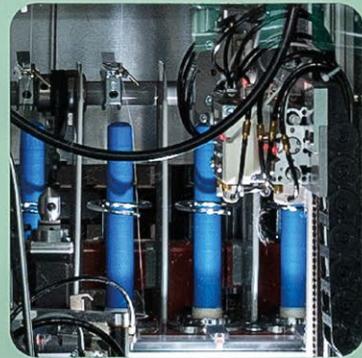
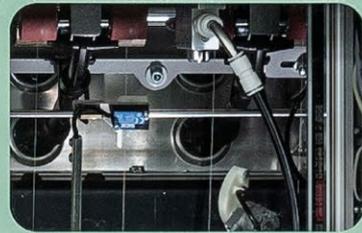


RIETER

link

Customer magazine no. 80/2024

RIETER



ROBOspin



Competitive Advantage
with Automated Piecing

Innovating yarn production with ROBOspin

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Cover:

In spinning mills across the globe, the fully automated piecing robot ROBOspin pieces over 1 000 000 yarn breaks every week.

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If you have any
questions or comments,
please contact us.



rieter-link@rieter.com



Dear readers,

As a market and technology leader, identifying and correctly assessing trends at an early stage goes without saying for Rieter. We have been concentrating on artificial intelligence, digitalization, and automation for many years now. Current developments in the industry confirm that we have been focusing on the right priorities. Automation solutions like our ROBOspin piecing robot counteract the skilled labor shortage. They allow you, our customers, to have long-term success.

Innovation requires new types of collaboration. I am very pleased that we are currently moving into the new campus in Winterthur. This provides Rieter with completely new opportunities. In this innovation hub with the most modern Spin Center of its kind, we are pooling our expertise to continue providing new inspiration to the spinning industry.

Those who want to succeed need not only the right machines – they also need the right partner. Rieter has been fortunate to work together with excellent agencies. Many of these partnerships go back decades and are a testament to continuity and reliability. You, our customers, also benefit from our agents' many years of experience, expertise, and client focus. One example is Erbel in Türkiye, which is celebrating its 50-year anniversary this year.

Speaking of continuity: you're not holding just any issue of link magazine in your hands, but the 80th! The first edition was published in 1989. Today, readers in 99 countries all over the world have received our magazine. I'd like to thank our readers for their loyalty.

If you happen to be visiting the ITM International Textile Machinery trade fair in Istanbul, Türkiye, in June, I would be delighted to welcome you personally to Rieter's Stand 702 in Hall 7. If you can't come, I would be pleased to host you soon in our modern innovation hub in Winterthur.

Enjoy reading our anniversary issue.

Sincerely,

A handwritten signature in blue ink, which appears to read 'Thomas Oetterli'. The signature is fluid and cursive.

Thomas Oetterli
CEO

Competitive Advantage with Automated Piecing

Innovating yarn production from the USA to India

Each week in spinning mills across the globe, ROBOspin pieces more than 1 000 000 yarn breaks, resulting in a reduction of about 2 000 working hours for operators. In this highly cyclical industry, automation is key for spinning mills to remain competitive. Rieter customers from east to west trust in the automation capabilities of ROBOspin, the industry's first fully automated piecing robot for ring and compact-spinning machines.



Fig. 1: Thanks to ROBOspin, Gildan Yarns witnessed a significant reduction in personnel requirements in the ring spinning process. John Lane, Assistant Plant Manager, Gildan Yarns.

In the competitive world of textile manufacturing, Gildan Yarns, USA, one of the world's largest vertically integrated manufacturers, continuously faced the question of how to enhance ring spinning machine efficiency without compromising on quality. Like many in the industry, they had to strike the right balance between reducing operational costs, maintaining high standards, and meeting the demands of a dynamic market. With ROBOspin, the industry's first fully automated piecing robot, Gildan Yarns witnessed a significant reduction in personnel requirements in the ring spinning process, resulting in substantial cost savings.

"Rieter's technology and automation solutions support us in achieving round-the-clock machine availability and flexible personnel management," says John Lane, Assistant Plant Manager, Gildan Yarns, Mocksville, USA (Fig. 1).

By installing ROBOspin, spinning mills around the world reduce their manpower requirements by up to 50% as the robot reliably reaches up to 95% piecing efficiency. Since its launch in spring 2019, Rieter has been selling its piecing robots, designed for Rieter ring and compact-spinning machines, for new machines or as an upgrade for existing machines, to customers from the USA to India.

Mills trust in automation

ROBOspin significantly reduces the average time for yarn piecing thanks to the Individual Spindle Monitoring System ISM, which efficiently detects the affected spinning position. The robot travels directly to this position and pieces the yarn break. This results in a significant increase in production output, whether for a major mill like Gildan Yarns or a smaller yarn manufacturing plant. Minimal contact with cops means no damage to the outer yarn layer and therefore no contamination of the yarn. As fewer staff are required, the remaining employees benefit from more targeted trainings and more enriching jobs. In addition to the innovative ROBOspin, Rieter provides a suite of tailored solutions including cutting-edge automatic lap transport system SERVOlap, automatic lap change and batt piecing system ROBOlap for combers, automatic roving bobbin transport system SERVOrail, and advanced automatic doffing solutions for end spinning.

**ROBOspin pieces over
1 000 000 yarn breaks every week**

It is not only Gildan Yarns that trusts in ROBOspin. In spinning mills across the globe, ROBOspin pieces over 1 000 000 yarn breaks every week. This translates into a reduction of about 2 000 working hours per week for operators, which adds up to significant cost savings for customers (Fig. 2).

Watch the video from Gildan Yarns and see how robots are running the mill.

<https://l.ead.me/bdpxWg>



Automated piecing for ring and compact spinning

“ROBOspin is the perfect automation solution to efficiently schedule the workforce,” says Durai Arun, Managing Director of Poomex Clothing Company in Tirupur, India. The vertically integrated company is a manufacturer of various types of knitted garments like inner wear for all age groups. They use state-of-the-art spinning processes and the latest technology to produce yarn and garments. ROBOspin was installed at their plant in South India in 2020 on an existing ring spinning machine G 32. “The compact design and consistency in piecing quality are the standout features of this robot,” adds Durai Arun. Since then, Poomex Clothing Company has invested in a ROBOspin for their compact-spinning machine K 42.

Other spinning mills also apply state-of-the-art automated technology and innovation during the yarn manufacturing process. Some customers have retrofitted ROBOspin on their ring and compact-spinning machines to enhance precision, reduce sources of error and boost efficiency.

Growing profitability with ROBOspin

ROBOspin has a transformative impact for more and more Rieter customers. With the robots operational round the clock, machine performance remains consistently high and optimizes productivity. The minimal contact between the robot and yarn preserves quality while ensuring a steady output of high-grade yarn.

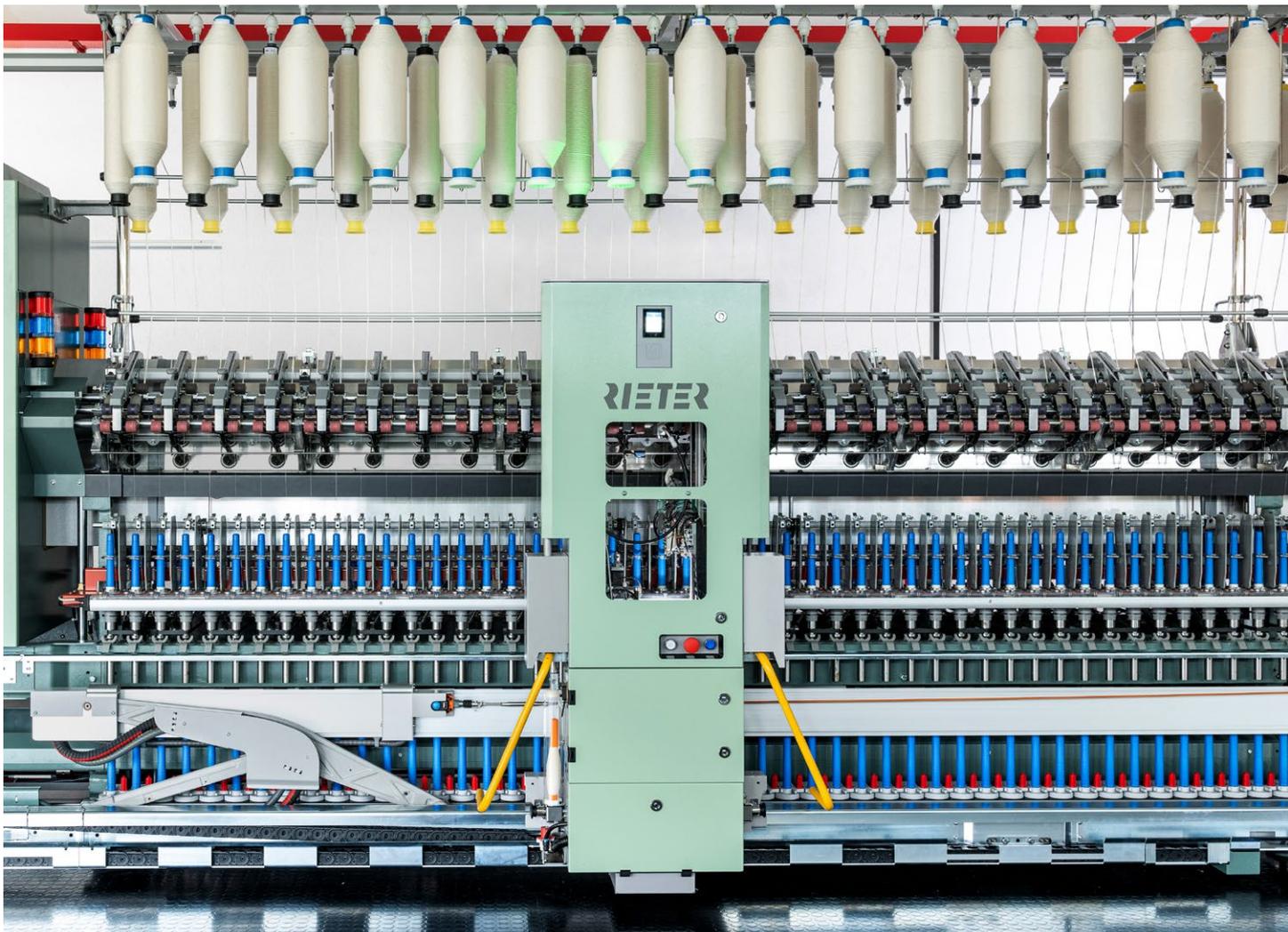


Fig. 2: ROBOspin operates 24 hours a day, maintains a consistently high level of productivity, and facilitates the end spinning process for mills.



Fig. 3: Uğurlular in Türkiye placed a major order for ROBOspin for their ring and compact-spinning machines.

Hence, automation is increasingly becoming a decisive competitive advantage for spinning mills across the globe. This is also the case for Uğurlular Textile Industry and Trade Inc., a yarn manufacturer in Türkiye. They ordered piecing robots for more than 30 ring and compact-spinning machines.

Uğurlular produces more than 100 tons of yarn daily in its ring, compact- and rotor spinning factories exporting to 30 countries. Automation is what helps them remain competitive and grow profitably. “We believe in investing in technology for a successful future. We follow the technologies developing in our sector closely and integrate them into our company. Rieter convinced us fully with its automation solution for ring yarn piecing that will further support us in growing profitably,” says Osman Uğurlu, Member of the

Board of Directors at Uğurlular Textile Industry and Trade Inc. (Fig. 3).

The time to transform is now

With robots taking on repetitive and mundane tasks, flexible personnel management is possible. Workers have more time to focus on higher-level activities that require creativity and problem-solving skills. This results in substantial cost savings for spinning mills. In addition, consistent piecing quality and minimal contact with cops ensure a yarn quality which is highly appreciated by downstream processors.

Rieter and Petit Spare Parts SAS

Expanding market share and repair service footprint

Rieter acquired Petit Spare Parts SAS, France, a renowned specialist in textile spare parts, at the beginning of 2024. This strategic move further strengthens Rieter's after-sales business and enables the expansion of the repair service footprint with a focus on mechanical repairs in Europe and Africa. This approach results in shortened turnaround times and economical repair solutions.

The acquisition of Petit Spare Parts (PSP) by Rieter in January 2024 marked a significant milestone for both companies. PSP brings along years of expertise in supplying components for texturing, covering and twisting machines and is a prominent player in the textile spare parts industry with an international presence in 39 countries. The PSP facility in Aubenas, France, is now offering an enhanced mechanical repair station for all Rieter spinning and winding machines. This strategic move is an ideal fit to serve Rieter's customer base in Europe and Africa.

Maximizing customer satisfaction

The establishment of a dedicated mechanical repair station in Europe reflects Rieter's ongoing commitment to addressing customer needs promptly and efficiently. This expansion not only ensures uninterrupted support throughout the life cycle of Rieter machines. It also enables immediate responses to customer demands at competitive prices. With its proficient workforce and state-of-the-art equipment, PSP seamlessly integrates into Rieter's service network.

“This acquisition reinforces our dedication to excellence in the textile sector, significantly reducing repair service turnaround times and enhancing customer service.”

Rico Randegger, Head of Business Group After Sales, Rieter

This strategic alliance not only opens avenues for market expansion for Rieter and PSP but it also strengthens their position within the industry. Leveraging Rieter's extensive sales channels, PSP aims to further grow its presence in key markets, building on its longstanding collaboration with SSM.

Plans are underway to streamline the supply chain process, aiming to further expedite turnaround times by facilitating faster provision of repair parts and services.

“As part of a globally recognized textile brand, we foresee significant prospects for growth and development.”

Vasileios Kalos, Managing Director at Petit Spare Parts SAS

The synergy between Rieter and PSP enhances service capabilities and increases market reach, emphasizing a shared commitment to excellence in the ever-evolving textile landscape.



Petit Spare Parts SAS now offers mechanical repairs for customers in Europe and Africa.

Rieter's Recycling Toolbox

Three tools to spin high-quality ring yarns from mechanically recycled cotton

Spinning fine ring yarns with a high share of recycled fibers at a quality level that is comparable to 100% virgin cotton ring yarns is possible with Rieter's recycling toolbox. Each tool contributes to another yarn quality criterion. Trials confirm that pre-carding cleans the recycled fibers perfectly before they enter the spinning process, combing removes very short fibers and compacting adds the finishing touch to the yarn.

Improving the yarn quality of mechanically recycled cotton ring yarns, while also increasing the share of recycled fibers in blends with virgin cotton remains an important requirement for many textile producers to meet their sustainability targets in the coming years. The Global Recycling Standard (GRS) applies to products containing at least 20% recycled material. In the current Rieter trials, blends with up to 50% recycled material are processed to products of high quality.

The challenges of mechanically recycled cotton fibers in the spinning process are: opening degree (remaining yarn and fabric pieces), high short-fiber content, high nep count, and high variation from lot to lot (color and foreign fibers).

Rieter supports its customers by offering three tools which help spinning mills to master the challenges and turn recycled material into quality yarns.

Validated toolbox to improve yarn quality

To show the impact of the different tools, Rieter conducted a trial with a blend of 50% mechanically recycled fibers and 50% virgin cotton, spun into a ring yarn with yarn count Ne 30. A regularly spun carded cotton ring yarn, which corresponds to 50% Uster Statistics, serves as a reference. To come as close as possible to the virgin cotton quality, the toolbox comes into play. It involves improvement steps that are necessary to bring the yarn quality to an acceptable level, while keeping a high share of mechanically recycled fibers in the blend. Applying the tools improves yarn quality while at the same time maintaining a high proportion of mechanically recycled fibers in the blend.

Pre-carding for full cleaning

Tool number one is pre-carding – an additional cleaning step which translates into a significant impact. This step improves the spinning efficiency and quality of the yarns.

Pre-carding means the direct connection of the card C 77 to the tearing machine. This step has the twin benefits that recycled fibers will be fully cleaned from yarn pieces while the number of neps is reduced (Fig. 1). Spinners benefit from this by receiving only fully opened and cleaned fibers for their spinning line.

Repeated trials have proven that the neps and thick places can be reduced by 50% in the ring yarn, while maintaining the same blend ratio (Fig. 2). It also confirms that the additional carding process does not damage the recycled fibers, as the tenacity of the yarn can be maintained.



Fig. 1: The pre-carded material contains no yarn pieces, which improves the spinnability of the recycled material.

Yarn imperfections

Ring yarn, blend of cotton (Senegal) with mechanically recycled cotton rCO, Ne 30

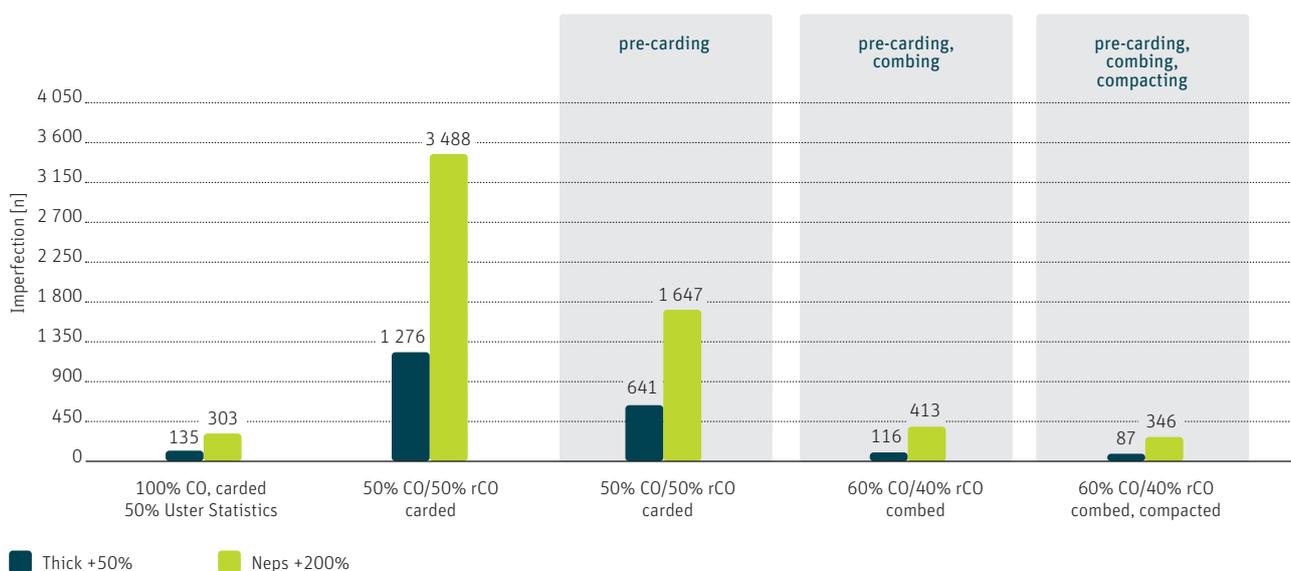


Fig. 2: Each part of the Rieter recycling toolbox improves the yarn quality.

Combing to improve yarn quality

The second tool is combing. Combing is a process step that is widely recognized for its ability to improve the quality of the fiber as it removes the most disturbing short fibers, neps, and impurities.

As mechanically recycled cotton is particularly challenging due to its high short-fiber content, combing these fibers proves to be beneficial. In combination with the pre-carding process, it can basically lead to a yarn quality with improved imperfection and yarn quality comparable to a carded virgin cotton yarn (Fig. 2).

The concern that a large proportion of the recycled fibers will be combed out is unfounded. While it is true that the ratio of the fiber blend changes, the ratio remains at an acceptable level. Several tests have confirmed that the proportion of recycled fibers after the combing process is still around 40% when the amount with virgin cotton in the blowroom was 50%. With the comber E 90, Rieter offers a machine which optimally fits the needs for the best fiber processing on the market, resulting in the best yarn quality and highest raw material yield.

In addition, the comber noil blended with a low percentage of virgin fibers can be optimally spun into a rotor yarn.

Compacting to add the finishing touch

Tool number three is compacting the fiber blend. This tool gives the yarn the finishing touch. Compacting is especially beneficial for the tenacity and yarn abrasion, and in turn for the yarn hairiness. This improvement leads to good running performance in downstream processes and also increases the lifetime of the finished products.

Rieter’s recycling toolbox enables spinning mills to produce mechanically recycled cotton ring yarns with up to 50% content of recycled fibers and a yarn count of Ne 30 at a quality level, which is comparable to carded virgin cotton ring yarns.

For more information on how to improve the quality of recycled cotton ring yarn, please visit our website.

<https://l.ead.me/bf3VEQ>



Highest Production in Ring Spinning on the Market

The new generation of the G 38 redefines the boundaries

Maximum production in ring and compact spinning not only means offering the highest spindle speeds. Noticeable production benefits can be achieved by significantly reducing machine downtimes. And this is where the new version of the ring spinning machine G 38 leads the way.

The market for ring yarns is large and highly competitive. To succeed in this market, spinning mills must be highly efficient. This is where the new ring spinning machine generation G 38 comes in. The latest G 38 offers maximum production based on new technical solutions and redefines the boundaries of ring spinning.



Fig. 1: The latest G 38 doffs in just 90 seconds, which leads to a production gain.

The highlights of the ring spinning machine G 38's latest generation are: the new doffing system with a doffing cycle time of just 90 seconds, the optimized transport system SERVODisc with 12% faster cop transport, and the effective balancing of the various balloon forces to reduce the ends down rate. Combined with the highest spindle speed of 28 000 rpm, the G 38 ensures maximum competitiveness in the production of ring and compact yarns in all yarn count ranges.

Doffing in 90 seconds leads to production gain

The latest and highly reliable automatic doffing system of the G 38 is equipped with a perfect alignment of grippers, tubes, and cop trays and thus enables a fast sequence of all doffing process steps. The redesigned doffing system completes its cycle in just 90 seconds (Fig. 1), which means 25% less time compared to the prior version of the G 38 and all known competitors. The reduced doffing time results in the shortest machine downtime and therefore in a remarkable production gain (Fig. 2). The advantage is particularly evident with coarse yarn counts. With a yarn count of Ne 10 the annual production gain is seven tons and for Ne 20 it is still 3.1 tons for a machine with 1 824 spindles.

12% faster cop transport

The new cop transport system SERVODisc for the link system with the winding machine Autoconer X6 is 12% faster than the previous solution (Fig. 3). It forwards up to 45 cops per minute directly to the winding machine. 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 optimized SERVODisc is even more reliable and needs less maintenance. The solid steel profile with fewer contact points reduces friction, and the positive driven pulley extends the lifetime of machine components. An intelligent cop tray, called Smarttray, with an integrated RFID chip is available with the link system to the Rieter winding machine Autoconer X6. Smarttrays makes material tracking and management easy.

Production increases up to 2%

The limiting factors in ring yarn production are yarn tension peaks and the interaction with the ring and traveler. One of the most important tasks therefore is to balance the tension peaks during cop build-up. A short-balloon setting optimizes these ratios and brings clear advantages in terms of less ends down and longer traveler lifetime. Alternatively, the

Doffing time and its influence on yarn production

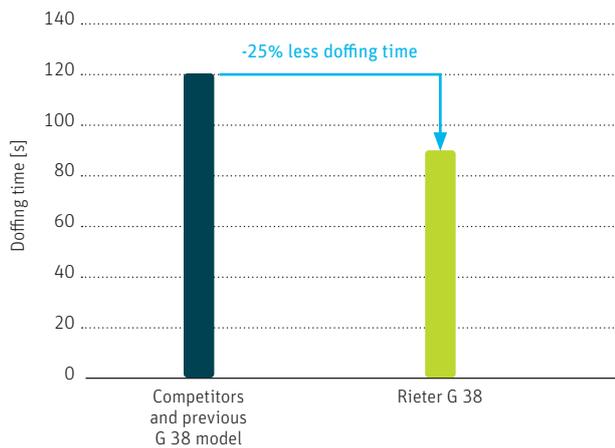


Fig. 2: 25% faster doffing system leads to remarkable production gain

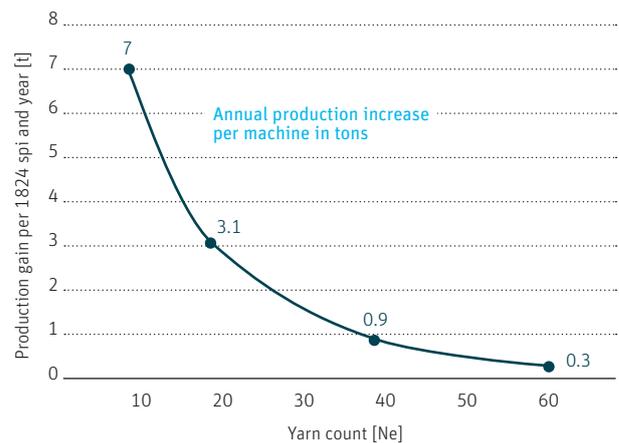
short-balloon setting makes it possible to increase spindle speed by up to 2% – in this case the ends down rate is kept constant.

Efficient operator guidance now standard

The individual spindle monitoring system ISM premium is now standard on every ring spinning machine and for all applications. This gives a great advantage in efficient operator guidance and easy recognition of spindles that are not running correctly. ISM premium is a precondition for the fully automated piecing robot ROBOspin to produce high-quality



Fig. 3: 12% faster cop transport with SERVODisc



yarn while depending less on the workforce. In addition, ISM is the basis for the roving stop device which reduces raw material loss and lapping in case of an ends down. This is especially relevant for expensive fibers.

Highly flexible yarn production

With a million units installed, customers clearly recognize the advantages of the add-on compacting devices COMPACTdrum and COMPACTapron in terms of yarn quality and performance. The flexible conversion into compact, slub or core yarn production, is a major advantage of the ring spinning machine G 38. The optional drive system VARIOspin for slub yarn production is completely integrated into the fully electronic model with a separate panel for easy operation and design.

New G 38 generation – today's offering

The new G 38 is available either as a machine with a fully electronic system or with a semi-electronic system. In both cases, the spindle speed, the yarn twist, and the yarn twisting direction, Z or S, can be changed electronically and without additional mechanical adjustment. The yarn count can be changed electronically via the panel on the fully electronic machine. With the G 38, customers can be highly competitive thanks to its exceptional spinning flexibility for all types of ring yarns, with maximum productivity.

Anniversary of the Customer Magazine link

On the pulse of the industry for 80 issues

This issue of the customer magazine link marks a milestone: it is the 80th issue since its launch in 1989. During these 35 years, the magazine has regularly informed Rieter customers and anyone interested in textiles about the latest trends. It bears witness to the fascination for fibers and their processing that is part of Rieter's DNA. This fascination has driven us to develop sustainable products for the spinning industry for almost 230 years.

The magazine is now published in five languages and reaches around 10 000 readers in 99 countries. Rieter and the entire editorial team would like to thank you for your trust and loyalty, and we look forward to continuing to inspire you with exciting topics in the next 80 issues.



Guillermo Zaid
CEO

Apparel and Textile Sourcing S.A.
Guatemala

"The customer magazine link keeps me up to date with the latest technology, especially regarding our latest investment in 77 000 spindles. It is a must-read for anyone who wants to stand out in this industry and operate a spinning mill successfully."



Vijay Agarwal
President Director

PT. Embee Plumbon Tekstil
Indonesia

"Link magazine is an interesting magazine, especially with regard to after-sales solutions and in-depth background information, which enables me to use Rieter technology to the optimum."



Ugur Gundogan
Ring Spinning Mills
Group Manager

Kipas Holding
Türkiye

"I have been receiving the link magazine, published by Rieter, regularly for over 10 years. This magazine is an important resource for updating my knowledge about spinning technologies. I extend my appreciation to those who have contributed to ensuring that we receive this magazine."

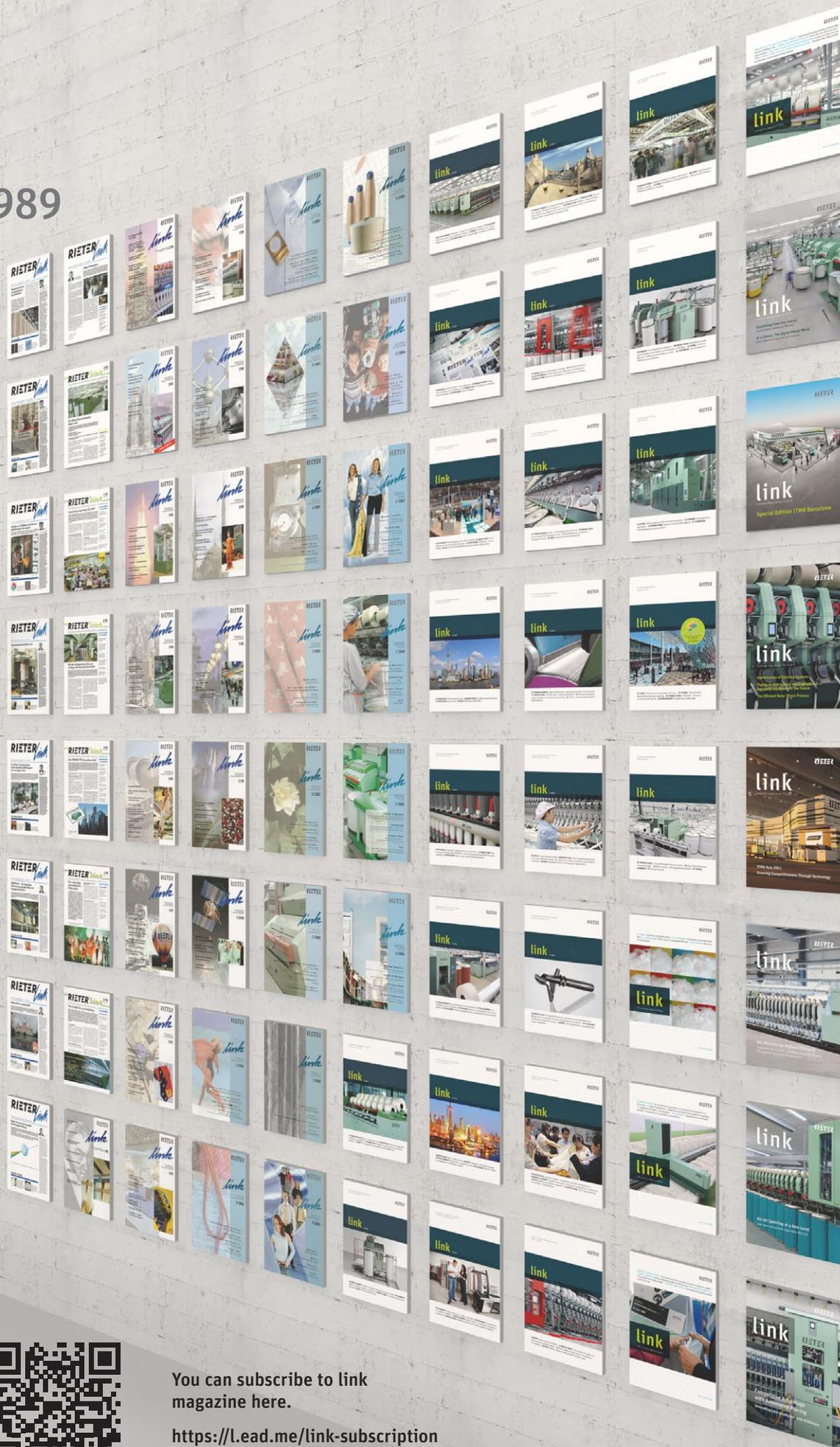


Muzaffar Razakov
CEO

Global Textile Group of Companies
Uzbekistan

"Rieter's link magazine consistently captivates me with its technology-focused articles, offering insightful information that is vital for enhancing our product line. For textile experts, it is an essential tool as it keeps us updated on the newest advances and serves as a great resource."

1989



You can subscribe to link magazine here.
<https://l.ead.me/link-subscription>

2024

Parts that Make a Difference

Effective maintenance kits prevent downtime and costly repairs

Even the best spinning machines show signs of wear and tear after years of intensive operation. Investing in regular maintenance is smart and helps prevent breakdowns. Rieter maintenance kits combine spare and wear parts with the corresponding service life to improve machine performance and reduce conversion costs.

In today’s fast-paced and technology-driven world, spinning mills rely heavily on continuous machine operation to keep productivity at a high level and reduce conversion costs.

A structured and simple approach

Maintenance budgets are tight and machine downtimes are costly. Rieter’s modular maintenance concept enables spinning mills to follow a structured and simple maintenance approach throughout the product life cycle. It helps with planning the maintenance budget and prevents extended machine downtimes. The maintenance kits consist of key spare parts with a high impact on the machine performance and lifetime. Replacing those parts at the same time not only improves machine performance, but also reduces the overall conversion cost. New spare parts and components ensure that machines retain their key functionality. This also pre-

vents costly repairs in the long term. The maintenance concept comprises three packages: the mini, the performance and the overhaul kit.

Mini kit supports proper machine functioning

A mini kit consists mostly of technological and consumable parts that have a lifetime of one to three years – depending on the machine group, raw material, operating parameters and general maintenance schedule. Hence, Rieter recommends replacing the mini kit at least every three years.

For the card as an example, the implementation of the mini kit leverages the benefits of a new wire in terms of sliver quality. Many additional items such as drive belts or the grinding stone are required to keep the productivity high for longer and support the smooth functioning of the carding machine. These parts can be exchanged during a re-wiring shutdown so that no time is lost for an additional machine stop.

Performance kit ensures smooth operation

The performance kit is designed to ensure the seamless performance of the machine over the next four to six years. This kit consists of bearings, seals, springs, brushes, and many

Overview of maintenance concept and its benefits



Following the proper maintenance procedures yields numerous benefits:

- extended lifetime of the machine,
- enhanced machine performance in terms of productivity and output quality,
- reduced machine downtime,
- improved reliability of the components,
- energy-saving, and
- enhanced safety.

more, to ensure the proper functioning of the drive elements. Changing the parts on the machine can be planned alongside the regular maintenance schedule and is recommended at least every six years. This minimizes machine downtime and maximizes productivity.

“After the installation of the performance kit on the ring spinning machine, we got a substantial improvement in terms of productivity and yarn quality. The variation between cops was drastically reduced, which helped improve the performance of the winding machine. We thank the Rieter after-sales team for offering this maintenance solution,” says Anantha Kumar, Factory Manager, Sreedhara Textiles Pvt. Ltd., India (Fig. 1).

Preparing for the next decade with the overhaul kit

Even the most robust and sturdy equipment will wear out at some point. Therefore, after seven to 10 years of machine operation, an overhaul of the machine is required, in which metal wearing components are exchanged.



Fig. 1: Anantha Kumar, Factory Manager, Sreedhara Textiles Pvt. Ltd., India

The overhaul kit prepares the machine for the next decade of operation. It extends machine lifetime by several years while maintaining its original performance. Essential components support the machine performance. In combination with the mini and performance kits, it can even be used to restore completely worn machines.



By investing in regular and systematic machine maintenance, customers benefit from a safer and more efficient working environment.

Regular maintenance is the key to success

A well-established machine maintenance practice is indispensable for the success and sustainability of modern businesses. By investing in regular and systematic machine maintenance, customers can benefit from increased operational efficiency, reduced conversion cost and improved quality. It also contributes to a safer and more efficient working environment. Rieter’s online webshop ESSENTIALorder makes ordering these kits and spare parts fast and easy. The system is available 24 hours a day, enabling customers to submit orders from anywhere at any time.

Watch the video and see how the draw frame maintenance kits maintain high productivity and superb sliver evenness.

<https://l.ead.me/benwiZ>



Unique Knowledge about Yarns

Helping spinning mills and yarn processors make decisions

There are four different spinning technologies for yarn production and each of them has its own justification. A unique comparison of ring, compact, rotor, and air-jet spinning technologies clearly shows the different properties of the yarns. These and other important criteria such as energy consumption and cost-effectiveness are the topic of an updated technical publication – an aid to help spinning mills and yarn processors make decisions.

Rieter is the only spinning machine manufacturer to offer not only complete spinning systems for making yarns from staple fibers but also all four conventional yarn spinning technologies: ring, compact, rotor, and air-jet spinning. A recent comparison confirms the known findings and provides new and interesting insights into how the properties of the four yarns compare with each other and how they change as the yarn count is adjusted. This knowledge is the basis for a successful end product, as it is crucial to find the right yarn for each

specific application. A current technical publication provides a detailed comparison of the four spinning technologies, including their use of raw materials, productivity, and production costs. Some excerpts from this publication are given here.

Each spinning technology forms a typical yarn structure. Similarly, each structure determines the yarn properties and therefore also the character and properties of the final textile. There are clear differences between the four yarn types, as the network diagram illustrates (Fig. 1). The classification into “better” or “worse” values needs to be viewed in the overall context.

Spinning systems for different requirements

Ring and compact yarns have the best unevenness, few imperfections, and relatively good tenacity and elongation values. These results are based on the draft of the fiber mesh and the type of twist distribution on the ring or compact-spinning machine.

In terms of yarn hairiness, the conventional ring spinning process is the worst. A compacting process can significantly reduce the hairiness. However, the lowest hairiness is achieved by the air-jet spinning process. Since hairiness correlates closely with abrasion and pilling, the air-jet spinning process also performs best in these categories (Fig. 1).

Ring spinning: 76% market volume

The classic ring spinning process is the oldest and most widely used spinning process. In 2022, ring spinning accounted for 76% of all spinning capacities. This is because ring spinning is the most flexible system in terms of raw material, yarn count, and fancy and core yarns. It is therefore relatively universal. The remaining quarter of the installed spinning capacities are divided into 7% compact spinning, 15% rotor spinning, and 2% air-jet spinning (Fig. 2).

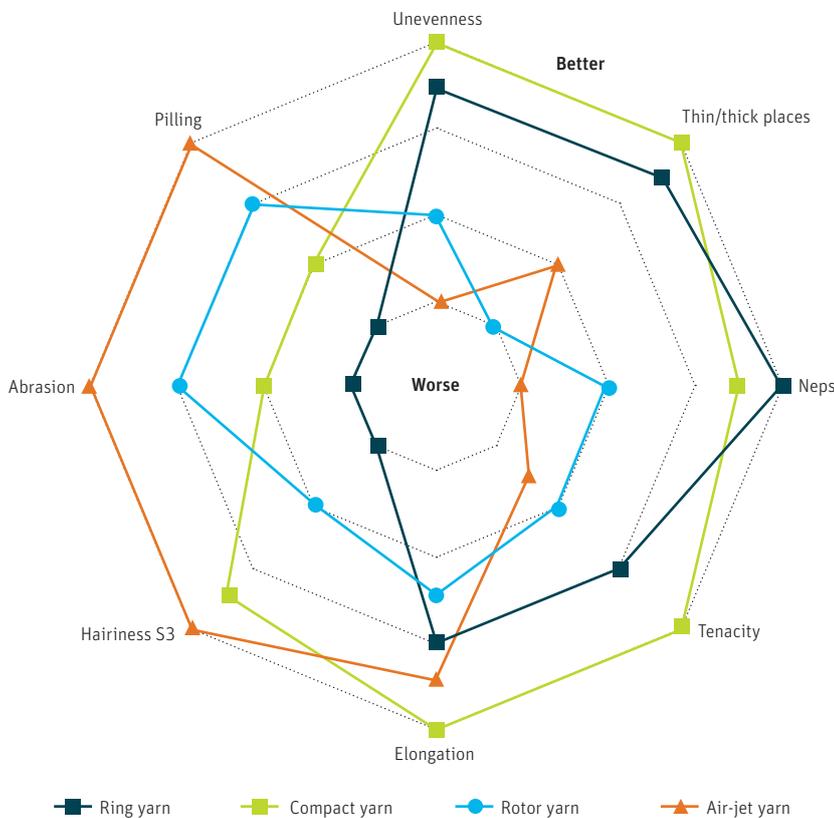


Fig. 1: Depending on the spinning process, the yarns have various properties and are suitable for different applications.

Installed capacity by spinning technology, 2022
272 million spindle equivalents worldwide*

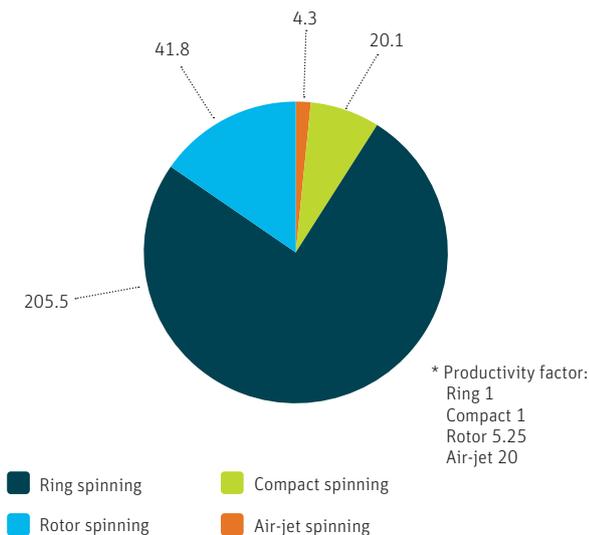


Fig. 2: More than three-quarters of yarns are produced on ring spinning machines.

Energy-efficient machines make the difference

The end spinning machines consume the most energy; depending on the technology, 63 to 79% of the entire spinning process. The finer the spun yarn, the more energy is needed. When looking at economic efficiency, the raw material, yarn count, and labor costs are also important factors alongside energy costs. A comparison of carded cotton yarn with a count of Ne 30 conducted in Türkiye shows that a spinning system with a rotor spinning machine has the lowest cost per kilogram of yarn produced (Fig. 3).

Another reason why rotor spinning is so attractive is that it is very good at processing inexpensive raw materials with a high short-fiber content. As a result, this technology plays an important role in the growing recycling market.

Technology know-how for Com4 licensees

Customers who produce yarn on Rieter end spinning machines can obtain a Com4 license. The advantages of Com4 yarns are reflected in the spinning mill, in downstream processing, and in the final product. Examples include high processing speeds and less fiber fly, excellent pilling values, and superior wearing comfort. In addition, Rieter machines consume only a small amount of energy per kilogram of yarn,

Yarn manufacturing costs in Türkiye
100% carded cotton, Ne 30

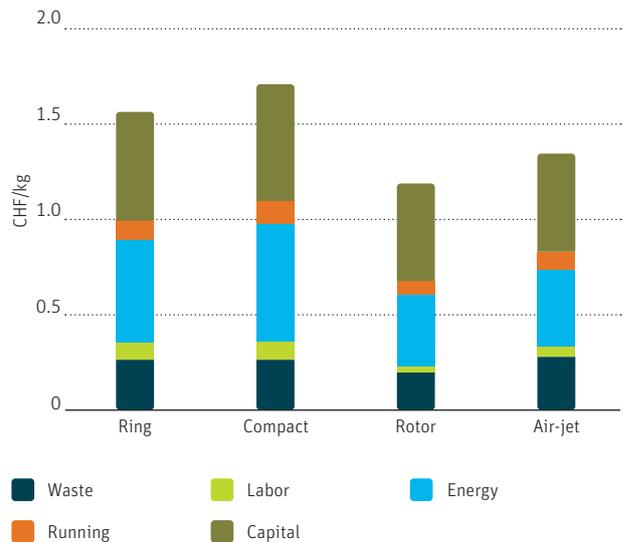


Fig. 3: Rotor spinning is the most economical method.

which gives customers a competitive advantage. For recycled yarns, Com4 licenses are also available. Licensees benefit from the latest technological findings on the Com4 yarns of the four spinning systems – from yarn properties to downstream processing, fabric and final product.

Join the Com4 family. Request your Com4 license.

<https://l.ead.me/balVHA>



Get unique knowledge about Com4 yarns. Download the technical publication here.

<https://l.ead.me/beZ3iV>



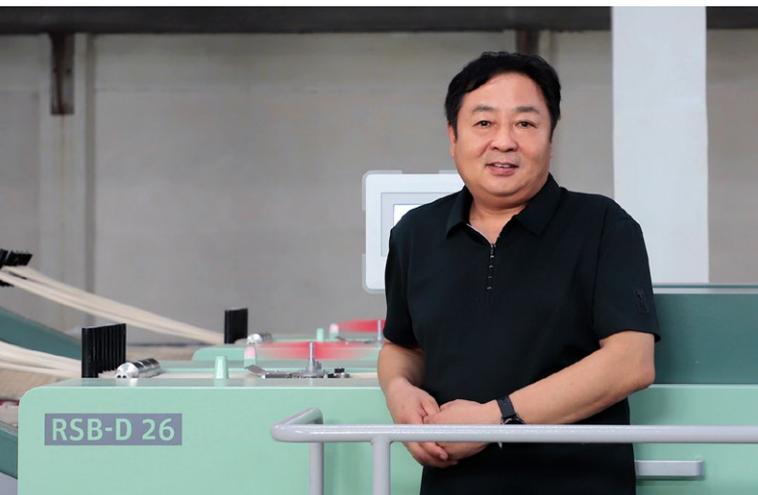
Best Quality at Highest Productivity

Why Rieter draw frames are first choice for spinning mills

Rieter has been synonymous with excellence in draw frame technology for decades, setting the benchmark for highest sliver quality at maximum delivery speeds. With nearly 50 000 draw frames shipped worldwide in the last 40 years, Rieter continues to shape the spinning industry with its innovative strength and know-how.

A consistent and uniform sliver is a prerequisite for quality consistency in the yarn. This is exactly what Rieter draw frames excel at. They stand for outstanding sliver quality at speeds of up to 1 200 m/min. The machine's excellent scanning precision and highest dynamics are the secrets behind the superb autoleveling performance. The Rieter Quality Monitor (RQM) also plays an important role. It reliably prevents the production of faulty sliver. Wang Jiaxiu, Owner of Shunyuan Textile, says:

“I've never had to worry about the quality of my yarn, thanks to the unwavering consistency provided by the Rieter draw frame RSB-D 26. With this level of excellence in yarn quality, I receive numerous order requests daily, which has led me to consider expanding my production capabilities. The Rieter autoleveler draw frame has consistently proven to be the best choice for me.”



Wang Jiaxiu, Owner, Shunyuan Textile, China

Easy handling and minimized workload

Rieter draw frames have fewer belts and drive elements

compared to competitor machines. This not only reduces friction which in turn also cuts energy costs significantly, it also makes life easier for operators. This is a decisive feature for spinning mills, confirms Maria Felix Villeda, Production Manager at Apparel Guatemala:

“With our Rieter single-head draw frames, we have increased our productivity and quality. We value its flexibility when we switch between various raw materials and blends. Operators appreciate the easy handling of mechanical and operational settings. Additionally, the expert system SLIVERprofessional offers guidance by providing proposed machine settings.”



Maria Felix Villeda, Production Manager, Apparel Guatemala

Benefits of the latest draw frame generation

The latest generation (R)SB-D 55 and (R)SB-D 27 empowers operators to achieve optimal results with ease. The intuitive interface, coupled with integrated process recommendations, simplifies operation and maintenance. The new draw frames not only uphold the tradition of superior sliver quality and efficiency but also feature reduced operating and maintenance efforts. Thanks to innovative technical solutions such as improved cleaning and new recommendations on SLIVERprofessional, recycled fibers can be processed to optimum effect. As market leader, Rieter remains at the forefront of innovation, continuously developing the draw frame technology to meet changing industry needs.

Strong Global Repair Service Footprint

High-quality repairs with short turnaround time

Whenever a textile machine stands still, mill owners lose money. Rieter's repair service network comprises 25 repair service stations across the globe strategically located on the doorstep of Rieter customers. The network is designed with one goal in mind: providing both mechanical and electronic high-quality repairs at short turnaround time to customers.

Equipped with test equipment designed and manufactured in-house and staffed with certified and experienced engineers, Rieter repair service stations offer all types of repairs, both electronic and mechanical on Rieter machines, from blowroom to winding. Service stations help restore and sustainably maximize the original performance of the machines for Rieter customers. Chen Shun Ming, Chief Engineer at Zhejiang Huzhou Weida Group Co., Ltd., China, says:

“Through a complete refurbishment of the yarn clearer IQ+ of our semi-automated rotor spinning machine BT 923, its functionality was restored to its like-new function. The overall operation of the rotor spinning machine and yarn clearer is stable, miscutting is improved, blocking is reduced, the effect is very good. We are very satisfied.”



Chen Shun Ming, Chief Engineer, Zhejiang Huzhou Weida Group, China

Aging of parts is inevitable, especially in the high-intensity environment of a spinning mill. Various technological components can be replaced with original parts, a practice that can significantly contribute to the production of high-quality

yarn. At Hanif Spinning Mills Ltd., Bangladesh, Mohammed Hanif, Managing Director, described his experience with Rieter's solution as follows:

“The guiding arm refurbishment and the doffer kit solution offered by Rieter helps us increase production by 10%. It improves the working performance of the machine by reducing the operators' intervention significantly. We are planning to implement these solutions for the remaining 26 ring spinning machines.”



Mohammed Hanif, Managing Director, Hanif Spinning Mills Ltd., Bangladesh

Rieter's 25 repair service stations are spread across the globe, strategically located on the doorstep of Rieter customers. They are equipped with the repair know-how, original spare parts and proprietary test equipment required to validate repairs on Rieter machines. Certified and experienced engineers offer on-site repairs at customers' mills and at Rieter's repair service stations, providing comprehensive service throughout the machine life cycle. This ensures that machines operate at peak performance and downtime is kept to an absolute minimum, ensuring customers stay competitive.

50 Years of Success in Türkiye

Unlocking growth for a leading market

Türkiye is a major market for Rieter. For 50 years, service engineers and technicians from Rieter and Erbel A.S. have been working together in a common mission to strengthen the competitiveness of customers. To further enhance customers' production efficiency, Rieter has opened a new warehouse in Istanbul.

The Turkish textile and clothing industry enjoys an excellent reputation and ranks among the most important textile markets in the world. Well-known international fashion brands rely on the quality of the high-end products produced there. For 50 years, Rieter has been playing its part in shaping this fascinating and dynamic market. Turkish customers are highly innovative and pioneering, especially when it comes

to automation and digitization solutions. After 50 successful years in Türkiye, Rieter's goal is to further strengthen customers' competitiveness and help unlock growth opportunities for them through technology and expertise.

New warehouse strengthens competitiveness

Rieter serves its customers in Türkiye together with its long-standing sales agent Erbel A.S. For quick and high-quality repair services in the areas of mechanics and electronics Rieter operates three local repair centers. Its employees offer a high level of expertise and are dedicated to supporting local customers with excellent service and state-of-the-art solutions.



Haluk Erbel, Chairman of Erbel Müessillik A.S., Türkiye



More than just a business partner

Erbel A.S. has been the face of Rieter in Türkiye for 50 years. The sales agency occupies a strong position in the market. And not without reason. The head of this successful company is the charismatic Haluk Erbel.

“Haluk Erbel is a very important member of our Rieter family. The spinning machinery business is in his blood. During my visits to Türkiye, I always experience his outstanding knowledge of the industry, his excellent customer relations and the high-performance team he has built up over many years. As a result, he has been helping his customers achieve success for years and enjoys their unconditional trust. His handshake is as good as a contract.”

Roger Albrecht
Head of Business Group Machines & Systems
Rieter

Starting as a one-man show, Haluk Erbel has built up a company with some 30 employees over the last five decades. He invests in his employees, who start as mechanical or textile engineers and develop into Rieter experts with extensive technical and market knowledge. What truly sets Haluk Erbel apart is the profound sense of familial connection that permeates his business dealings. Over the course of five decades, he has had the privilege of forging relationships not just with companies, but with generations of families.

This year Haluk Erbel and his company are celebrating their 50th anniversary; a legacy built on trust, dedication, and a shared belief in the power of relationships. Rieter congratulates him and thanks him for the great cooperation. The excellent and long-standing business relations with Rieter and its customers form the basis for the continued success of Erbel and thus of Rieter in Türkiye.

In a move to improve its customer support, Rieter After Sales opened its first spare parts warehouse in Istanbul in April 2024. The new building is ideally located near important trade and transportation routes and enables door-to-door deliveries for locally stocked spares within only 48 hours. Not only wear and tear parts are stored in a space of around 1 000 square meters, but also critical components that provide quick relief in the event of a machine downtime. The rapid availability of machine parts prevents or reduces production downtime and improves the efficiency of the spinning mill. With the fully fledged warehouse in Istanbul, the number of Rieter employees has increased sixfold in five years.

Commitment to the Turkish community

Besides customer proximity, Rieter is also engaged in social commitment within the Turkish textile community. In 2023, following the devastating earthquake in Kahramanmaraş province, Rieter provided relief efforts and temporary housing for their employees and the local community. Furthermore, Rieter also set up an alternate repair facility quickly to offer crucial repair services and technical support. Field service personnel were deployed urgently to assist customers in restoring their spinning mills, including damage evaluation for expedited insurance claims.

Innovation Hub Winterthur

Campus as a driving force for the spinning industry

In summer 2024, Rieter will be moving into the Campus – the new headquarters in Winterthur. In this innovation hub with the most modern Spin Center of its kind, Rieter is pooling its expertise. The focus of development is on automation, digitization, and artificial intelligence so that customers can unlock the full potential of their spinning mills.

The modern Campus grabs everyone's attention with its generously glazed facade (Fig. 1). The impressive building in Winterthur, Switzerland, provides the perfect setting for Rieter to create innovations and ground-breaking services and act as a driving force for the spinning industry. Attractive facilities with innovation cells and flexible office space support an open exchange across departmental boundaries and act as a catalyst for the creativity of the teams. Customers gain access to pooled textile expertise, which allows them to fully exploit the potential of their systems and successfully assert themselves in the dynamic and highly competitive textile market.

“The goal is to establish Rieter in Winterthur as an innovation hub and center of expertise for the spinning industry. Our focus is on the use of artificial intelligence and establishing cost-effective automation and digitization solutions for our customers all over the world.”

Thomas Oetterli, Chief Executive Officer, Rieter

Innovation and tradition go hand in hand

Collaboration at Rieter goes far beyond organizational boundaries. Rieter is working on new technologies in close collaboration with renowned universities and external research institutions as well as outstanding specialists from the textile industry. With the support of customers and taking their experience and needs into account, Rieter is pushing the boundaries of what is possible and thus shaping the future of spinning mills.



Fig. 1: Rieter in Winterthur – innovation hub and center of expertise for the spinning industry

The new building, which has been built with the aim of becoming a hub for innovation in the textile industry, is also a clear commitment to the company's tradition and to Switzerland as a business location. Rieter has been based in Winterthur for nearly 230 years; the company developed its very first spinning machine here. Continuing this tradition, the company invests 5% of its sales in research and development every year in order to strengthen its position at the forefront of the industry.

The Spin Center – setting new standards

The Campus is home to the most modern Spin Center of its kind. The complete Rieter machine product range can be found here; in other words, all the machines that are needed for a spinning mill, including bale openers, all four end-spinning processes, and winding machines. Automation solutions such as the successful fully automatic piecing robot ROBOspin have also been installed.



Here, customers from all over the world have the unique opportunity to learn from product developers and technologists with the most up-to-date knowledge. They learn first-hand how they can align their products with the trends and challenges of the textile industry, such as the spinning of recycled fibers. In the Spin Center, customers can carry out spinning trials together with Rieter specialists and evaluate practical and cost-effective solutions for their needs. The machine set-up, combined with the professional Rieter trainers, provides the perfect basis for customer training. The potential of a spinning mill can only be fully harnessed with well-trained personnel.

Ideal for yarn developments

Both customers and well-known fashion brands, start-ups, and organizations are seeking insights and recommendations for spinning new raw materials, including mechanically and chemically recycled fibers. The Spin Center is the

perfect place to determine the optimum components and machine settings, from the bale all the way to the yarn. The projects even extend beyond yarn production to the complete fabric. This is how Rieter experts constantly expand their textile know-how. What is crucial for success is not the yarn – it is the end product.

Experiencing textile know-how

On the way to the Spin Center, visitors can dive into the world of Rieter spinning systems. The showroom is a center for discussions and the ideal place for an exchange of expertise between customers and partners (Fig. 2). This is where textile know-how can be experienced up close. Depending on visitors' interests, the Rieter product range, including products from Accotex, Bräcker, Graf, Novibra, Suessen, SSM and Temco, can be discussed in more detail. Fabric samples and end products made from yarns spun on Rieter machines, particularly from recycled fibers, are a highlight.



Fig. 2: The showroom invites visitors to discuss and share knowledge.

Sustainability on Campus

The company's focus on sustainable and energy-efficient solutions for yarn production is also reflected in the overall design of the Campus. In terms of energy efficiency and sustainability, it is a showcase project. 25% of the energy is generated from renewable resources. Geothermal probes and a roof-mounted photovoltaic system with an area of around 1 300 m² are available for this purpose.

Rieter proudly announces the grand opening of the latest warehouse in the vibrant heart of Istanbul, Türkiye.



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