

06 EVENT Competitive with Rieter systems 08 TECHNOLOGY Sustainable trend for man-made fibres 16 PRODUCT NEWS R 66 – Save 10 % energy with ECOrized 20 AFTER SALES Boost your mill performance



Nr. 70 / 2016 / EN

### CONTENTS

٠

.

.

٠

#### EDITORIAL

03 Dear readers

#### EVENT

06 Competitive with Rieter systems

#### TECHNOLOGY

- 08 Sustainable trend for man-made fibres
- 12 Influence of the mechanical harvesting method on ring and rotor yarn up to the end product

#### **PRODUCT NEWS**

- 14 1 million yarn clearers "Made by Rieter"
- 16 R 66 Save 10 % energy with ECOrized
- 18 Widely-based success

#### AFTER SALES

- 20 Boost your mill performance
- 22 More than 10 % productivity increase of a rotor spinning mill

#### GLOBAL

23 QR codes – easy access to more information

#### Cover

Man-made fibres show increasing presence. More about this topic on pages 6 and 8.

#### Publisher:

Editor-in-chief Anja Knick Marketing

#### Copyright

© 2016 Maschinenfabrik Rieter AG, Klosterstrasse 20, CH-8406 Winterthur, www.rieter.com, rieter-link@rieter.com Reprints permitted, subject to prior approval; specimen copies requested.

**Design and production:** Marketing Rieter C7 s r o

Volume: Year 28

#### ddress changes?

rieter-link@rieter.com

## 

## **Dear readers**

As you probably know, on 1st April 2016 I took over management of the Business Group Machines and Systems at Rieter.

In the last few weeks, I have, in numerous discussions with our customers, been able to form a first impression of the challenges that are encountered in the textile industry.

Alongside a high level of competitive intensity, when compared to other industries the textile industry, is characterised by extremely quick changes in market conditions such as raw material availability, investment programmes or fashion trends, and the resulting market movements. I personally feel great respect for the companies which are daily confronted with this demanding market environment.

In order to put our customers in the position to successfully meet these challenges, Rieter has to prove itself anew every day. Questions of energy efficiency or the degree of raw material utilisation considerably influence the success of our customers in a highly competitive market. Together with its customers, Rieter develops solutions and translates them into machines and installations that meet these requirements. Rieter can only be successful when our customers achieve success.

Customer closeness is a further essential criterion, enabling us to give our customers the certainty of being able to meet rapidly changing marginal conditions in the best possible way.

Rieter has adapted accordingly and is at the service of our customers on site worldwide. A good example here is the opening of our sales and service base in Urumqui in western China in the Xinjiang province. You can find a few impressions in this respect on the following pages 4 and 5.

In response to our customers, we have built up a team of engineers and technicians as well as a spare part logistic system which allows a reaction to customer needs within the



shortest time, whether it concerns questions of new installations, optimisation of existing plants or the demand for spare parts.

The positive feedback from our customers shows what significance a close cooperation has for mutual success. We at Rieter will also in future work hard to ensure this success.

I wish you enjoyable reading and look forward to direct contact with you.

70-201

•	٠	٠	•	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠
ø	EDITORIAL			٥	٠	۰	٥	٠	۰	٠	٠	٥	٠	٠	o	٠	٥	ø
٠	¢	٥	٠	¢	٠	٠	٠	٠	٠	٠	٠	٥	٥	۰	ø	٠	¢	٥







٠	٠	٠	٠	٠	•	٠	•	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	•
٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	۰	EDI	TORI	AL	٠
٠	٠	۰	0	۰	٠	۰	٠	٠	0	٠	۰	٠	٠	0	٠	٠	٠	•







Quicker service for customers. Rieter is committed to customer closeness. Impressions of the inauguration of the new Rieter location in Urumqui in the Xinjiang province in western China.

**Jan Siebert** Head Business Group Machines & Systems jan.siebert@rieter.com

٠	•	٠	•	٠	•	•	٠	•	٠	٠	•	٠	•	٠	٠	•	٠	۰
٠	EVE	NT	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	•	٠	٠	٠	٠	٠
٠	٠	٠	٠	۰	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	۰

## **Competitive with Rieter systems**

Asia stands for the trend towards man-made fibres and their blends with cotton. Rieter machines are flexibly adjustable for the processing of different fibre materials. At the ITMA Asia 2016, Rieter is exhibiting innovations on the topic.



Fig. 1 The ITMA Asia 2016 takes place in the new and modern exhibition centre in Shanghai. Rieter is exhibiting in Hall 1 Stand D 01.

All three business groups presented their products and service innovations for complete systems, spinning preparation and end spinning processes at the ITMA 2015 in Milan under their brands Rieter, Braecker, Graf, Novibra and Suessen. Highlights were: the extended SPIDERweb mill management system as an important step for the use of the "Internet of Things" for the optimisation of the spinning mill; the new E 36 / E 86 combing set, the new R 66 rotor spinning machine with the new S 66 box and the J 26 air-jet spinning machine with the P 26 polyester option.

The Business Group After Sales presented innovative spare part and modernisation packages, as well as services which maintain the competitiveness of Rieter systems: from technology support to maintenance audits and repair services through to customer training. Rieter After Sales additionally supplies complete solutions for the entire production process, which are based on Rieter's system competence.

# .

#### Rieter innovations for modern fibre materials

Only just one year later, Rieter is again presenting its innovations, this time at the ITMA Asia in October 2016 in Shanghai.

At the ITMA Asia, Rieter is showing as the main focus its products for processing man-made fibres.

Asia in general and China in particular process a far higher share of modern fibre materials than other markets. Rieter has never exhibited its products for processing man-made fibres in such a concentrated manner. The wide product range of tailor-made and flexible solutions also guarantee high productivity and yarn quality even with the processing of manmade fibres, their blends with each other and with cotton.

## What will Rieter be showing on its stand at the ITMA Asia 2016?

The J 26 air-jet spinning machine with the P 26 option for processing polyester can be seen live. In line with the main focus, one machine side will be running with 100 % polyester and on the other side with a blend of polyester and viscose. Rieter shares with customers its experience on the suitability of various polyester types for processing with the air-jet spinning process, as well as cleaning cycles and their durability.

A previously unattainable productivity at the highest quality – that is provided by the new single-head RSB-D 50 draw frame generation. The patented drive concept ECOrized saves up to 1 000 euros per year on energy costs and allows higher delivery speeds, for example for polyester and combed cotton.

The E 86 comber can also be seen in operation on the stand. It demonstrates its strengths in the preparation of the cotton content for blends on the draw frame. Rieter also simultaneously answers the technological criteria, when a tuft mixture with the precise metering system A 81 UNIblend is preferable to a draw frame blend.

For the discussion on the most suitable spinning process, models of all spinning technologies are available as well as fabric samples and technology parts from Rieter, Graf, Bräcker, Novibra and Suessen – on the same stand in Hall 1 Stand D 01.



Competitiveness must be maintained over the whole operating time of the machines. The Business Group After Sales will describe, with first success stories, the new services presented for the first time in Milan.

#### Rieter looks forward to a lively exchange with you.

70-202●

Edda Walraf Head Marketing Machines & Systems

### Sustainable trend for man-made fibres

Fibre consumption is rising and in particular, filaments are finding use in an increasing number of applications. For the short staple spinning mill, the trend is also towards man-made fibres, but especially to blends with various fibre materials. Thus the functionality of the end product can be specifically influenced.

Experts agree that with growing prosperity the fibre consumption per head will continue to increase. Forecasts assume that by 2030 the worldwide fibre consumption will rise to approx. 115 million tons (PCI, 2015) (Fig. 1).



Fig. 1 The worldwide fibre consumption will continue to grow (Source PCI).



**Fig. 2** Despite the reduction of the staple fibres from 61 to 51 % of the total fibre consumption, the staple fibre consumption demonstrates an absolute rise from 46 to 58 million tons (Source PCI 2015).

All raw materials will contribute to this growth, however filaments more than staple fibres. The share of filaments will increase from 39 % in 2010 to 49 % in 2030.

New applications, particularly in the finer yarn count range, will contribute to this. Filaments have good functional properties for textile as well as technical applications. The development is also driven by the growing share of knitted fabric applications with increasingly finer gauge. Notably with fine yarn counts, filaments are particularly economic.

Despite this development, the consumption of short staple fibres will rise to around 58 million tons (Fig. 2).

In the short staple spinning mill, the share of cotton will decrease from 54 % in 2010 to 48 % in 2030. The absolute consumption will grow slightly from 25 million tons in 2010 to 28 million tons in 2030 (Fig. 3).

Around half the fibres will be processed in their pure form. The other half will be spun to blended yarns. The blends from cotton with polyester dominate the blended yarns with almost 50 %. The blending of fibres is made for two important reasons. One is that polyester is a costeffective fibre and the raw material price is an important parameter for the whole yarn costs. The other is that the yarn characteristics can be specifically influenced by blends (see also Th.Weide, 2014, "Rieter Manual of Spinning" Volume 7, Chapter 4).

These two reasons, costs and function, as well as the limited growth potential of cotton, mean that the share of blends will continue to increase.

Looking at the use of the yarns, cotton dominates the underwear sector. Viscose is also used as 100 % raw material in all applications.

With technical textiles, 100 % polyester or its blends dominate. With outerwear, polyester dominates especially in blends with cotton and viscose as is similarly the case with home textiles (Fig. 4).

With the increasing use of man-made fibres, new questions arise for the short staple spinning mill. The Rieter Manual of Spinning Volume 7 deals comprehensively with the technological questions (Fig. 5).

To manufacture a yarn from different fibre types, the spinning mill has to fulfil two requirements: produce the right blend ratio and mix the two fibre types well. A good and even blend is important for a uniform distribution of the fibres in the yarn diameter and on the running length of the thread. This, so that at every point in the yarn the blended fibre types appear in the same ratio. The fibre therefore has the same characteristics, such as strength and dyeing capacity, at every point.

#### Cotton fibre consumption



% cotton of short staple fibres

**Fig. 3** The requirement for cotton will further increase from 25 to 28 million tons. The cotton content of the total short staple fibre requirement will, however, sink from 54 to 48 % (Source PCI 2015).



End applications according to man-made staple fibres and their blends

Fig. 4 Typical applications of man-made fibres and their blends (Source Rieter).

**Fig. 5** Volume 7 of the Rieter Manual of Spinning can be downloaded from the Rieter website. The QR Code guides you straight there.

http://bit.ly/TRMoS\_download



9

٠	٠	٠	٠	٠	٠	•	٠	•	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠
٠	TEC	CHNO	LOG	(	٠	٠	٠	٠	۰	٠	٠	٠	٠	۰	۰	٠	٠	٠
٠	٠	٠	٠	۰	٠	٠	0	٠	٠	۰	٠	0	٠	٠	٠	٠	٠	۰



Rieter offers both options: blending in the tuft stage with exact metering (Fig. 6) and blending on the draw frame (Fig. 7). This comprehensive competence allows a system consultation with the customer that takes all aspects into account which are crucial for a process decision:

- Final application of the yarn and its quality requirements
- Necessary flexibility of the spinning mill
- Cost target of the customer

If the blend is perfect, the finishing determines all subsequent process stages, whether a good yarn quality results at higher productivity. The Rieter products with innovations for the processing of man-made fibres allow adjustment for both targets.



Fig. 6 With the A 81 UNIblend, different, exact blending conditions can be flexibly produced from the tufts.

#### TECHNOLOGY

Details can be taken from the special print "Unique Solutions for the Spinning of Synthetic Fibres and Blends" (Fig. 8), such as more exact explanations on blending as well as advantages and disadvantages of the different processes. For all process stages up to end spinning, the solutions from Rieter for processing man-made fibres and their advantages are explained.

70-203 •



Fig. 7 Blends of cotton with man-made fibres are increasing. The SB-D 22 draw frame is ideally suitable for mixing the fibres.



Fig. 8 The special print "Unique Solutions for the Spinning of Synthetic Fibres and Blends" can be downloaded from the Rieter website or ordered under rieter-link@rieter.com.

http://bit.ly/MMF\_2997v2

#### **Edda Walraf** Head Marketing Machines & Systems

link 70/2016 11

## Influence of the mechanical harvesting method on ring and rotor yarn up to the end product

In a joint cooperation between the Cotton Institute of South Africa and Rieter, the two commonly used methods of mechanical cotton harvesting were compared with each other. The comprehensive test and its results are available in a special print. Here are a few interesting extracts from the project.

Cotton is still the dominant staple fibre. In Africa 1.4 million tons of cotton were produced 2013. That corresponds to about 5 % of global production. In South Africa, approx. 9 000 tons of cotton are harvested annually.

#### **Test conditions**

Two different methods of cotton harvesting were each examined at two different farmers. The comparison was carried out through to the knitted fabric, whereby carded ring and rotor yarns with various counts were spun. Not only the yarns and knitted fabrics were tested but also interim products, to be able to better interpret the effects on the yarn and the knits.

#### Mechanical harvesting methods

Today there are two common mechanical methods for harvesting cotton – the spindle method and the stripper method (Fig. 1).



Fig. 2 The cotton harvested by the spindle method (left) contains fewer trash particles than the cotton harvested by the stripper method (right).

They differ in productivity and quality. The stripper method has many advantages – lower investment costs, lower fuel consumption and higher harvest yields, which, however, can increase the proportion of immature fibres. Also known is that the cotton harvested with the stripper picker exhibits a higher seed coat content (Fig. 2).



Fig.1 The mechanical cotton harvesting methods currently in use are the spindle and the stripper methods.

#### TECHNOLOGY

Fibre length across the process stages 100 % cotton, AFIS



Fig. 3 Across the process stages, the spindle method exhibited a 1 – 2 mm longer mean staple.



Fig. 4 Knits from rotor yarn, 100 % cotton, Ne 24, 4.2 ae.

#### Fibre length

The fibre length, in particular short fibre ratio and mean fibre length, have a strong influence on the yarn unevenness. Across the process line, a mean staple 1 to 2 mm longer is seen with the spindle method compared to the stripper method. Thus, as far as evenness is concerned, a positive result in the yarn and in the knitted fabric is also to be expected. Also decisive here is, however, how great the influence is of the two yarn structures, ring and rotor (Fig.3).

#### Yarn quality

The quality criteria of the ring yarn shows that the spindle method gives somewhat better yarn results than the stripper method. With rotor yarn, no evident differences between the two harvesting methods are detectable.

#### Knitted fabric comparisons

The knitted fabrics made of rotor yarn have a far better evenness than those made of ring yarn. This means that the influence of the end spinning system on the knitted fabric quality is far higher than the influence of the harvesting method. Nevertheless, the positive influence of the spindle method, at least with one farmer, is recognisable even in knitted fabric made of rotor yarn (Fig. 4).

## Comprehensive information in the special print

The special print includes the complete, comprehensive data and detailed explanations and background information. It can be ordered under rieter-link@rieter.com. Electronically, the special print can be downloaded with the given QR code (Fig.5).

Source: TIS 26815

70-204



**Fig. 5** QR code for scanning and downloading the special print.

http://bit.ly/CottonHarvest\_SA3011v1

Harald Schwippl Head Technology After Sales harald.schwippl@rieter.com

#### PRODUCT NEWS

## 1 million yarn clearers "Made by Rieter"

At the ITMA 1999 in Paris, Rieter showed the first self-developed yarn clearer based on the principle of the absolute measurement of the yarn diameter. Since then Rieter has installed more than one million yarn clearers on its rotor and air-jet spinning machines.

The technology of textile machinery and the entire spinning process is constantly improving. Nevetheless, not all yarn faults can be avoided by good preparation and processing of the sliver. Even today unavoidable yarn faults occur on the spinning units. The pressure on the quality of the final product is growing, as good quality is the precondition for the competitiveness of the yarn manufacturer. Therefore on-line yarn clearers which continuously monitor the spun yarn and interrupt the spinning process in case of insufficient yarn quality are increasingly being installed directly on the spinning unit. Previously, only a few machines were equipped with yarn clearers. Today, rotor and air-jet spinning machines with clearers are the standard.

#### What makes the Rieter yarn clearer so unique?

External standalone yarn monitoring systems from other companies were used in the past. Rieter was the first company to develop its own yarn clearer which is fully integrated into the existing machine electronics. This concept has several advantages. A significant one is the joint control panel for the machine and the clearer system. Furthermore, new yarn clearing functions could be integrated which are not feasible with an external system.

Rieter, as the first spinning machinery supplier worldwide, commercially launched a clearer which is based on a new, unique optical principle and measures the absolute yarn diameter. Unlike other optical clearers for spinning machines, the Rieter clearer is globally unique as it uses an optical



smart sensor with a large number of small light-sensitive elements, similar to a modern digital camera.

The sensor was developed by a company of the Swatch Group in Switzerland for Rieter's specific requirements and continues to be manufactured there. The silicon chip combines the light-sensitive elements and a microprocessor for the continuous analysis of the yarn signal.

#### Proven yarn clearer technology

Yarn clearing, and thus Rieter's expertise, is already in its fourth generation. The yarn clearer is protected by more than 15 registered patents and is founded on more than 15 years of experience with billions of tons of produced yarn cleared by a million clearers (Fig. 1).

#### Integrated solution

The yarn clearer is fully integrated into the spinning machine. Compared to external solutions, far fewer components are required. This makes the system less vulnerable to faults. The customer has a further advantage of being able to retrieve information on the yarn quality as well as all existing machine information on the same control panel. The short and direct connection to the spinning unit and to the robot allows functions which are not possible with an external standalone system (Fig. 2).

**Fig. 1** A million yarn clearers - that is the basis for today's Rieter yarn clearer with outstanding measuring precision and operational mode.

•	٠	•	•	•	•	٠	•	•	•	•	٠	•	•	٠	•	٠	•	•
٠	۰	٠	•	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	PROD	ист	NEW	S	٠
٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	o	٠	٠



Fig. 2 The integrated Rieter yarn clearer operates with high precision and offers unique functions – shown here is the J 26 air-jet spinning machine.

#### Unique functions through full integration

The full integration of the clearer in the machine permits special functions:

- Precise evaluation of the piecer by exact speed profile in the piecing process
- Monitoring of the P 26 polyester system in the air-jet spinning machine

Modern evaluation algorithms also enable the detection of changed yarn structure, minimal deviations in yarn hairiness and yarn with reduced tenacity.

#### Absolute precision of measurement

The yarn clearer based on Rieter's unique optical-digital principle consists of an adapted light source, a lens with a specially designed shape and a customised smart sensor. Standard clearers – optical or capacitive – send analogue signals. In a subsequent step, these must be converted into digital form. The Rieter sensor directly supplies absolutely precise digital data for the following analysis. This reduces fault sources and increases the accuracy of the results.

The high speed of the smart sensor and the very small lightsensitive elements facilitate a very small, high-resolution measuring zone of 0.2 mm. This means the yarn is measured with extreme precision. The output value is therefore very accurate. With other clearers, the measuring zone is several millimetres long and the output value is only a mean value of several millimetres and as a consequence is relatively imprecise.

#### Tailor-made and yet universal

The yarn clearer fits in all Rieter rotor and air-jet spinning machines and simultaneously fulfils machine-specific requirements. On the one hand, a uniform operator interface and monitoring functions for rotor and air-jet spinning are used. On the other hand, as already mentioned, specific functions are provided which meet the requirements of the different yarn technologies.

70-205●

Pavel Kousalík Head Electronics Developmen Machines & Systems pavel.kousalik@rieter.com

•	•	•	•	•	•	•	•	•	•	٠	•	٠	•	*	•	•	*	
0	PRODUCT NEWS				٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	
٠	٠	0	٠	۰	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	

## R 66 – Save 10 % energy with ECOrized

The R 66 rotor spinning machine with ECOrized makes a further energy saving of approx. 10 % possible compared to the previous model R 60. The R 66 with ECOrized and a length of up to 700 positions, offers further advantages with respect to yarn quality, productivity and economy.



Fig. 1 The R 66 with suction from both ends of the machine minimises losses and increases energy efficiency.

The R 66 was developed as a highly efficient machine, using the latest spinning technology for best spinning stability (Fig. 1). The high productivity and the low energy consumption have now been supplemented by innovations for an additional, significant energy saving. The R 66 has proven itself not only by its very simple operation and maintenance, but also by its robustness and high reliability.

Per machine, EUR 15 000 and more can be saved.

#### Up to 10 % energy savings for all applications

The savings with ECOrized are equally attainable for all applications. That has been shown by calculations and measurements with various applications: coarse Ne 12 yarns and fine Ne 30 yarns for knitting as well as for weaving yarns (Fig. 2).

Based on the individual energy costs, for each machine EUR 15 000 and more can be saved.

#### ECOrized - a highly efficient solution

The innovative equipment of the R 66 with ECOrized leads to a significant energy saving. It consists essentially of three components:

- Double sided suction, which has already proven itself over a long period of time on the Rieter compact spinning machines
- Energy-efficient drives, developed in collaboration with a leading European motor manufacturer
- Optimised software for machine control

#### Minimal energy losses by optimised air guidance

The longer the rotor spinning machine, the higher the influence of the spinning air on the energy consumption. With shorter machines, the aerodynamically designed suction duct of the R 66 with its optimised cross section ensures highest efficiency.



Fig. 2 The energy saving for the R 66 ECOrized with suction at both machine ends is valid for all applications.

The ideal suction duct already represents a considerable advantage over other rotor spinning machines. Added to this is the advantage of unique automatic filter cleaning and the low spinning vacuum requirement for the spin box.

With longer machines, the R 66 is now available with the well-known, highly efficient suction from both machine ends. Consequently, flow losses are negligible also with this length and on all spinning positions – near to and far from the suction – equally good spinning conditions prevail.

#### Suction on both machine ends

The long model of the R 66 with ECOrized, independent sides and suction at both machine ends, offers further unique advantages alongside the high energy efficiency:

- Organization of the machine like two independent machines: independent operation of both machine sides, from the tube loader up to the package take-off; even maintenance and cleaning is possible on one side while the other side is in production.
- Optimised logistics: the material allocation with one lot per machine side is clear and ideal for a reliable and automated package take-off. Each of the two tube loaders has sufficient capacity for its side and supplies the empty tubes to the robots in the quickest way.

#### **Energy-efficient drives**

The machine concept of the R 66 has advantages with the air conditioning of the spinning mill. The heat that is generated by losses in the drives and electronic components can be far more easily led out of the spinning room, as with the R 66 its creation is concentrated at the head and foot sections of the machine. More efficient drives at this position also means less heat that must be discharged – even a double saving. Finally, the lower heat load with the R 66 also positively influences the lifetime long-term – in particular for the electronic components – and thus keeps the manufacturing costs low.

## Lower yarn manufacturing costs and unrivalled yarn quality

The most important influencing parameter is the spinning technology of the R 66. The potential for higher yarn tenacity with better yarn characteristics from the same raw material frequently permits a lesser yarn twist.

A 5 % lesser twist means a 5 % higher productivity, without higher energy consumption of the machine. That means 5 % lower energy consumption per kilogram of produced yarn.

70-206

Stephan Weidner-Bohnenberger Head Product Management Rotor Spinning Machines & Systems Stephan weidner-bohnenberger@rieter.com

#### PRODUCT NEWS

## Widely-based success

Conventional ring spinning is still the most widespread spinning process on the market, although compact spinning is steadily gaining ground. There is a growing demand for the processing of blends. Special yarns round off the market requirements. Rieter has high-level coverage of these requirements and thus wins a greater market share.

In the important markets, compact spinning is equated with the name Rieter. The unique process offers enormous productivity increases and superior yarn quality. Clear advantages for customers are achieved by the conventional Rieter ring spinning machines. Especially in the blend and special yarn sector, they are being further developed.

#### Competence with blends and man-made fibres

The production capacities of cotton are today insufficient to cover the global demand for fibres. According to an external study, today already near to 60 % of spun staple fibre yarns contain manmade fibres, in their pure form or in blends with other man-made or natural fibres. Many of these yarns are successfully produced on universal Rieter machines. A special machine is unnecessary but special components can support the spinning capability. Rieter already took this trend into account some time ago: strengthened elements and a greater bottom roller diameter are just two examples. Now, the unique solution for controlled underwinding-free doffing – SERVOgrip – offers as a new feature a cutting device (Fig. 1). It ensures with very firm yarns and also with core yarns the perfect cutting of the yarn at doffing.



Fig. 1 The SERVOgrip knife reliably cuts off the yarn at doffing – especially with very firm yarns and with core yarns.



Fig. 2 The best solution for all applications – Rieter ring spinning machine with core yarn device.

#### Special yarns not just gap fillers

Special yarns such as core or fancy yarns are today no longer a niche, but an integral market component. Where previously effects were mainly a trend for denim, these yarns now fulfil a great demand in practically all outerwear applications. These fancy yarns are often combined with core yarns. The latter are also indispensable in underwear.

Depending on the quality resp. application of the finished product, and the cost efficiency and handling of the equipment – Rieter currently offers the right solution for all possible applications. Whether as its own development or in combination with specialists – Rieter is the partner and system supplier (Fig.2).

#### PRODUCT NEWS

#### Cost factor energy consumption

The ring spinning machine is the machine in the spinning process with the highest energy consumption (Fig.3). The costs for energy consumption correspond to approx. 50 % of the yarn manufacturing costs. The faster the machine runs, the greater its share of the total manufacturing costs for power. This makes it even more important to exploit every possibility to save energy and thus costs. In the last 20 years, Rieter was always able to set the benchmark in energy consumption. Today, around 25 to 30 % less energy per kilogram of yarn is used than at the beginning of the analyses. The advantage over its competitors always lies in the two-digit range – not only in conventional spinning but especially in compact spinning. This could recently be reconfirmed in a comparative measurement (Fig. 4).

Important is that not only the basic machine, with the wellconceived spindle drive, but also the suction device provides significant benefits. In addition, Rieter compacting has the lowest energy consumption of all compacting systems.

#### Productivity with low yarn conversion costs

Alongside the power consumption, highest possible productivity is crucial for favourable production costs. The spinning speed is especially reliant on the raw material and on the spinning preparation process as well as on the spinning machine. Based on the unique Rieter spinning geometry, in ring as well as in compact spinning, considerably higher spinning speeds than found with competitor products are possible.

## Today, Rieter machines often achieve spinning speeds of up to 25 000 rpm.

Rieter ring and compact spinning machines fully cover the current and future market requirements, and that with low yarn manufacturing costs and excellent yarn quality. The higher market share – which has doubled in ring spinning over the last 4 years – and the high level of customer satisfaction clearly reflect this.

70-207 •

**Energy consumption across the entire ring spinning process** Ring yarn, Ne 30, 50/50 % cotton/polyester



Fig. 3 Energy savings on the end spinning machine significantly affect the yarn manufacturing costs.

**Compact spinning – energy consumption during cop formation** Ne 30, 18 000 min<sup>-1</sup>, ae 3.6, ring diameter 38 mm, tube length 190 mm



Fig.4 Rieter ring and in particular compact spinning machines have a far lower energy consumption than their competitors.

Andreas Hellwig Head Product Management Ring Spinning Machines & Systems andreas.hellwig@rieter.com

#### AFTER SALES

## **Boost your mill performance**

In a highly competitive environment such as the textile industry, staying competitive is of utmost importance. With a mill assessment, Rieter After Sales analyses the customer's spinning mill and develops solutions for a successful optimisation.

Rieter offers, based on particular customer needs, solutions to increase productivity, improve yarn quality, reduce energy consumption or extend lifetime of the spinning system.

#### Optimising the original investment

Over the life cycle of a spinning system, the machines encounter several phases. As shown in figure 1, the equipment reaches its initial full potential at commissioning (according to order); afterwards, performance typically slowly diminishes over time based on wear and tear of its components.

Through proper maintenance by mill personnel or Rieter specialists as well as timely replacement of wear and tear parts through original Rieter spare parts, the level of performance of the machine remains at an acceptable level throughout its lifetime.

Rieter's continuous innovations in spinning technology lead to the availability of upgrades and conversions, allowing the improvement of the machine performance beyond its original capabilities. With a mill assessment, Rieter brings in an expert team to assess the settings and status of the spinning system and develops recommendations based on specific customer requirements and solutions available from Rieter.



Fig. 2 Rieter specialists collect data and analyse the complete spinning mill.

#### Mill assessment – customised solutions

Through a detailed inspection of the entire spinning system at the customer's site, our team of experts evaluate the current performance of the entire mill including organisational aspects. Our specialists collect data, evaluate the process conditions, study the machine history and maintenance records and observe work practices in all process stages (Fig. 2). This process typically requires 3-5 days.





Fig. 1 Rieter's continuous innovations allow the improvement of the machine performance beyond its original capabilities.

•	٠	٠	•	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	•
0	٥	٥	0	٠	ø	٥	٥	o	0	٥	0	٠	٥	AF	TERS	SALE	S	•
٠	٠	٠	۰	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠



Fig. 3 In close contact with the customer Rieter After Sales conveys extensive know-how for a successful future.

Based on this thorough analysis, a report is drawn up including suggestions for corrections and adjustments and a range of solutions from process optimisation and reorganisation to wear and tear parts and conversions.

#### Maximizing your production output

Customers know they can rely on Rieter After Sales to offer solutions with sustaining value (Fig. 3). In one specific example, Rieter conducted a mill assessment and was able to subsequently develop recommendations leading to a production increase of up to 10 %. The findings included:

- adaptation of end spinning machines (technology, components and automation),
- rebalance of upstream process capacities,
- modification of complete blow room for high production of complete line.

The quality of the yarn delivered would remain unchanged and the return on investment would be only 1.5 years.

#### Your competitiveness is our focus

Rieter After Sales is focusing on the long-term competitiveness of customers, consulting them to achieve maximising returns on their original investment with a wide portfolio of products and services.

70-208



Massimiliano Biganzoli Solutions Manager After Sales massimiliano.biganzoli@rieter.com

## More than 10 % productivity increase of a rotor spinning mill

Customers can improve the production of their existing facilities with the support of Rieter After Sales. A customer in China reports on its successful cooperation with Rieter.

The wide expertise offered by Rieter After Sales embraces increasing productivity or quality, reducing energy consumption or extending the product lifetime of Rieter products. Every customer can rely on continuous support across the entire service life of its spinning mill to maximise returns on the original investment.

#### Confronted with new market requirements

Shandong Hongye Fibre Technology Co,. Ltd. owns a mill equipped with five fully automatic rotor spinning machines R 60 from Rieter. In February 2015, the company received an order for 100 % cotton knitting yarn count Ne 32. The existing machines were equipped to produce a Ne 21 yarn.



"We believe in Rieter expert's professional level. Rieter always offers the suitable original spare parts and professional technical support based on the principle that increase production and achieve the maximize profit."

> Jiandong Su Shandong Hongye Fibre Technology Co,. Ltd.

Shandong Hongye Fibre Technology Co,. Ltd. turned to Rieter After Sales to provide them with a sustainable solution in order to adjust quickly to this new market demand.

## Rieter's assistance is based on comprehensive experience

At the time of the request, the machines were all equipped with their original 33 mm rotors with a rotor speed of 122 000 rpm for the production of Ne 21 yarn. To produce Ne 32 on these machines would result in a significantly lower productivity. Based on its broad understanding of the entire spinning process and the specific customer requirements, Rieter recommended reducing the rotor diameter to 28 mm in order to increase the rotor speed. Until a few years ago, the production of knitting yarns with small rotor diameters was not an option to be considered as the quality of the yarn produced was not satisfactory. Thanks to technological innovation in spinning, this assumption is no longer valid and many knitting yarns are nowadays produced at high speed with high yarn quality.

#### The customer profits from 14.5 % higher productivity

Shandong Hongye Fibre Technology Co,. Ltd. ordered two sets of 28-XG-BD rotors. These were installed by Rieter specialists on two of the existing R 60 machines. The change from a 33 to 28 mm diameter allowed an increase of the rotor speed from 122 000 to 140 000 rpm. The delivery speed being higher, productivity increased by 14.5 %, maintaining efficiency at 98 % and the same yarn quality as before.

70-209



Eric Zheng Sales Manager North China After Sales eric.zheng@rieter.com

## **QR codes – easy access to more information**

The so-called QR codes give the user more information on a particular topic. Often, brochures or interesting videos respective animations can be viewed.



So easy: scan a QR code and get in-depth information.

The QR codes (Quick Response Code) are comparable with a bar code which is scanned at the checkout in every supermarket to read the product price into the cash register. Compared to a bar code however, the QR codes contain no information on prices but, for instance, a link to a website (hyperlinks), to a brochure or to an animation.

To scan such a QR code, a special scanner is not necessary but only a commercial smartphone (mobile phone with camera) with an appropriate scan software (App).

#### Added value for the reader

With the QR code, it is possible to learn more about a topic. The reader can look at videos or animations resp. download more detailed leaflets or special prints. QR codes in Rieter advertisements supply more information on a suitable product, for example comprehensive brochures, data sheets or detailed descriptions.

An easy way to more information. Use it.

70-210●



QR code - simply scan to test! http://bit.ly/TCoC2015

> Anja Knick Senior Marketing Manager Machines & Systems anja.knick@rieter.com



Also at the ITME in India, Rieter is showing its innovations. Come and see us.

٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠
٠	۰	۰	٠	0	٠	۰	٥	٠	٠	٠	٠	۰	۰	٠	٥	٠	۰	٠	٠
٠	٠	٠	•	٠	٠	٠	٠	•	٠	٠	•	٠	•	٠	٠	٠	٠	٠	٠
ww	/w.rie	eter.co	om	0	0	٠	0	٠	۰	۰	۰	0	۰	0	0	٠	0	۰	٠