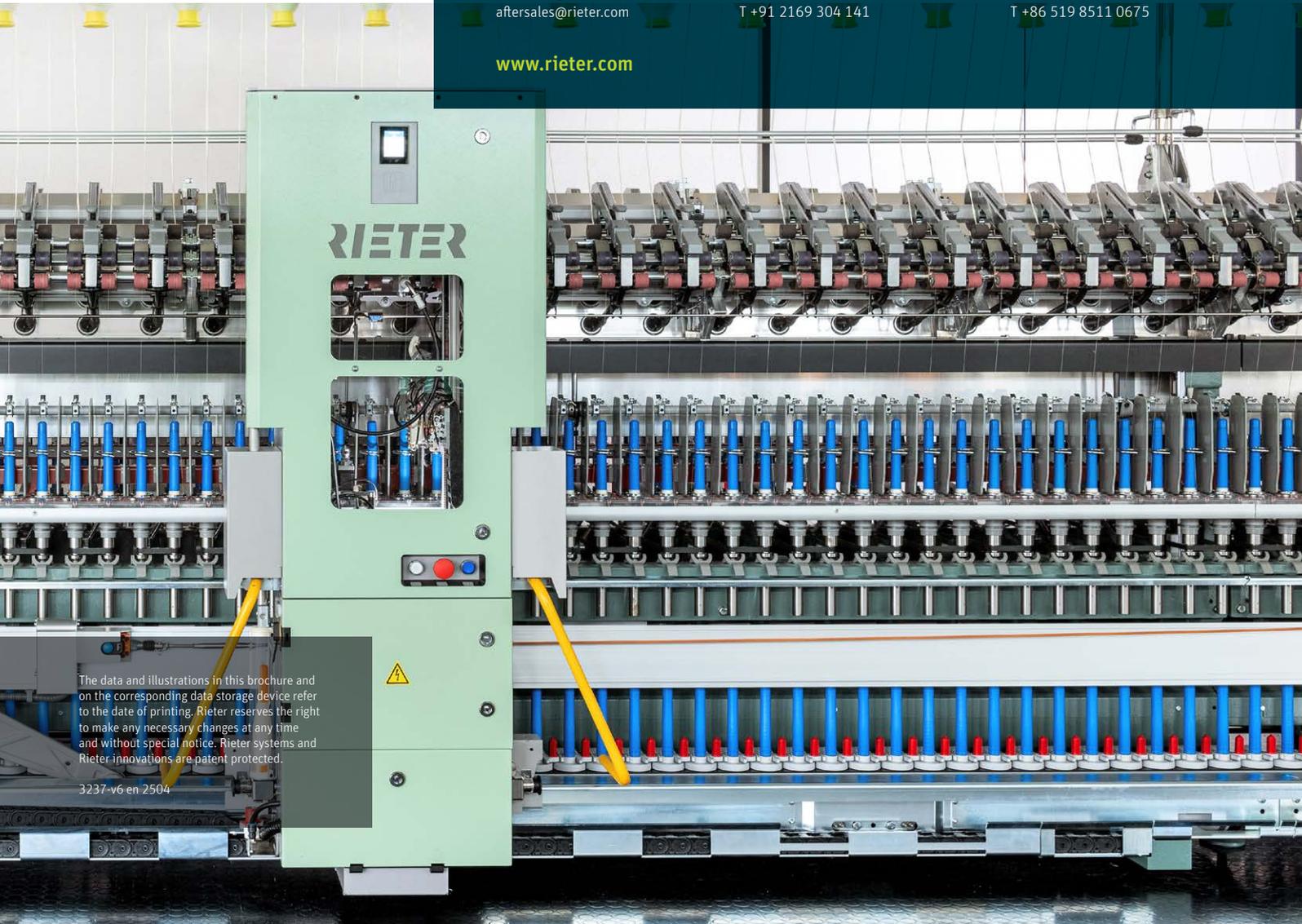


**Rieter Ltd.**  
Klosterstrasse 20  
CH-8406 Winterthur  
T +41 52 208 7171  
machines@rieter.com  
aftersales@rieter.com

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

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

[www.rieter.com](http://www.rieter.com)



The data and illustrations in this brochure and on the corresponding data storage device refer to the date of printing. Rieter reserves the right to make any necessary changes at any time and without special notice. Rieter systems and Rieter innovations are patent protected.

3237-v6 en 2504