

Ring Spinning
Ring Spinning Machine G 37

RIETER

G 37

Ring Spinning Machine G 37



High-quality yarns produced
with high flexibility

A long, industrial textile spinning machine with a green control cabinet in a factory setting. The machine consists of multiple rows of spindles and bobbins, with green bobbins visible. The control cabinet is a large, green metal enclosure with a yellow warning triangle. The machine is situated in a large, well-lit industrial building with a high ceiling and concrete floor.

The new, electronic drafting system drive allows fast adjustment of yarn parameters on the operating unit.

G 37




Maximum Production Time



Save Energy





An efficient main motor and double-sided suction reduce energy demand.

G37

G37

A close-up photograph of a textile spinning machine. The image shows several vertical grey spindles mounted on a red machine bed. Each spindle has a yellow cap at the top and a white sensor (ISM) mounted on the red bed. The spindles are arranged in a row, and the focus is sharp on the middle one.

The individual spindle monitoring (ISM) reliably indicates if there has been an ends down, optimizing personnel deployment.

High Machine Efficiency

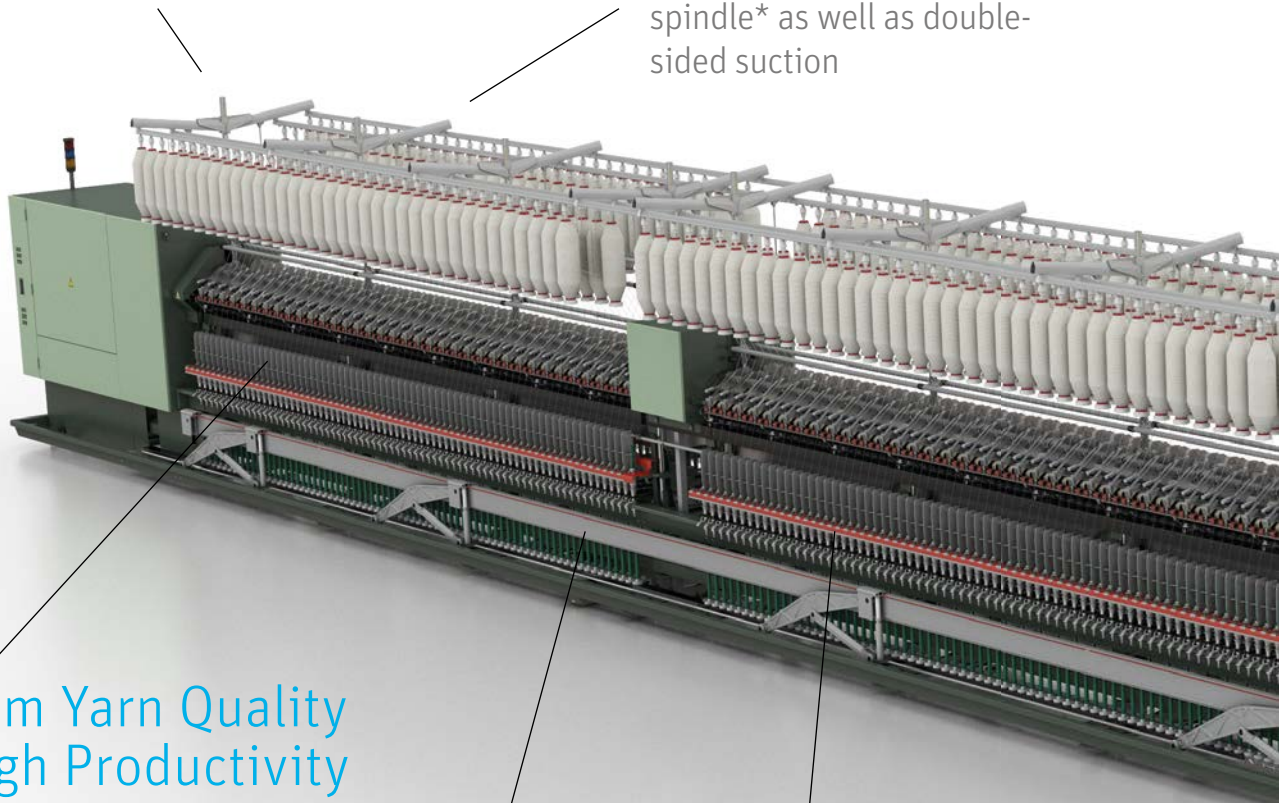
700

Superb Running Performance, Even For Man-Made Fibers

Specialist components for manufacturing man-made fibers and blends*

Save Energy

Efficient main motor* and spindle* as well as double-sided suction



Maximum Yarn Quality With High Productivity

High-quality technology components with a long service life

Economical Doffing Ensures Maximum Efficiency

SERVOgrip and self-monitoring grippers

High Machine Efficiency

Integrated individual spindle monitoring (ISM basic) with LEDs at each spinning position

* Option

OUTSTANDING

ADVANTAGES

Full Flexibility For Special Yarns

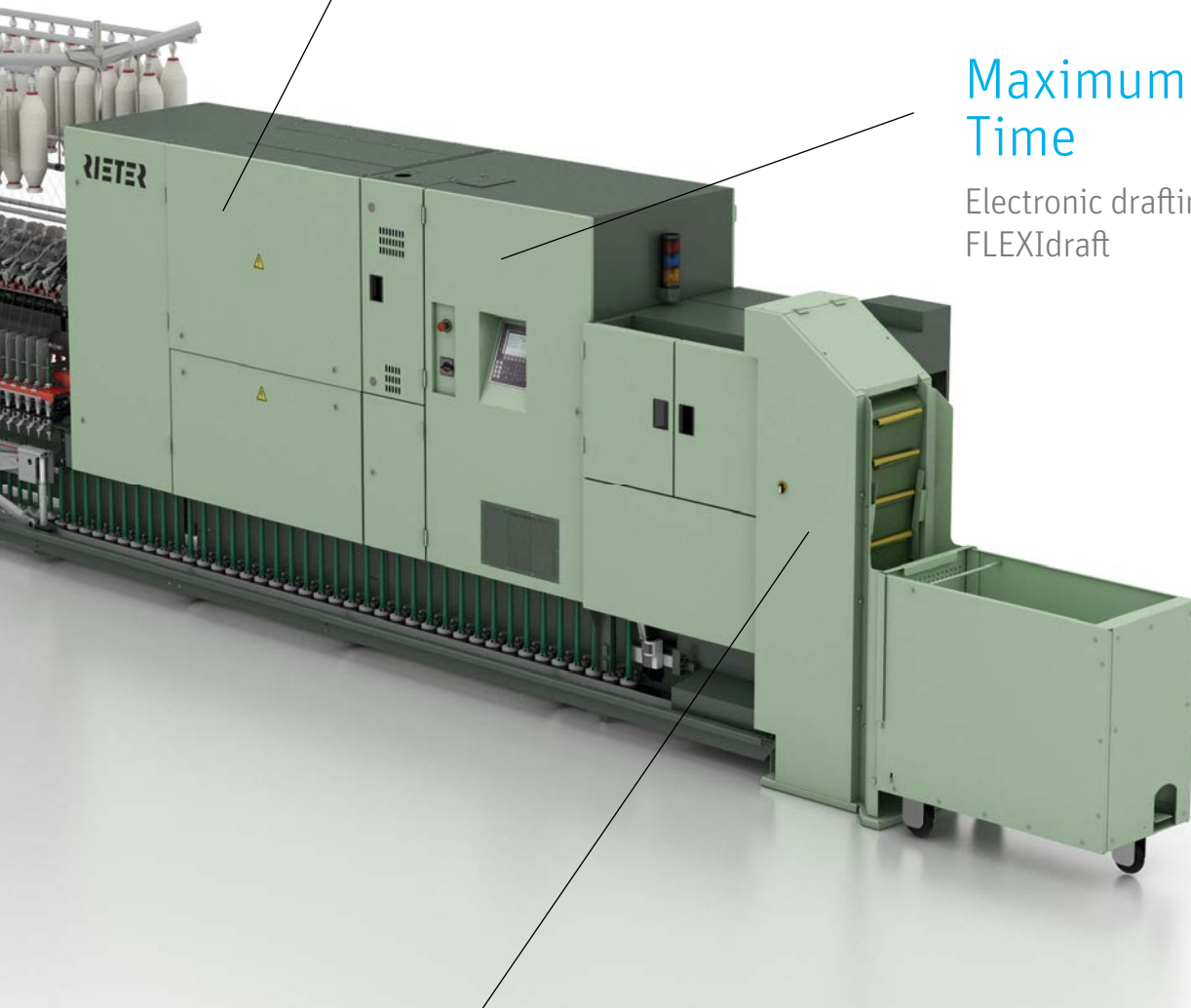
Equipment for spinning core, slub and twin yarns*

Maximum Production Time

Electronic drafting system
FLEXIdraft

Minimal Workload

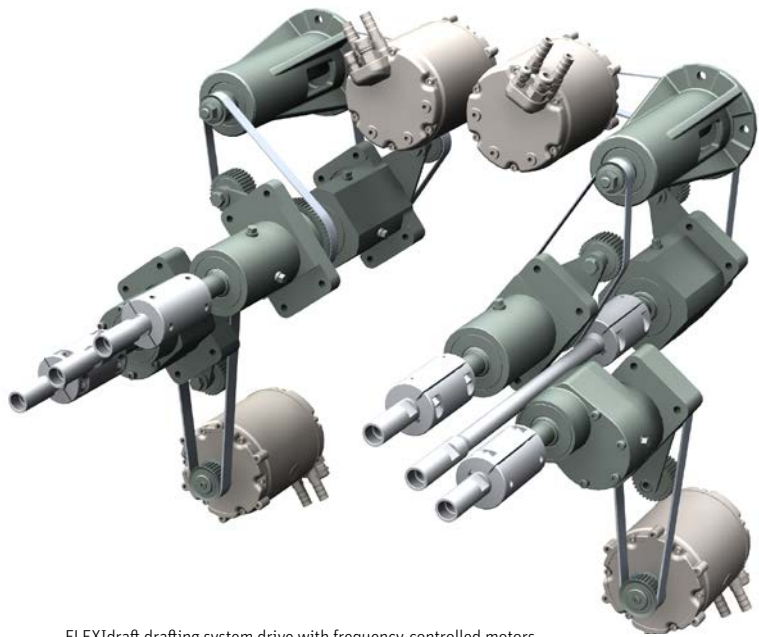
Tube loader ROBOload and system WILDload with direct tube transfer from the trolley*



Maximum Production Time

Set yarn parameters electronically

The new electronic drafting system drive FLEXIdraft for the ring-spinning machine G 37 works using frequency-controlled motors. This electronic drafting system drive means less work for operating personnel. Parameters such as yarn count and twist direction 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. Machine downtime is minimized when changing material.



FLEXIdraft drafting system drive with frequency-controlled motors

Economic startup*

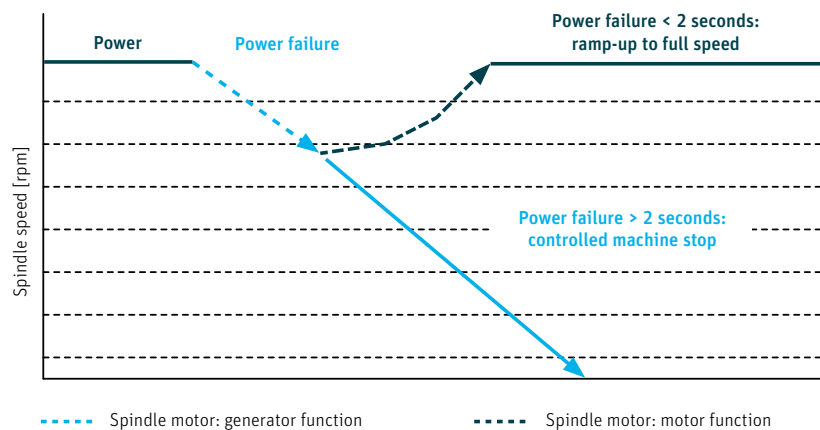
The function FLEXIstart allows the drafting system to be switched on and off in stages. This allows for a more efficient machine startup. Depending on the machine length, only a quarter or half of the machine is commissioned. This avoids unnecessary material waste.

* Option

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 the event of extended interruptions, thus avoiding ends down.

Controls during a power failure – reduction of production loss



Reliable machine setting

If several machines are used to produce yarn with the same yarn count in large plants, it is vital that the quality of the yarn does not fluctuate within the machine group. Setting the same parameters on all machines is the best way to ensure consistent yarn quality in the plant.

The data can be quickly transferred to other machines via a USB interface. Once the optimum spinning curve for a yarn has been determined on one machine, other machines can easily be adjusted accordingly.

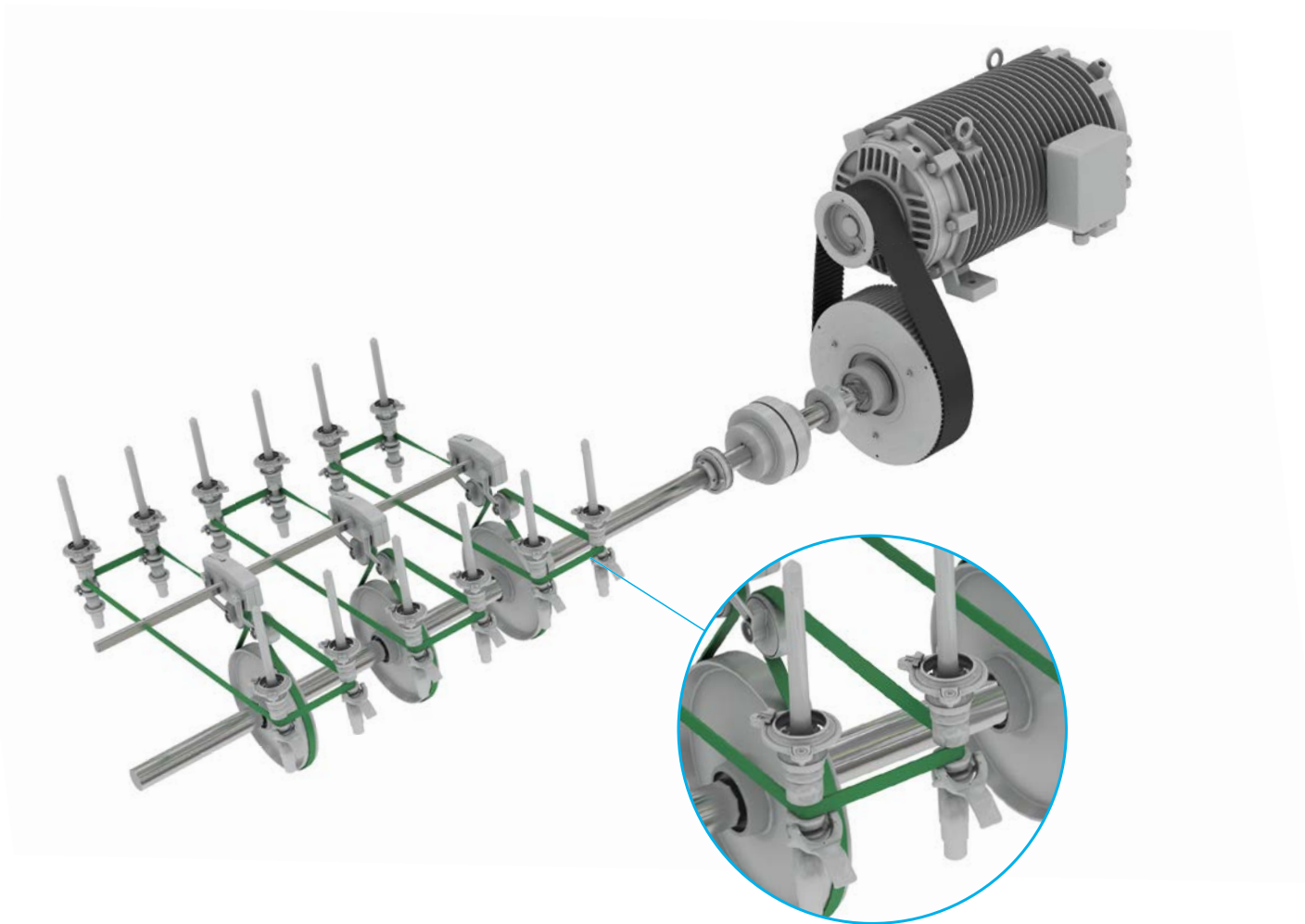
Save Energy

Efficient main motor saves up to 4% energy*

The particularly efficient 110-kW main drive motor was developed for machines with up to 1 824 spindles and high speeds to save energy. It can also be used profitably on machines with fewer spindles and low speeds.

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 the spindle operates without failure, even with minimal contact pressure. The low contact pressure guarantees low energy consumption.



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

* Option

Economical SERVODisc cop transport

The cop transport system SERVODisc is an open system, which means less maintenance is required. The system is driven by two diagonally offset 70-Watt motors. This requires only 10% of the energy compared to a pneumatic system.

Save up to 4% 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.



LENA spindle

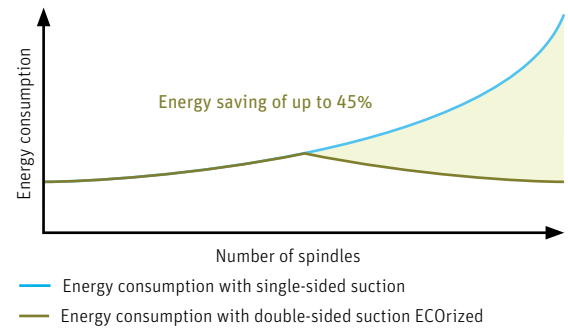
ECOrized – less energy required for underpressure

The ECOrized double-sided suction developed by Rieter optimizes the aerodynamics of the entire suction system. This reduces the energy required to generate the necessary underpressure on machines with up to 1 824 spindles.

Compared to single-sided suction, a system with double-sided suction can transport the same air volume using less energy. The large duct cross-section and low air speed reduce air friction. This also has a positive influence on energy demand and reduces the energy costs of the spinning process.

A further crucial advantage of double-sided suction is the increased yarn count and raw material range. Whether used for man-made fibers, special yarns, or conventional applications, double-sided suction is a sustainable and energy-efficient development of the suction.

Energy-saving potential with double-sided suction



Drum separator for optimal running behavior

A consistent underpressure in the suction duct ensures good running properties of the machine. A drum filter collects the fibers found in the suction air. Sensors in front of and behind the filter monitor the pressure difference. If necessary, the drum filter is activated by the machine control and rotated. The collected fibers move from the drum separator into a non-pressurized outlet box. From here, they can be disposed of manually or via a central suction.

If the central fiber disposal method is used, only the underpressure that is needed to actually transport the material is used, which saves energy.

High Machine Efficiency

Reliable ends down display with ISM basic

The individual spindle monitoring ISM basic is built into the G 37 as standard. Thanks to LEDs at each spinning position and section, the operator can easily recognize where ends down has occurred. The operator is guided directly to the spindles with ends down. This guidance improves operator productivity and increases the efficiency of the machine.

Even more efficient with ISM premium*

In addition to LEDs at each spinning position, the optional ISM premium also has an LED at each section and additional signal lamps at the head and foot of the machine. They light up as soon as the individually defined limit for ends down is exceeded. The operator is guided to the relevant side of the machine and then to the affected spindle section with the ends down. Thanks to the three-stage display concept, operators are guided to the ends down even more efficiently.

Another function is the permanent monitoring of the speed of the individual spindles. 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 reduced quality.

As an option, the winding machine can be fitted with spinning position identification. In the event of faulty cops, the winding machine sends a signal to the ISM, and the second LED illuminates at the relevant spinning position. The operator is guided directly to the incorrectly operating spinning position, where they can intervene immediately.

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

Helpful data analysis with SPIDERweb*

The mill monitoring system SPIDERweb analyzes all data, indicates weak points and facilitates efficient personnel deployment. This increases both plant efficiency and yarn quality.



The LED display at the section and at the individual spinning positions leads the operator directly to the affected spindle.

* Option

Economical Doffing Ensures Maximum Efficiency

Save yarn with the SERVOgrip system

The proven and unique Rieter SERVOgrip system enables doffing without underwinding. By using SERVOgrip, no yarn residues occur that need to be removed from the whorl. This saves yarn and keeps the machine clean. Ends down caused by fiber fly and yarn residues 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 cop changes are thus largely avoided.



Self-monitoring grippers

The doffing system is self-monitoring, including the special profile of the doffer beam and the releasable grippers. In the event of faults, the doffing process is automatically stopped by a pressure monitor, ensuring an error-free doffing process.



Reliable cop transport with SERVODisc

The cop transport system SERVODisc works using peg trays that are clipped into a conveyor belt, allowing the tubes and cops to be precisely positioned. After doffing, SERVODisc reliably transports the full cops to the cop trolley or the winding machine via the tube loader ROBOLoad.

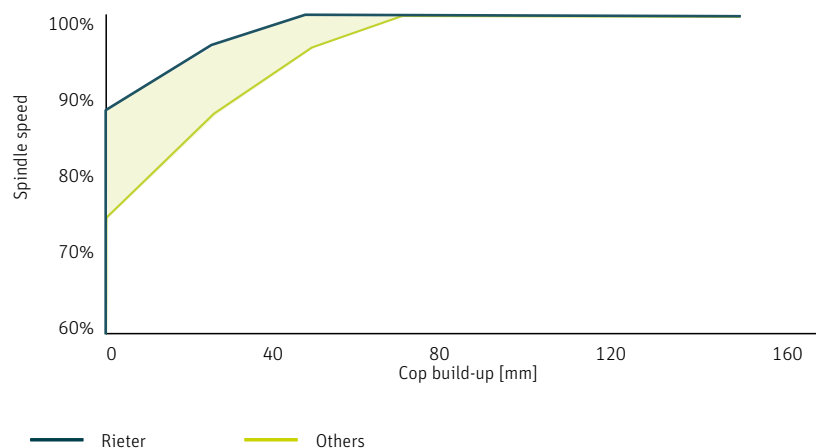


Maximum Yarn Quality with High Productivity

Maximum spindle speeds

The best possible productivity level and minimal energy consumption means low yarn production costs. With its unique Rieter spinning geometry and the consistent use of high-quality technology components, the G 37 runs at the highest spindle speeds. This ensures consistently high yarn quality at maximum production. Spinning can be performed at high speed, even when the cops are in the build-up phase. For example, with a yarn count of Ne 30, up to 2% more yarn can be produced per machine each year.

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



Intermediate drive ensures quality

For machines with an intermediate drive, the middle bottom roller is also driven in the center of the machine. This reduces the torsional forces on the bottom roller. The even running of the bottom roller ensures a consistent quality of the yarn.

Rieter top roller cot for all raw materials

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.

* Option

Bräcker rings with a long service life

High-quality TITAN spinning rings from Bräcker are included in the G 37 standard package. These spinning rings have a long service life.

Low-vibration Novibra spindles

All machines are delivered exclusively with proven Novibra quality spindles, which have excellent running characteristics. Energy consumption and noise levels are also lower compared to other products.

Higher spindle speeds can be achieved as the Novibra spindles do not produce vibrations when running. This avoids tension spikes in the yarn and minimizes the number of ends down.

Quality tubes with high true-running accuracy*

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.

Q-Package – the quality package for cotton*

The quality package Q-Package for cotton contains a nose bar, an “active” cradle (moving deflection edge) and a pressure bar (pin). Fiber guidance between the cradle and the nipping 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%.

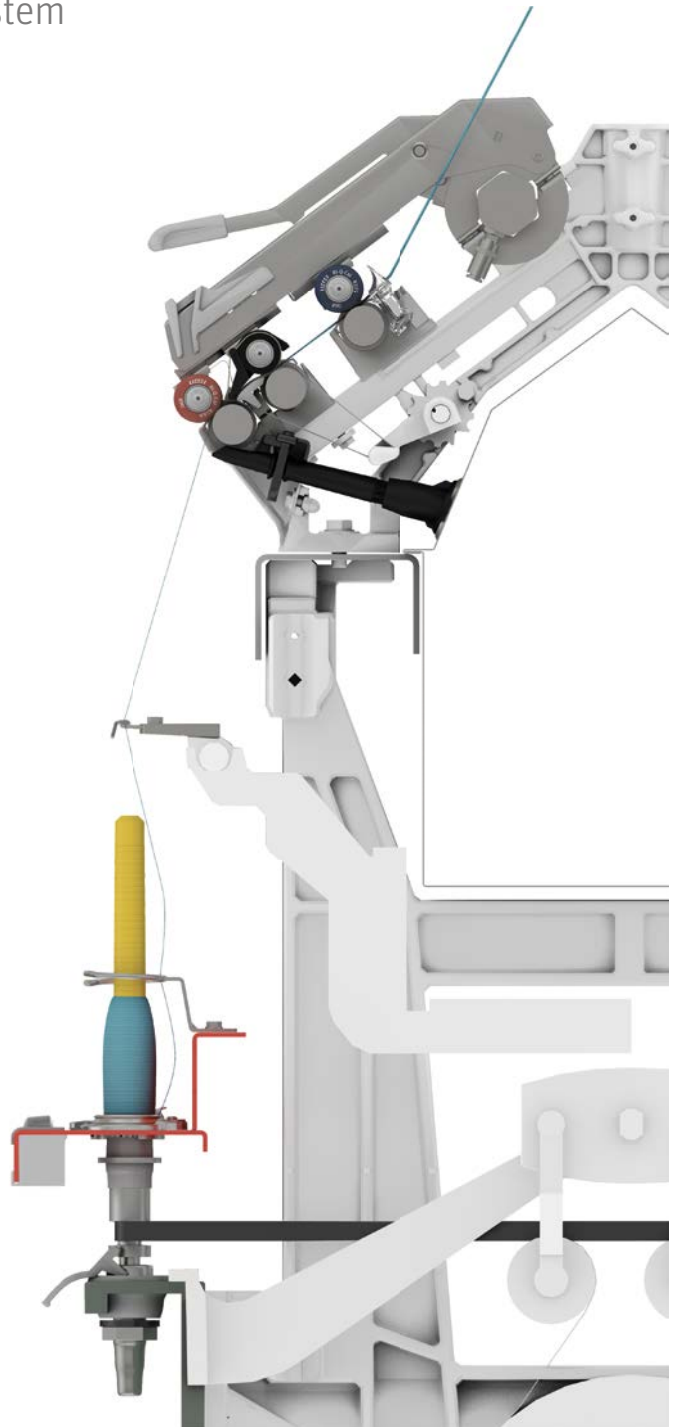


Targeted fiber guidance in the drafting system

* Option

Ideal fiber guidance in the drafting system

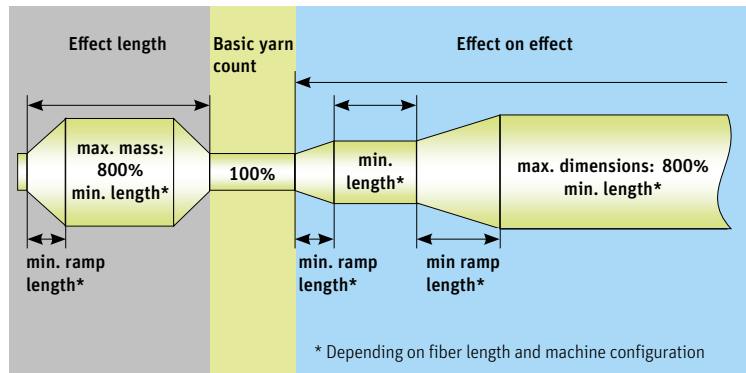
The drafting system Ri-Q-Draft ensures the ideal fiber guidance for most applications and very stable running behavior. The deflection bridge Ri-Q-Bridge is a key component in the spinning process. The optimal position and form of the cradle reduce the distance to the nipping point of the delivery roller. 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.



Full Flexibility for Special Yarns

Rapid production switchovers

With the new gear technology and middle drive, various devices for producing core yarns and twin yarns can be installed, even in machines with up to 1 824 spindles. The Rieter slub yarn system VARIOspin 4 can be fully integrated into the machine as an option.



VARIOspin 4 for slub yarns*

High-quality slub yarns can be produced with the VARIOspin 4 device for spinning slub yarns. 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 machine display or an external computer with the appropriate software and reliably reproduced. This allows slub yarns to be produced efficiently and profitably with outstanding Rieter quality.



Knitted fabrics manufactured from VARIOspin 4 slub yarn

Precise production of core yarns*

The core yarn device works with a traversing guide roll for the filament. The traversing system for the filament is aligned with the traversing system for the roving. This means the filament thread is precisely integrated into the yarn. Soft, hard and duo-core yarns (super-stretch) can be produced.

* Option

Simple production of twin yarns*

To produce a twin yarn, two rovings must run to one spinning position. In the drafting system, both are drafted separately before being twisted together in the spinning triangle. Due to their thread-like properties, twin yarns improve the quality of the yarn and end product.

New 75 mm gauge for coarse denim yarns

The G 37 is also available with a 75-mm gauge. This means bigger cops can be used, and therefore longer running times. This in turn means fewer cop changes are required in comparison to the 70 mm gauge, thus reducing doffing and increasing machine efficiency. As such, the G 37 is also ideal for the production of denim yarns, which are often produced from core and slub yarns.

Fast switchover to compact yarn with the EliTe® CompactSet*

The G 37 can also be used to produce compacted yarns. A standard ring-spinning machine can be fitted with the EliTe® CompactSet for the production of compact yarn, which is available as an option. The set is now also available for machines with up to 1 824 spindles.

* Option



Minimal Workload

Flexible automation*

Various automation options are available. With the SERVODisc system, the ring-spinning machine can either be directly linked with a winding machine or with the tube loader ROBOLoad.



Link to the winding machine



ROBOLoad



ROBOLoad with system WILDload*

Tube loader ROBOLoad with 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. There is no need for manual loading.



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

* Option

Superb Running Performance, Even for Man-Made Fibers

Special components for man-made fibers and blends*

Rieter's man-made fiber package consists of a SERVOgrip blade, bottom rollers with a larger diameter, and reinforced separators. The set has a modular construction. 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 SERVOgrip blade reliably cuts the yarn during doffing and prevents ends down during startup.

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 SERVOgrip blade*

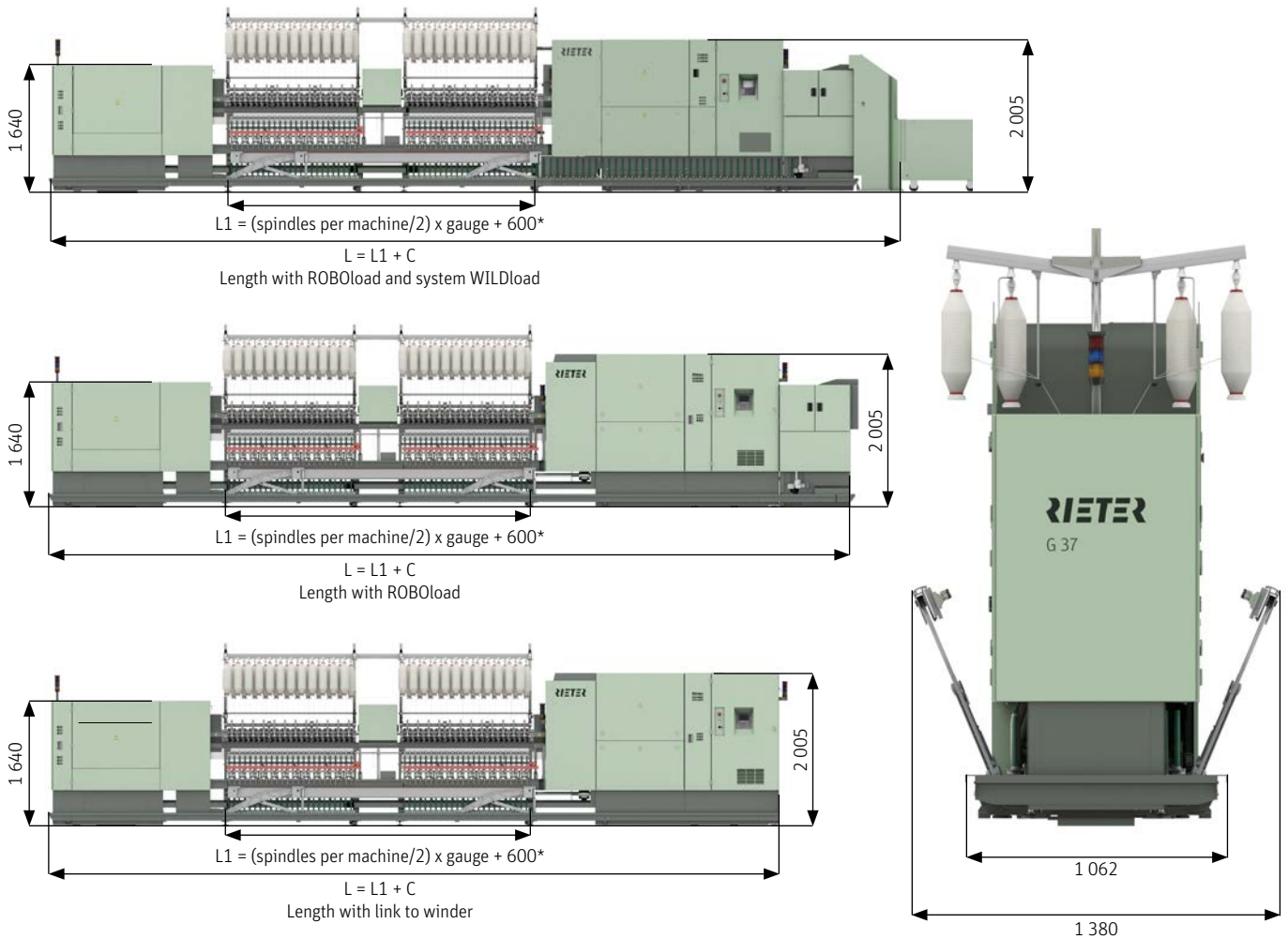
Rieter has developed a patented technology that reduces yarn twisting before doffing. When combined with the SERVOgrip blade, even high-strength yarns or core yarns can be cut properly when doffing.



* Option

Machine Data

Ring spinning machine G 37



Machine length L [mm]

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

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 an intermediate drive

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: 600 mm

Constant C for suction and cop transport [mm]

Suction	One-sided*	Double-sided*
Connection to Murata, Savio, Schlafhorst	4 180	5 636
ROBOload without trolley	5 185	6 641
ROBOload with system WILDload without trolley	5 828	7 284

*Single-sided suction is available for up to 1 632 spindles. Double-sided suction always has an intermediate drive and is available from 1 296 spindles.

Sample calculation for machine length L [mm]

1 824 spindles, 70 mm gauge, intermediate drive, double suction, link
 $L = ((1\ 824/2) \times 70) + 600 + 5\ 636 = 70\ 076\ \text{mm}$

Technological data	
Material	Cotton, man-made fibers and blends up to 63 mm (2 1/2 in) staple length
Yarn count	
Standard	All raw materials 132 – 3.7 tex Nm 7.5 – 270 Ne 4.5 – 160
Optional	All raw materials 132 – 2.4 tex Nm 7.5 – 423 Ne 4.5 – 250
Twist range	200 – 3 000 T/m (5.1 – 76.1 T/in)
Draft	8 – 120-fold (mechanical) 10 – 80-fold (technological)
VARIOspin 4 draft (optional)	6 – 250-fold

Technical data	
Spindle speed	Up to 25 000 rpm
Installed power	
Main drive motor	55, 80, or 110 kW depending on spindle number and yarn count
Drafting system drive	
Standard	5 – 15.1 kW
VARIOspin 4	4.38 – 16.72 kW
With Suessen EliTe®	5.0 – 19.9 kW
With Suessen EliTe® and VARIOspin 4	8.1 – 18.0 kW
Ring rail drive	1.75 kW
Single-sided suction on the power supply (50/60 Hz)	
up to 1 200 spindles	6.5 kW
1 248 – 1 440 spindles	9.0 kW
1 488 – 1 632 spindles	12.6 kW
Single-sided suction with converter (50/60 Hz)	
up to 1 008 spindles	6.5 kW
1 056 – 1 440 spindles	12.6 kW
Double-sided ECOrized suction (50/60 Hz) with converter	
1 296 – 1 824 spindles	2 x 6.5 kW
Additional for EliTe®	5.5 – 20 kW

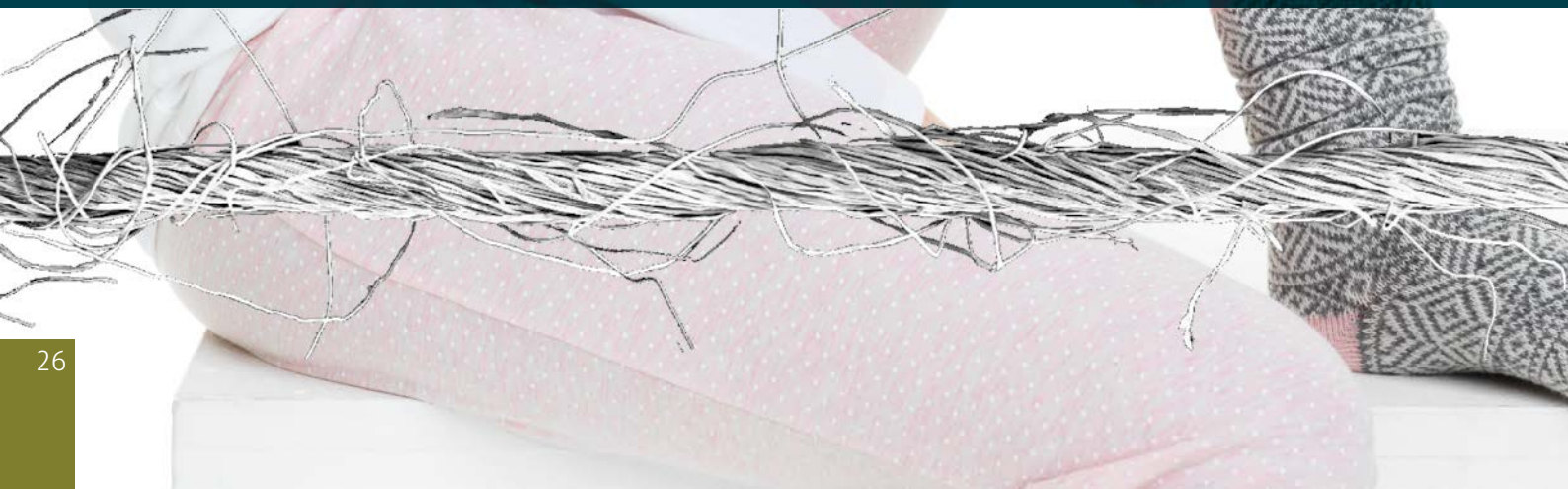
Machine data	
Number of spindles	
Max.	1 824 with 70 mm gauge 1 632 with 75 mm gauge
Min.	288 (144 on request)
Per section	48
Spindle gauge	70; 75 mm
Ring diameter	
70-mm gauge	36; 38; 40; 42; 45 mm
75-mm gauge	36; 38; 40; 42; 45; 48; 51, (54) mm
Tube length	
70-mm gauge	180 – 230 mm
75-mm gauge	180 – 250 mm
Machine width	
Over center of spindle	660 mm
Doffer retracted	1 062 mm
Doffer extended	1 380 mm

Mains connection	
Rated voltage	380 – 440 V; 50/60 Hz Other rated voltages available on request
Compressed air	
Min. supply pressure	7 bar
Consumption	approx. 1.5 Nm ³ /h (up to 1 440 spindles) approx. 1.75 Nm ³ /h (up to 1 632 spindles) approx. 2 Nm ³ /h (up to 1 824 spindles)
Exhaust air	
Air volume with single-sided suction	9 400 m ³ /h with 1 632 spindles
Air volume with double-sided suction (even split of air flow rate in the head and foot of the machine)	11 300 m ³ /h with 1 632 spindles 11 952 m ³ /h with 1 824 spindles
Required underpressure at transition point	50 – 200 Pa
Options	ISM premium with/without roving stop Power monitoring SPIDERweb DOFFlock VARIOspin 4 (cannot be retrofitted) Core yarn devices Twin yarn (Com4®ring-twin) Compacting system EliTe® FLEXIstart 110 kW main motor LENA spindle ROBOload with system WILDload Man-made fiber package Q-Package



Com4[®]ring

Yarn of choice



Com4[®]ring

Com4[®]ring is the yarn produced on Rieter ring spinning machines which is characterised by high quality consistency compared to other ring yarns. Com4[®]ring yarn covers the entire yarn range from very coarse to superfine yarns and is universal in terms of fibre choice. Distinguishing attributes of the Com4[®]ring yarn are its high strength and higher hairiness, which result in good functional qualities and wearing comfort. The finished fabric stands out by its very good opacity and soft touch.

Yarn Characteristics

- High flexibility in raw material, yarn count and yarn character
- High tenacity
- High hairiness

Process Advantages

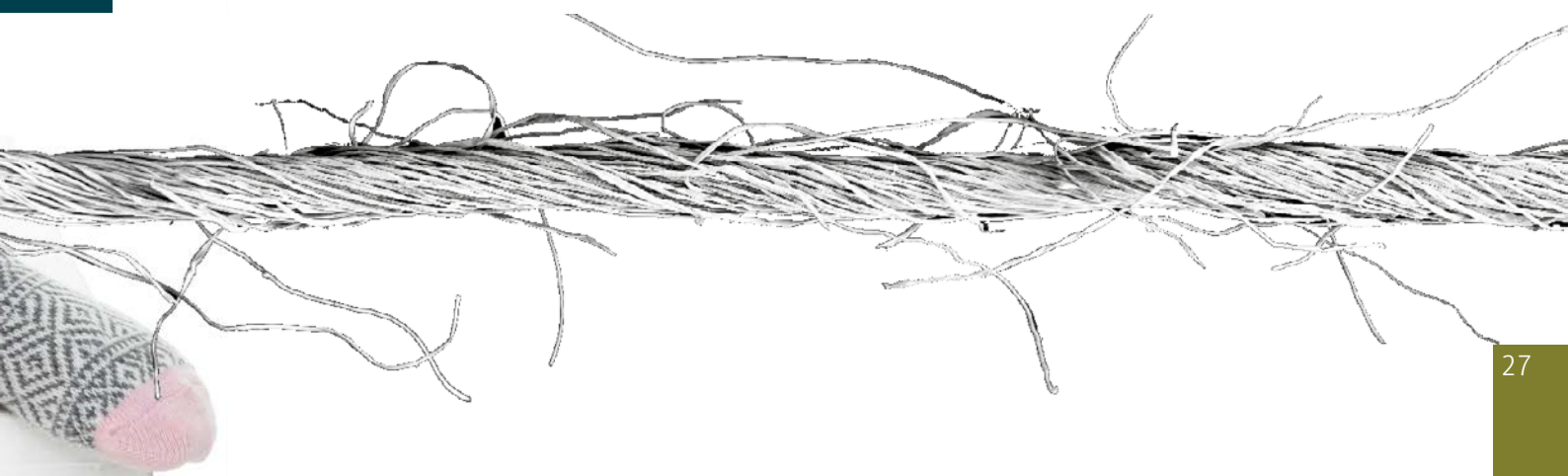
- Good running performance
- Good picking and low air consumption in air-jet weaving

Fabric Appearance

- Soft touch and drape
- Good opacity
- Broadest range for fabric designs

Typical End Products

- Universally applicable
- Outerwear
- Underwear
- Home textiles





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



The data and illustrations in this brochure and on the corresponding data carrier 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.

3218-v2 en 1905