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The high production of the E 36 OMEGAlap has a significant effect on the economic efficiency of a combing facility: lower number of combing preparation machines, fewer can changes and sliver piecers, less personnel. For more information see page 14.

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The new Q-Package for best yarn quality

The production of best yarn quality at lowest manufacturing costs is the constant challenge of every spinner. With the Q-Package, Rieter developed a solution that allows all ring and compact spinners to either improve the yarn quality or simplify the choice of fibres. The yarn quality can thereby be improved in certain parameters by up to 30 %.

Rieter's ring and compact spinning machines with their unique spinning geometry are known as standards for productivity at lowest yarn manufacturing costs. The latest models G 36 and K 46 are now available with up to 1 824 spindles and are always equipped with the suction system ECOrized for lowest energy consumption. The latest components in the drafting system called Q-Package were presented for the first time at the ITMA 2015 in Milan for both machines (Fig. 1).

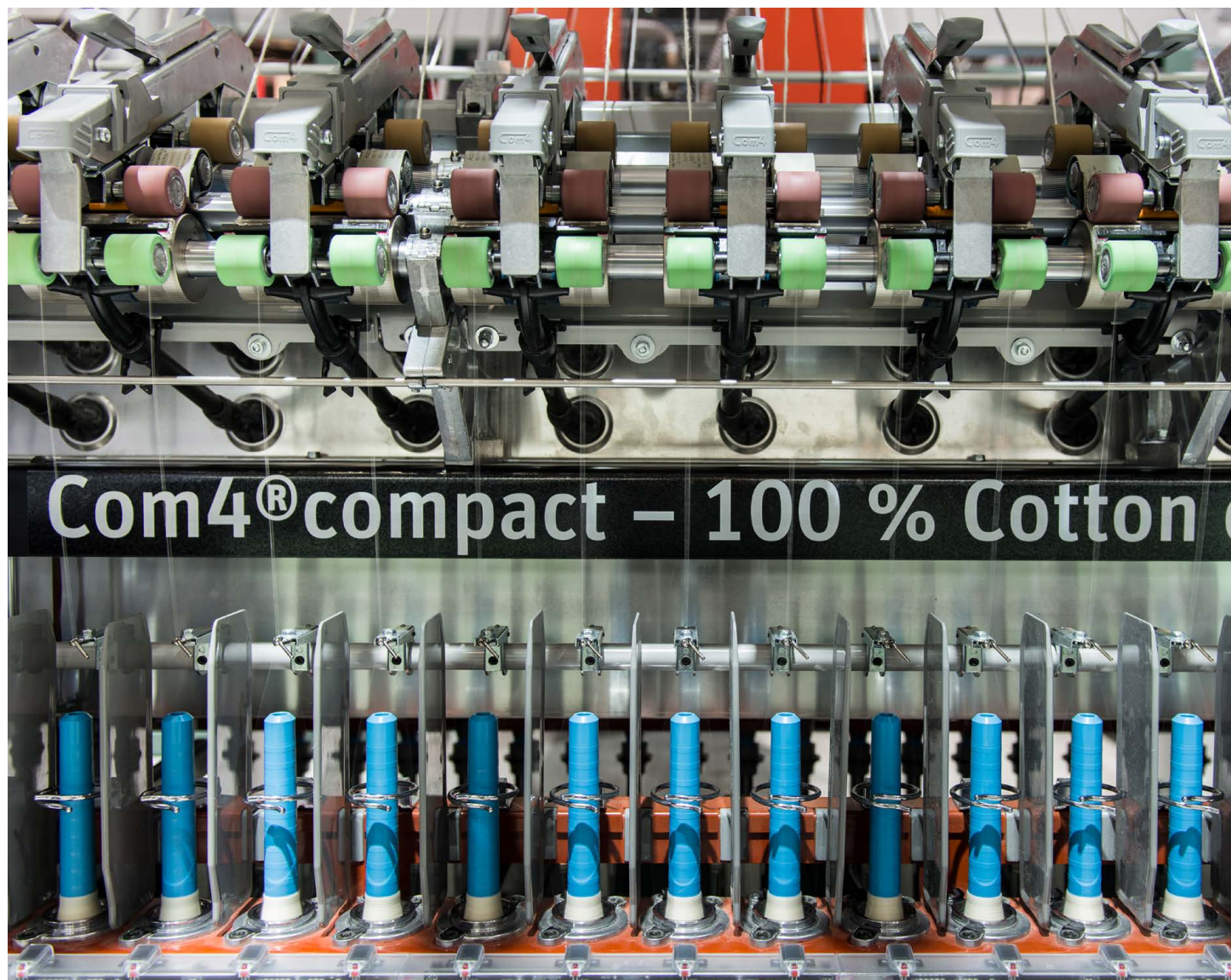
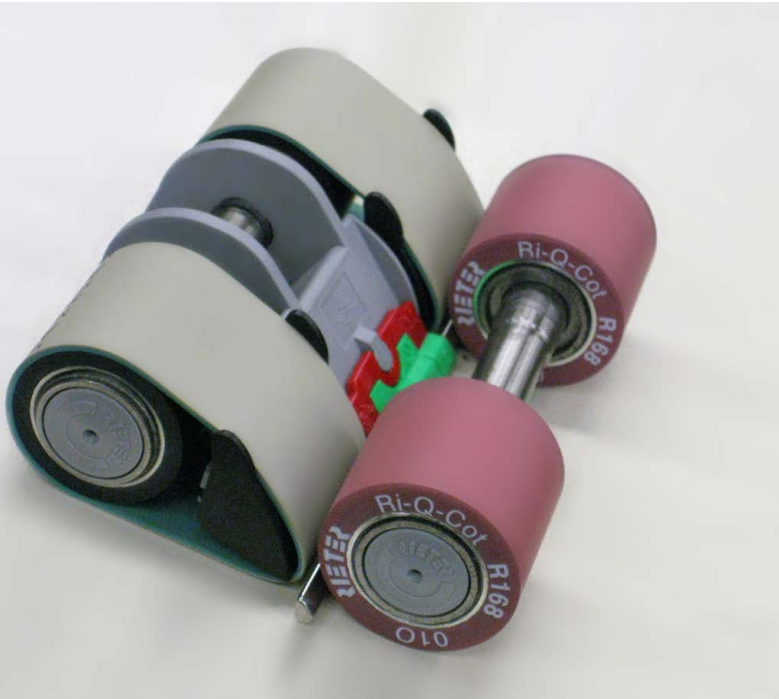


Fig. 1 At the ITMA in Milan, the Q-Package could be examined on several spinning positions on the running K 46 compact spinning machine.

PRODUCT NEWS



Consistent quality has always set standards

The Ri-Q-Draft drafting system, tried and tested a million times, with the low-wear suction drum including the air guide element "Detect" for the compact spinning machine and the "Best-in-Class" components from Bracker and Novibra, allow highest productivity without compromising the quality. Here, the long-term consistency of Rieter machines is worth special mention. Ri-Q-Draft has always been a key to achieving the best running properties.

Superior yarn characteristics

The Q-Package is the combination of a newly developed nose bar with the ACP cradle (Fig. 2) instead of the familiar Ri-Q-Bridge and the standard cradle. This allows adjusted fibre guidance and can in many cases be optimised by insertion of a drop-shaped pin.

This version is integrated in the latest machine configuration and alongside the standard system, which is still available, can be selected at the customer's

Fig. 2 The ACP cradle is equipped with a special pin that improves the fibre guidance particularly with short fibres, and consequently raises the yarn quality.

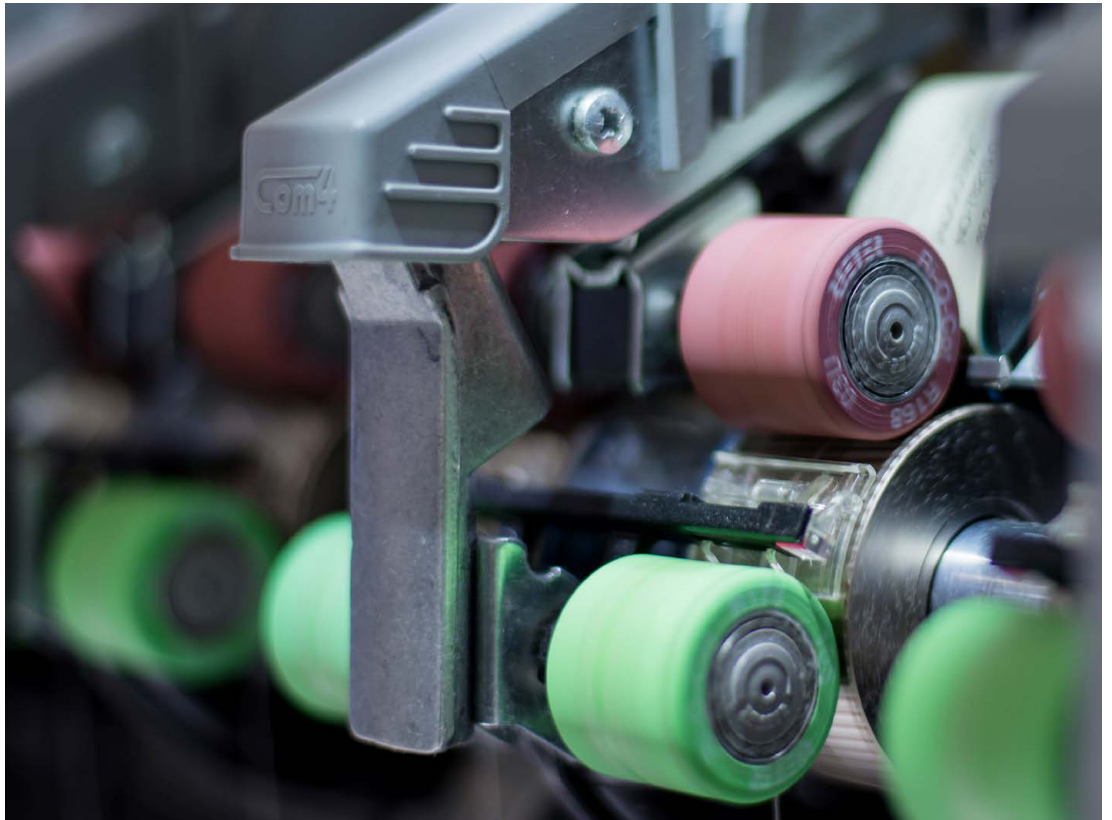


Fig. 3 The K 46 compact spinning machine with installed nose bar and ACP cradle.

PRODUCT NEWS

Comparison of the compact yarn quality

100 % cotton, Ne 60, weaving yarn

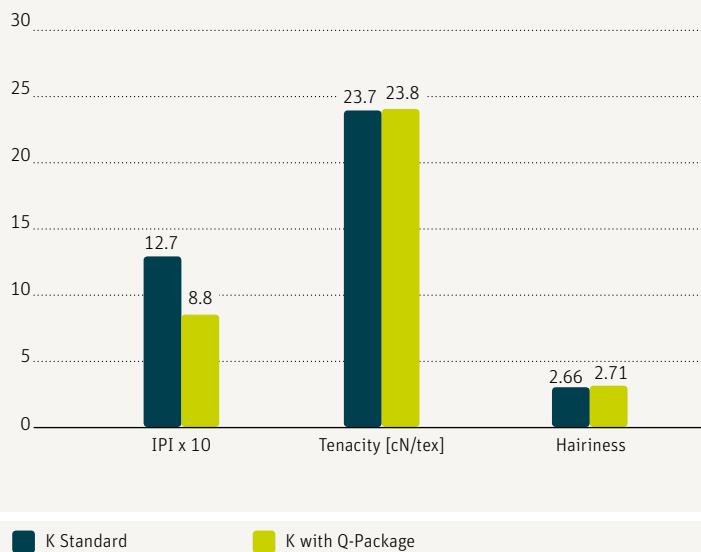


Fig. 4 The quality comparison for a compacted yarn of count Ne 60 clearly shows a better imperfection rate with the Q-Package.

request. Here, the unique spinning geometry and all other proven components remain unchanged.

Both machines, G 36 and K 46, that were equipped in the field with the Q-Package (Fig.3), showed a reduction of imperfections as well as Classimat faults of up to 30 % without influencing the yarn tenacity or the hairiness in the process (Fig.4). Additionally, clear advantages with the K 46 in downstream processing through fewer warp thread breaks could be evidenced.

More advantages at high short fibre ratio

The advantages with the yarn characteristics are clearly far more distinctive with a raw material that has a high short fibre ratio, as due to the pin the short fibres are significantly better guided than previously. Thus the choice of fibre is simplified. A raw material with a slightly higher short fibre content can achieve comparable yarn values. Also yarns of count Ne 30 and finer showed a reduction of at least 10 %

with the imperfections and Classimat faults. In the best case, quality improvements of 20 to 30 % are possible.

The Q-Package offers a wide field of possibilities to select the settings according to the requirements of the yarn buyer.

The best solutions on one machine

Alongside the economical production of best quality yarns, the G 36 and K 46 machines impress with their simple operation. The greatest possible number of settings can be adjusted and controlled direct on the machine panel.

The following functions make the machines unique in their application:

- draft change in a matter of seconds with FLEXIdraft
- cop change without underwinding with SERVOfrip
- reliable doffing with ROBOfiff
- partial spinning startup of the machine with FLEXIstart
- electrically-driven cop transport SERVOfisc.

The production of specialities such as twin yarns and fancy or core yarn is also easily possible on both machines.

The advantages are completed by the extraordinary technical competence drawn from over two hundred years, which allowed Rieter to become the innovation leader. That is an obligation for new and further developments, where the added value for the customers is always at the forefront.

16-101 ●



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PRODUCT NEWS

Raw material saving in blowroom and carding

The most important factor in the area of blowroom and cards is the raw material. A saving of 1 % good fibres shows considerable effects.

At a customer in southern India, the rare opportunity presented itself to carry out a direct comparison of the blowroom and card waste. Running parallel there are a Rieter blowroom and carding section as well as a preparation line from another manufacturer, each with practically the same year of construction and almost the same production rate. With this comparison, card production was in focus. The aim was a 75 % higher performance of the C 70 card with qualitatively equal yarn.

Framework conditions

The test was based on a blend of various Indian cottons with a trash content of 3 %.

The card sliver produced by both lines was spun on the same downstream machines – draw frames, roving frames and ring spinning machines – to a carded knitting yarn of Ne 30 count (Fig. 1).

Fig. 1 Machine layout – the compared lines are colour-highlighted.

Competitor		Rieter	
1 Automatic bale opener		1 A 11 UNIfloc	
1 Pre-cleaner	1 Pre-cleaner	1 Pre-cleaner B 12 UNIClean	
8 Chamber mixers	8 Chamber mixers	B 72 R UNImix	B 72 R UNImix
Single roller cleaner	Single roller cleaner	A 79 R UNIstore	A 79 R UNIstore
Air and dust separation	Air and dust separation	Air and dust separation	Air and dust separation
10 x 1 m Cards	13 x 1 m Cards	8 x C 70 Cards	7 x C 70 Cards
10 x 40 kg/h = 400 kg/h	13 x 40 kg/h = 520 kg/h	8 x 70 kg/h = 560 kg/h	7 x 70 kg/h = 490 kg/h
	Card with 40 kg/h	Card with 70 kg/h → + 75 %	



Fig. 2 With clearly higher production, the Rieter line achieves equally good sliver and yarn quality.

Significant results

The results are impressive. The Rieter line with VARIOline and C 70 cards achieved the following values compared to the other manufacturer:

- 75 % higher production of the card (Fig. 1)
- equal sliver and yarn quality (Fig. 2)
(the values are within the fluctuation rate usual in the spinning mill)
- 27 % energy saving (Fig. 3)
- 1 % waste saving (Fig. 4).

How are these excellent results achieved?

The Rieter fibre preparation guarantees gentle opening, efficient cleaning and intensive mixing of the fibres at highest production, based on the following features:

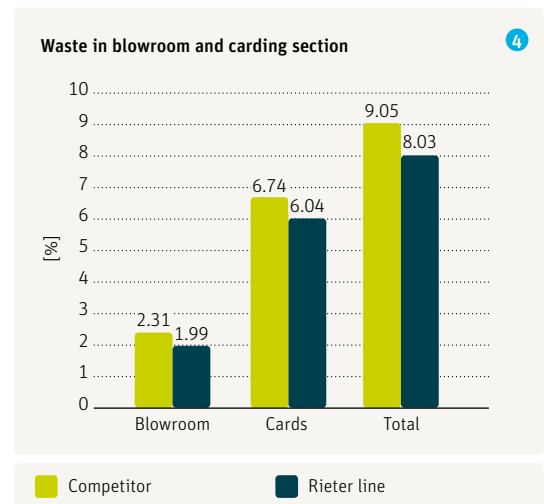
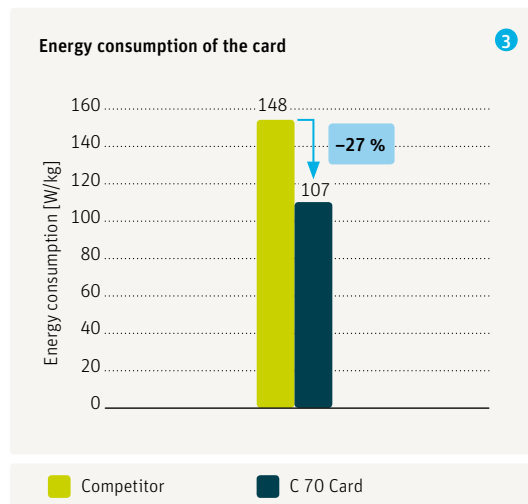
- microtufts for efficient cleaning
- progressive cleaning in several stages
- bypass option of the clearer module according to fibre material (Fig. 5)
- VARIOset for easy adjustment of the setting during operation.

PRODUCT NEWS

Fig. 3 Per kilogram of card sliver, an energy saving of good 27 % can be achieved with the C 70 card.

Fig. 4 The Rieter line achieved 1 % lower waste.

Fig. 5 Optimal cleaning with the B 72 R UNImix, seen here with the module to bypass the cleaning positions.



An outstanding feature of the C 70 card is the largest active carding area for high performance with excellent quality. The efficient cleaning at high production is achieved by selective trash elimination at various points:

- on the licker-in
- in the pre- and post-carding zones
- by the continuously adjustable flats speed.

Effective savings

In this particular case, the Rieter line with blowroom and card with the lower energy requirement achieves yearly savings of around USD 32 500 at a line production of 1 000 kg/h and an electricity rate of 10 US cents per kWh.

The 1 % waste resp. raw material savings with a line production of 1 000 kg/h and a cotton price of USD 1.48 per kilogram result in a yearly saving of around USD 120 000.

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PRODUCT NEWS

Rieter's first step towards "Internet of Things"

The Internet of Things (IoT) has also arrived in the textile machinery industry. At the ITMA 2015 in Milan, Rieter showed the SPIDERweb mill control system with six new modules. Two of them are linked with the Internet.

The Internet of Things is a network of physical objects or simply things that are linked to a network via electronics, software or sensors. This enables the objects to collect and exchange data.

The Internet of Things is no longer a thing of the future and has also come to stay in the world of yarn manufacture. Rieter has taken the first steps in this field with two SPIDERweb modules, the Alert and Cockpit modules as well as the Client module.

Alert and Cockpit modules – always informed

The mobile app with the Cockpit module (Fig. 1) enables mill personnel to monitor important spinning mill data in real time. Data are transmitted to the smartphone every two minutes.

At any time, an overview of the efficiency of all machines of the current production can be retrieved.

Also data are available on production and efficiency of the last 5 shifts. With the view, differentiation can

Fig. 1 The Cockpit offers an overview of important spinning mill data – including the number of messages per process.

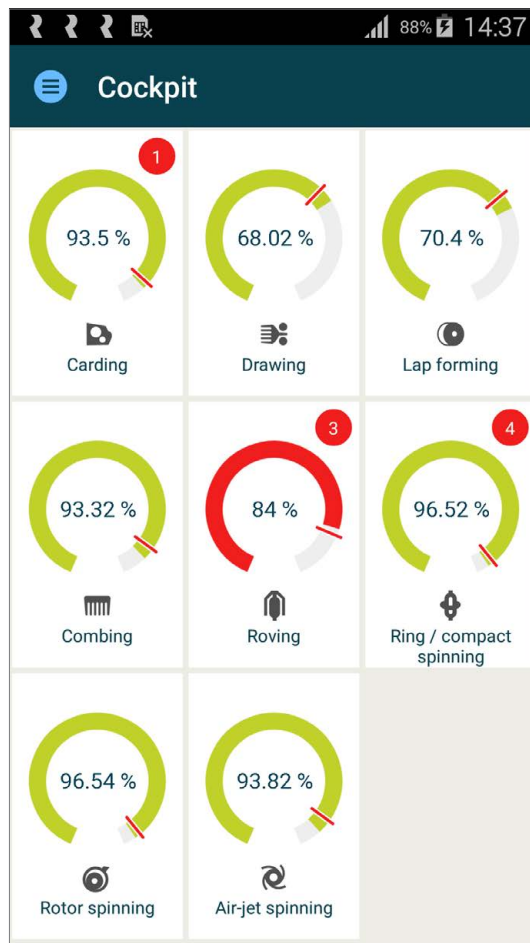
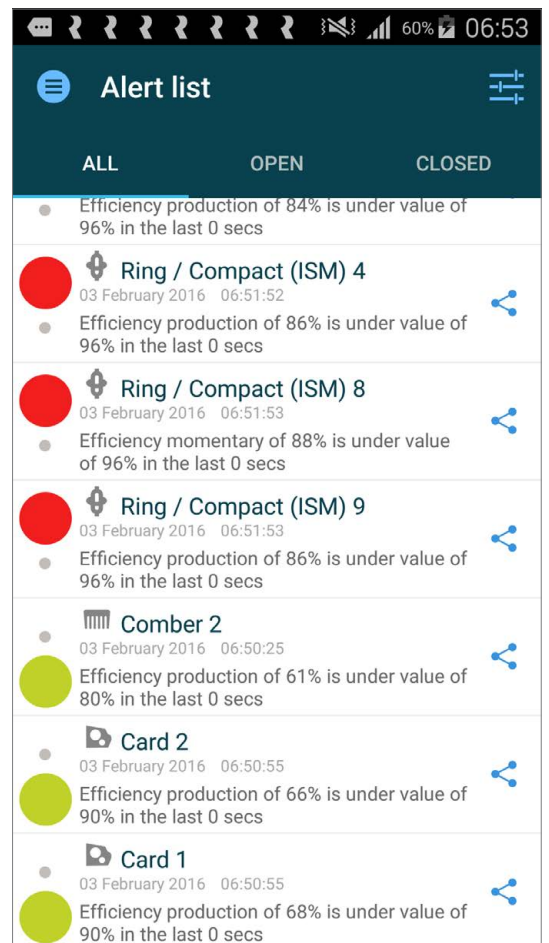


Fig. 2 The Alert module lists the various alarms and shows the current status, for example open or completed.



PRODUCT NEWS



Fig. 3 Access while on the move – current data can be permanently retrieved.

be made between an overview of the process stages and an overview of the spun articles.

The mill management defines the threshold values. If these are exceeded or undershot, the user receives a message in the Alert module (Fig. 2). There is always a possibility to compare it with a machine used for the same lot, as is the case with the link to climatic data such as temperature and humidity changes over the period. The user can then break down, extend or delegate the alert so that personnel can take appropriate action.

Client module – access when on the move

Industrial enterprises around the world are retooling their factories with advanced technologies. This allows them to boost their production flexibility and speed and at the same time achieve an unprecedented level of overall equipment effectiveness and customer satisfaction. This renaissance reflects the pressure that players in industry face today.

The Client module allows flexible access to SPIDERweb data. The customer can define several computers or tablets so that multiple users can access the same data pool. The client system is currently based on the Windows operating system. As

the client, computer, laptop tablet or mobile phone can be used. In this way, the spinning mill can be continuously monitored and a decision taken at any time (Fig. 3).

SPIDERweb increases economic viability in spinning

With a total of six new modules, SPIDERweb opens the door to an Internet-based spinning mill control system. This offers the customer the following advantages:

- mobile alert for quick action
- energy monitoring for optimised consumption
- quality control for constant yarn properties
- climate monitoring for optimal production
- assistant modules for know-how at the touch of a button
- Cockpit module for highly productive quality spinning
- Client module for flexible access to mill data.

SPIDERweb is the only mill management system that collects, displays and analyses all relevant data from the spinning preparation to all four spinning systems. Working with the SPIDERweb Mill Control System ensures transparency and constant yarn quality, increases efficiency and ultimately lowers the mill costs.

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You can find more information on the Rieter website:

www.rieter.com/en/machines-systems/products/mill-control-systems/



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PRODUCT NEWS

R 35 – using raw material economically

Raw material costs depending on the yarn count make up more than half to three quarters of the costs of a rotor yarn. For this reason, an optimal use of the raw material and a high degree of flexibility with the selection of the fibres is a vital requirement for a successful spinning mill.



Several Rieter customers already use the advantage of the R 35 and successfully spin regenerated wool, bast and also flax fibres.

With the above mentioned prerequisite in mind, the latest S 35 spin box for the R 35 semi-automated rotor spinning machine was developed to convert raw material with a high trash content into yarn without losing good fibres in the conversion process.

The improved and sensitive fibre opening of the S 35 spin box ensures better fibre utilisation. This brings benefits in yarn quality and improves spinning stability, even at rotor speeds of 120 000 rpm. In combination with the new electronic yarn traverse, the spin box permits output speeds of up to 200 m/min at full machine length. The productivity of the R 35 thus attains a new performance level.

Better use of raw material

Yarn yield denotes the percentage of yarn produced from a given amount of raw material. The residue removed is waste, which is far less valuable than the raw fibres or the yarn. A 1 % higher material yield has almost the same impact on the spinning mill's profit as 1 % lower raw material costs.

Here, the S 35 spin box helps to raise this raw material yield. The optimised opening area leads to better control over sliver opening and cleaning processes and avoids the loss of good fibres.

Increasing turnover

Waste from the ring spinning process can be recycled well. In contrast, with rotor spinning it is hardly possible to win useable fibres from the waste. One further reason to examine raw material utilisation in rotor spinning more intensively. Direct comparison to machines from other manufacturers has demonstrated a significant advantage of the R 35.

From calculations for an Indian spinning mill, it has emerged that the 0.5 % better raw material utilisation of the R 35 for a mill processing a total of 10 000 tons of raw material per year results in additional sales turnover of INR 5 000 000 (EUR 65 000) annually (Fig. 1).

The S 35 spin box is ideal for trashy material

To transform a sliver material with a solid contamination content in excess of 0.4 % into yarn of acceptable quality is a challenge for the spinning mill. The latest generation of the S 35 spin box is also able to process such contaminated sliver. Experience shows, with 0.4 % solid trash in the sliver at the opening process the S 35 spin box removes 0.6 to 0.7 % contamination, i.e. dirt, very short fibres and dust, but only a small amount of good fibres. In the same case, the spin box of another machine supplier removes 1.2 – 1.3 %, which leads to a "white" waste (Fig.2). That means double the amount of waste, whereby mainly the amount of good fibres has increased.

		Competitor	Rieter
Annually processed raw material	t	10 000	10 000
Total waste from blowroom and carding	%	10	10
Total waste from rotor spinning	%	0.95	0.45
Total material yield	%	89.05	89.55
Yarn quantity sold per year	t	8 905	8 955
Turnover increase through better raw material exploitation at 100 INR/kg	INR	-	5 000 000

Fig. 1 Better economy through better raw material utilisation with the R 35.

PRODUCT NEWS



	Competitor	Rieter
Rotor	T34 – DN @ 98 000 rpm	C533 / Tr-D @ 98 000 rpm
Opening roller	OK40 NP @ 9 300 rpm	C74 G DN @ 9 300 rpm
Nozzle	R4KS5	C R7CS
Delivery speed	86 m/min	86 m/min
Removed waste	1.80 %	0.94 %
		
85 % cotton, 15 % viscose, Ne 24 Results of a direct comparison at a Chinese customer		

Fig. 2 The material loss with the R 35 is only about half that of machines from other manufacturers.




	Competitor	Competitor (present model)	Rieter R 35
Rotor type	T43DN	T43DN	C344 / S-D
Speed [rpm]	69 000	69 000	70 000
Delivery speed [m/min]	107	107	109
Yarn tenacity [cN/tex]	11.1	11.5	11.7
Elongation [%]	7.49	6.57	7.75
Hairiness	5.78	5.61	5.31
R 35: minimal good fibre loss			
100 % waste / noil, Ne 10			

Fig. 3 The S 35 spin box opens and cleans the material gently, as shown by the good yarn values.

Optimised opening area protects the fibres

It is usually assumed that for better cleaning, an aggressive opening process is needed which then damages fibres more strongly. However, the latest S 35 spin box with optimised opening area and improved air dynamics proved the opposite. It opens and cleans the sliver without damaging the fibres.

Numerous trials at the spinning mill with corresponding yarn results have showed that the S 35 spin box treats fibres gently (Fig. 3). Even with such a selective trash extraction, yarn values are far better in comparison with other suppliers' machines.

Optimised opening of regenerated wool fibres, bast and flax

A further development of the S 35 spin box in the area of opening and cleaning allows the successful application of the economic rotor spinning process also for cottonised and regenerated wool fibres or also for bast and flax fibres and their blends. Recently, several Rieter customers began to produce yarns from regenerated wool and wool blends on semi-automated rotor spinning machines. The decisive advantage of the R 35 was shown by extensive evaluations in this wool spinning mill. Waste extraction of the S 35 spin box can be optimised for the processing of regenerated wool and other heavy fibres.

For semi-automated rotor spinning machines, decisive is best spinning stability as well as easy and fast piecing operation. The R 35 rotor spinning machine fulfils these requirements, not only with the S 35 spin box with optimised opening roller housing but also with the easily operable piecing process AMIs핀.

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PRODUCT NEWS

Q 10A – the yarn clearer for air-jet yarns

A new model of the Rieter air-jet spinning machine, J 26, is now available with the Rieter Q 10A yarn clearer (Fig. 1). It has been specially adapted for Air-jet-spun yarns. Customers profit from unique measuring precision and reliability.

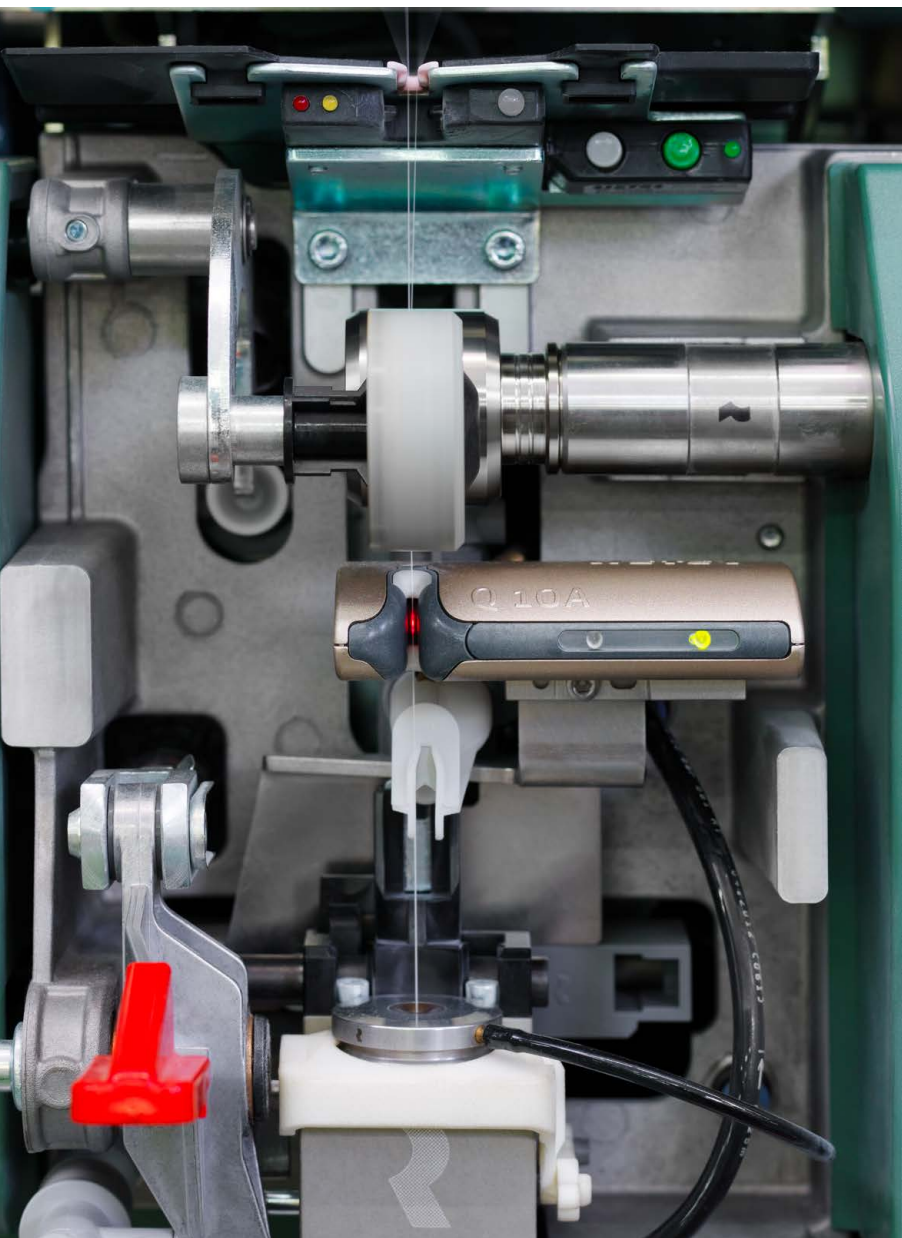


Fig. 1 The Q 10A yarn clearer on the J 26 Air-jet spinning machine.

Making use of profound knowledge of textile expertise in short staple fibre processing, Rieter launched its own yarn quality monitoring sensor 15 years ago. Since then, more than one million sensors have been delivered with Rieter rotor spinning machines. The latest Q 10A design profited from this long experience.

What makes the Q 10A so unique for Air-jet spinning?

The major difference and at the same time the decisive advantage over all other existing sensors is that the measuring range consists of 1 024 light-sensitive elements (Fig. 2). Each of these elements provides information on light intensity and its location in digital form. The Q 10A is thus always in the position of distinguishing between yarn and dust. In contrast, other yarn clearers merely provide information on the quantity of the light received.

This possibility to differentiate ensures the reliable detection of yarn faults which are basically very difficult to detect. An example are the so-called "C-Faults". Those are faults with a very long (10 - 100 m), but yet minimal mass deviation. While other sensors very often cannot distinguish between such yarn faults and dust, the Q 10A is capable of detecting these faults reliably and fast. Consequently, the robot can reliably eliminate the faults by suction.

The combination of an optical-digital principle and high precision has a huge advantage, especially over capacitive clearers. Above all, with typical faults in air-spun yarn such as loosely adhering fibres on the yarn. Here the Q 10A evaluation is much closer to the real fault sizes.

Several functions of the Q 10A are based on the full integration of the clearers in the machine. Thus evaluation of some faults e.g. piecing detection, is supported by direct exchange between machine control and Q 10A. Such interaction is not possible with an external clearer.

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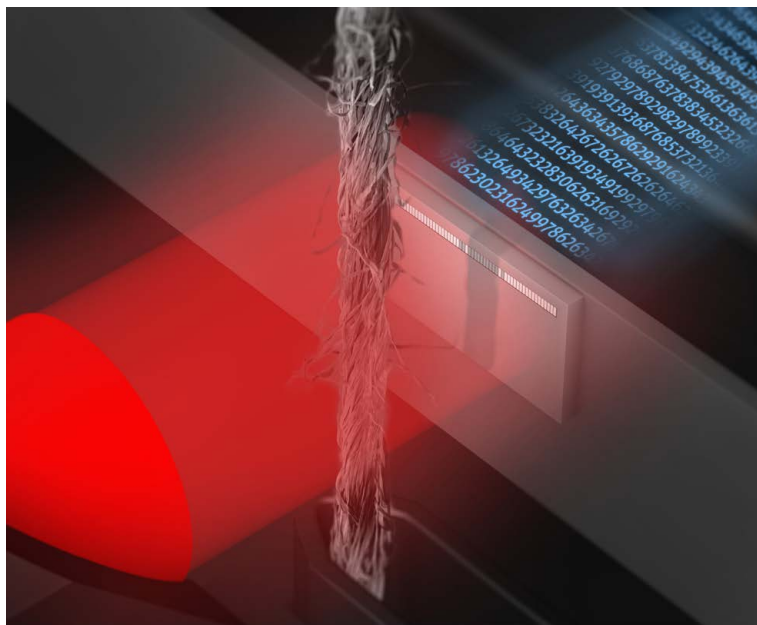


Fig. 2 Outstanding accuracy – 1 024 light-sensitive elements reliably differentiate between yarn and dust.

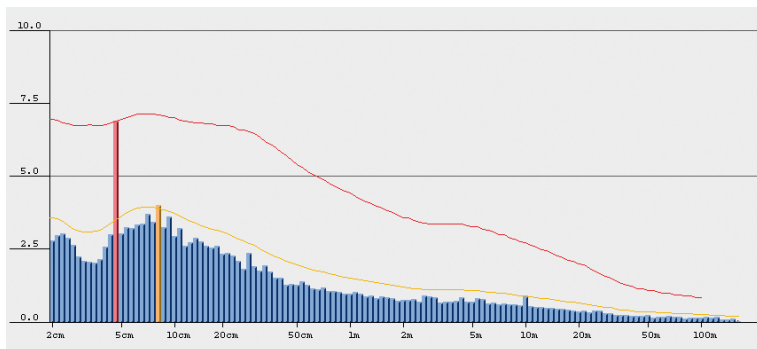


Fig. 3 The spectrogram with adjustable warning and alarm levels to optimise the production and the efficiency of the J 26.

Features	Range
Yarn count	Ne 3 - 60
Delivery speed	40 - 600 m/min
Raw material	CO, MMF, blends, incl. dyed fibres
Standard clearer channel	S ¹⁻¹⁰ (N, S, L), T ¹⁻³ (T), SL, C, P, IPI, Hopt, CVopt
Specific clearer channel	SF (strength factor)
Spectrogram	0.02 – 160 m
Foreign fibre detection	No
Integration	Operation using the machine display
Shift data	29 shifts stored
Sampling rate	0.4 mm yarn (at 500 m/min)

Fig. 4 Technical parameters of the Q 10A yarn clearer.

Clearing channel tailor-made

Customers who produce with Air-jet spinning machines know that the challenge in quality monitoring of Air-jet yarns is found in the detection of so-called “weak yarns”. Those are yarn cuts with minimal tenacity, which are formed by temporary changes of the air conditions in the spinning nozzle. This is a tricky yarn fault, which manifests itself as a structural change and a decrease in yarn tenacity but not as a yarn diameter or mass change. The strength of the yarn is still sufficient to wind the yarn onto the tube. Thus, this defect is only later detected in downstream processing.

The Q 10A has an answer for this. It features a strength factor channel which detects structural changes of the yarn. The key to success also lies in the speed of identification. The yarn runs with up to 500 m/min through the clearer. If there is a weak place with low tenacity in the yarn, this is detected within 1 to 10 metres after it occurs. The fault is then automatically removed by the robot without the operator having to intervene.

Helpful tools

Additional to technical alarms as well as maintenance and quality alarms, the clearer offers valuable information via spectrograms (Fig. 3). The interpretation of the Q 10A spectrograms helps the operator to decide whether a repeated fault comes from the spinning machine itself or from the pre-process. This supports production optimisation and increases the efficiency of the spinning machine.

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PRODUCT NEWS

Rieter combing – technologically at the forefront

The new combing set achieves the greatest productivity worldwide. The technology advantage of Rieter combing is based on the optimal interaction between machine and technology components.

Confirmation of this strength, not only in the laboratory but especially under real production conditions with different cotton types, is Rieter's guarantee for the customer's success. The technological resp. qualitative and economical benefits are illustrated as follows.

E 36 OMEGAlap – the most economical combing preparation

Thanks to continuous advancements, the OMEGAlap concept could be improved. An increase in production of 20 % to over 600 kg/h at a constant speed of up to 230 m/min is the result.

With this production rate, the OMEGAlap is far superior to conventional machines. The influence of the OMEGAlap on the economic performance of a combing section is enormous. The high production allows a reduction in the number of preparatory machines. This noticeably reduces the number of can changes and sliver piecings. Fewer personnel are needed.

As an example, the personnel requirement of a combing set in a compact spinning facility with

Fig. 1 Combing section with conventional preparation, without automation.

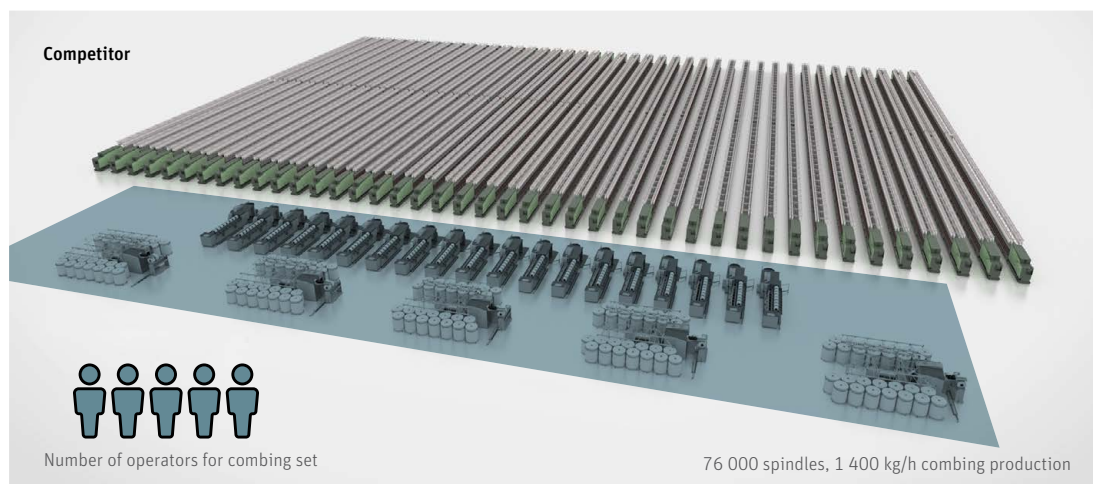
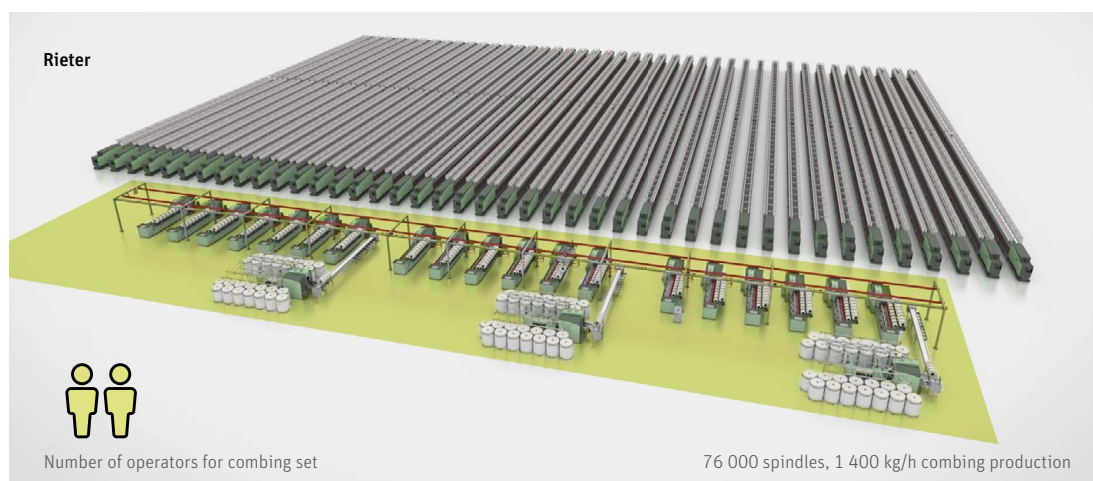


Fig. 2 Combing section with new E 36 OMEGAlap and E 86 ROBOLap comber including lap transport system E 26 SERVOlap.



PRODUCT NEWS

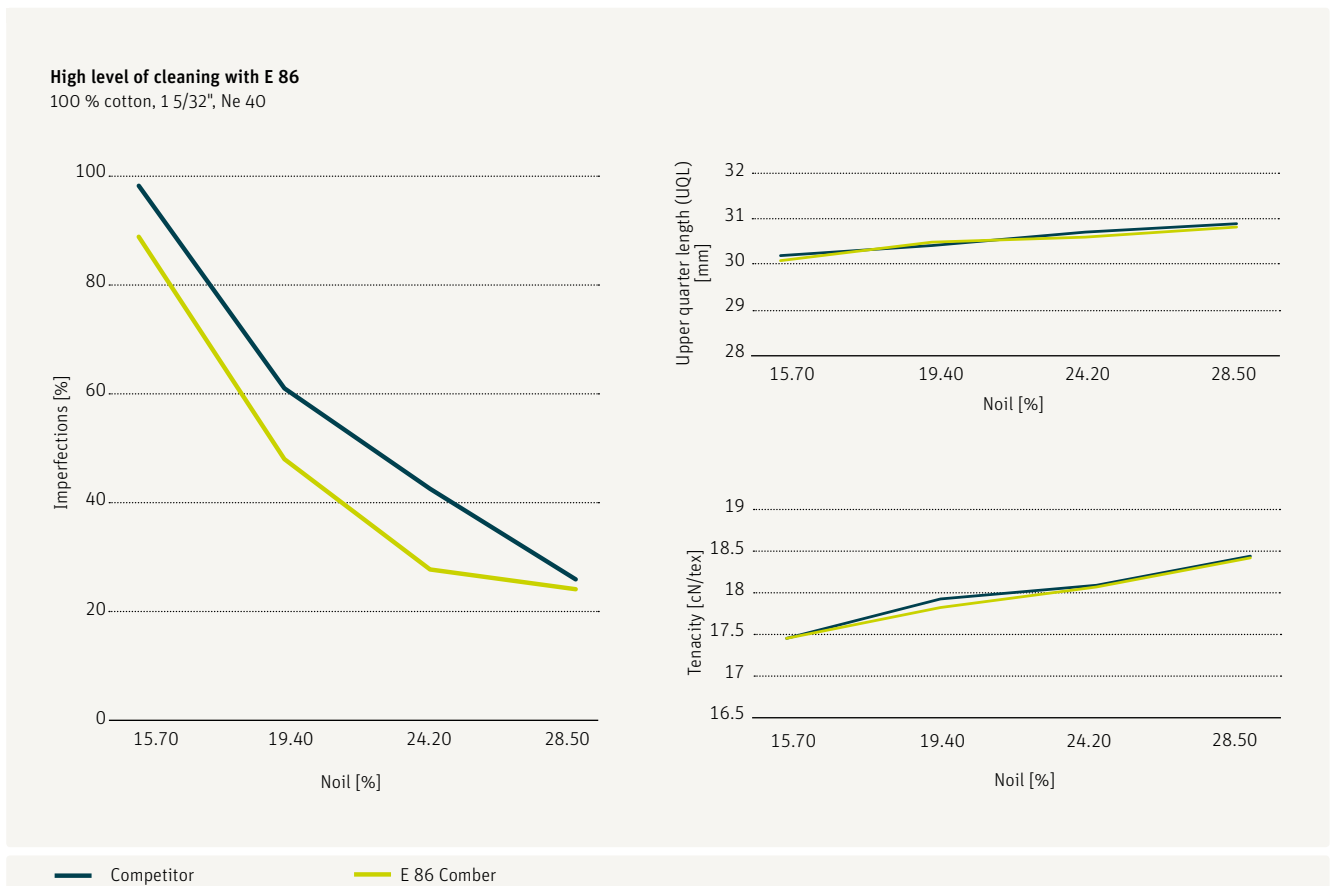


Fig. 3 The E 86 comber with higher level of cleaning: fewer imperfections without affecting the fibre length and the yarn strength.

76 000 spindles was calculated. Compared to other machine manufacturers, the personnel requirement can be reduced by 3 persons. This is realised by the efficient combing preparation, the SERVOlap fully automated lap transport system and the comber including the ROBOlap automated lap changing and piecing system (Figs. 1 and 2). The personnel saving for the combing preparation machine can be up to 20 %. That reduces the manufacturing costs by approx. USD 190 000 per year (basis Turkey).

E 86 Comber – for better combing

The new E 86 comber features a speed increase of 10 % compared to the previous model. In the short and medium staple ranges, combing can be made with 550 nips per minute, and that without compromises in the combing quality. In practice, a Rieter combing set (1 + 6) supplies a plant with approx. 25 000 compact spindles.

Higher level of cleaning for better quality

The strength of the E 86 comber lies in a high level of cleaning as well as excellent running performance with high nip rates.

The E 86 achieves fewer imperfections in the yarn (thin places, thick places, neps) at the same noil removal level compared to combers from other manufacturers. The high degree of cleaning has no effects on the fibre quality. That means, the fibre length remains unchanged and thus the yarn tenacity at a high level (Fig. 3).

Furthermore, the E 86 attains an improved dust and trash elimination of up to 20 %. The short fibre content, the hairiness as well as the evenness in the yarn remain unchanged (Fig. 5).

PRODUCT NEWS

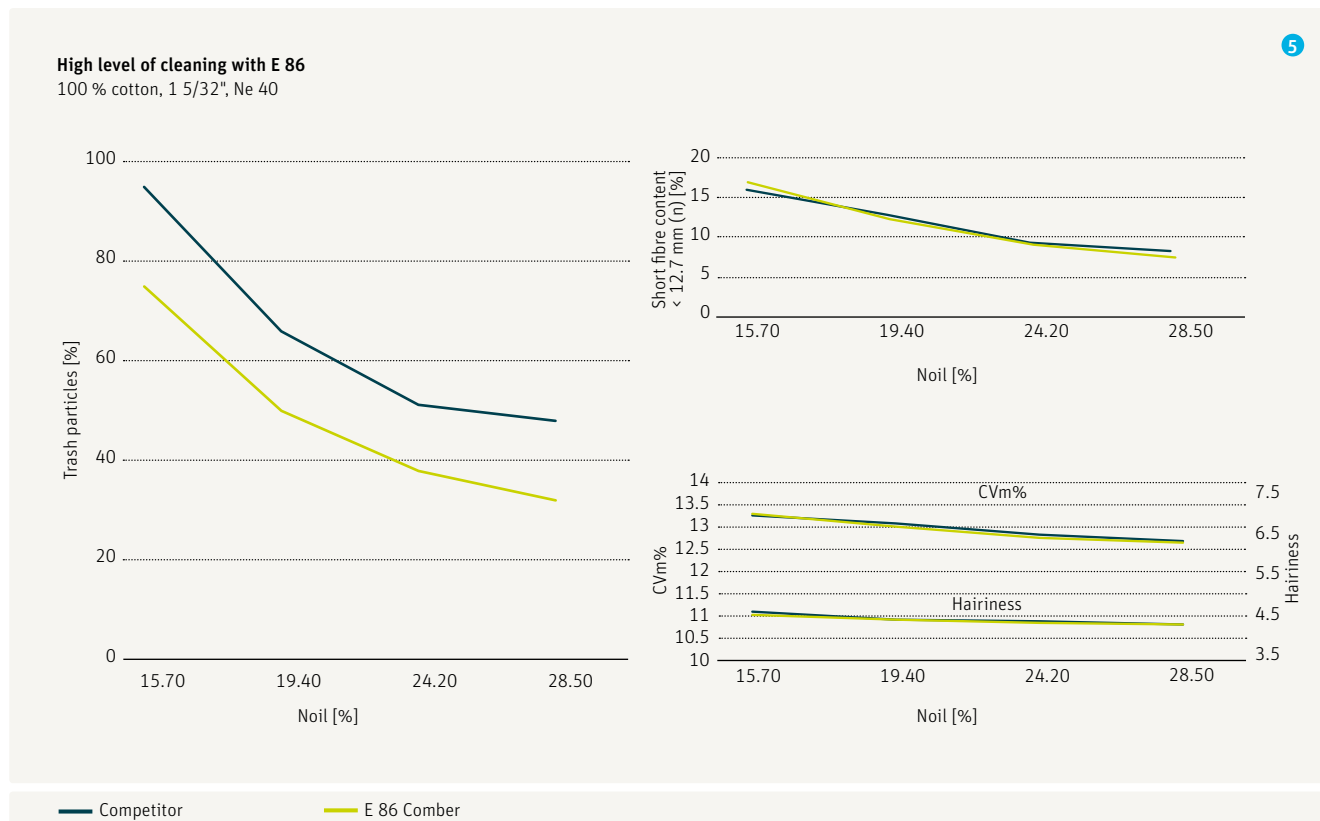


That means, that in both examples, a higher cleaning effect is achieved by means of stronger combing intensity without compromises in the combing quality.

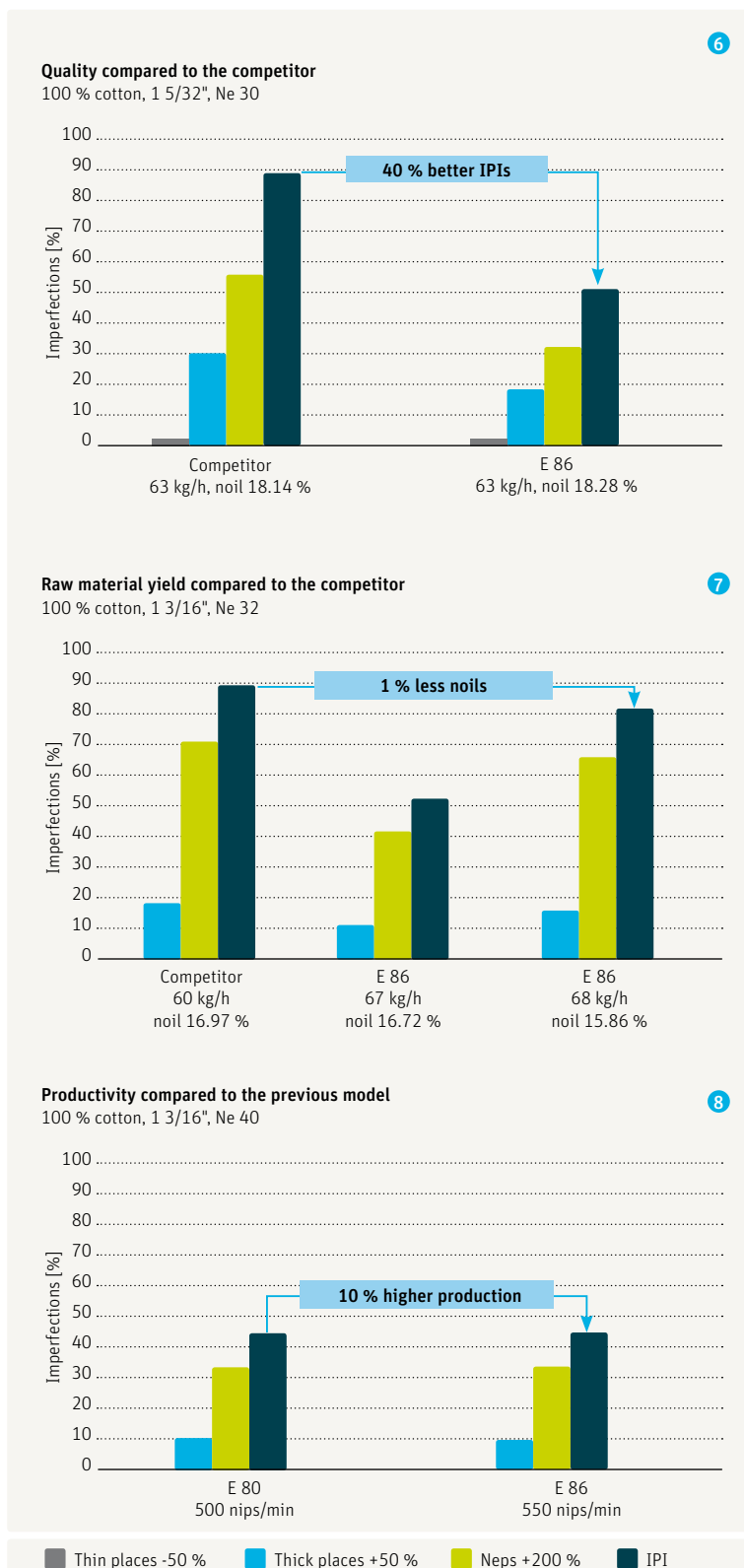
A further example from Southeast Asia shows better yarn quality with the E 86 compared to another manufacturer. At the same production performance and the same noil removal, the imperfections are lower by 40 % (Fig. 6).

The raw material is a considerable cost factor in the spinning mill. With the E 86 noil removal can be reduced by up to 1 % at equally good yarn quality (Fig. 7). That generates cost savings of up to USD 55 000 annually (example Central Asia).

Fig. 5 The E 86 with higher cleaning level: fewer trash particles without fibre damage.



PRODUCT NEWS



The production performance also positively affects the costs of the spinning mill. The E 86 has the potential to achieve a 10 % higher production in comparison to the previous model, at the same noil removal and yarn quality (Fig. 8). That corresponds to a saving in manufacturing costs of about USD 20 000 per year and combing set (basis Turkey).

The right technologies for an efficient combing set

The E 86 comber with its high production at simultaneously high quality leads the way in combing. Individual quality demands can be realised thanks to high-value technology components. The established, fully-automated ROBOLap lap changing and piecing system is the standard for a modern combing facility. Together with the unique OMEGAlap preparation, the highest production per set on the market is achieved.

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Fig. 6 E 86: 40 % better imperfection rate.

Fig. 7 E 86: up to 1 % noil saving at the same yarn quality.

Fig. 8 E 86: 10 % higher production at the same good yarn quality.



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GUEST ARTICLE

Spinning cans – quality is decisive

Dante Bertoni Srl is a supplier of cans for the spinning mill. The company profits from more than 90 years experience and continually invests in research and development. Various patents and specialities, such as the EverClean guiding pulleys and the self-centring springs, are the basis for high quality cans. The following guideline explains the decisive quality criteria.

If you ask a spinning manager how important the spinning cans are for a mill, he will surely answer that this accessory significantly contributes to the manufacture of a high quality sliver. Nevertheless, the subject of “cans” is seldom found in technical textile literature. To enable decision-makers to evaluate the quality of a can, the most important five criteria are summarised in this article.

A spinning can consists essentially of a cylindrical container equipped with wheels. A plate on which the sliver lies is lifted by a spring in such a way that the sliver is deposited near to the sliver delivery. The can may be additionally equipped with optional accessories for easier handling or better sliver quality.

Fig. 1 Robust cans with the adhesion-free fibre rollers “EverClean” make the operators' work easier.



Although all manufacturers follow the same design previously described, a quality can differs from other cans by several important characteristics, often not immediately understandable and visible.

Can body – robust and scratch-resistant

The body of the can should be robust, but not heavy. Before the introduction of plastic materials, the can body was typically made of vulcanised fibre, mainly originating from pure cotton pulp processed with zinc chloride (vulcanisation). This gives the can the necessary hardness. Unfortunately, even here economies led to the use of “fake” fibres of much lower quality, mainly wood cellulose instead of cotton. Often these “fake” fibres were even not vulcanised resulting basically in a cardboard can body, although very similar in appearance to the version made of vulcanised fibre.

With the introduction in the 1980s of plastics, particularly polyethylene, the use of vulcanised fibres ended. However, also with plastic products there are great variations in the quality – in terms of density and surface resistance to scratching – with consequently significant price differences. A plastic material of greater thickness does not necessarily mean higher product quality. It mostly hides a low polymer quality, especially as far as scratch-resistance is concerned, which is very important for the can.

Metal components – precise and rust-free

So that a can is sufficiently robust, its metal parts – the base plate and rim – must be the correct dimensional size as well as the correct thickness. The metal must have had an anti-corrosion treatment. Obviously the use of stainless steel would be the best solution, if not for the high price. A good compromise is galvanised steel.

Rollers – adhesion-free for easy guidance

The wheels are especially important (Fig.1). Regular cleaning of the rollers is one of the main technical problems of the maintenance in the spinning mill. Commonly-used fork castors collect waste fibres from the floor, as they easily block the roller and lead to the can tipping over.

GUEST ARTICLE



Fig. 2 Irrespective of the can content, the plates with the raw material are always straight and at practically the same height, which ensures the sliver quality.

Possible consequences would be deformation of the top ring and also make reprocessing of the sliver necessary. Special castors are therefore recommended, for instance of the type “EverClean” which do not pick up any fibres. They are a decisive quality feature.

Springs – self-centring for perfect sliver coiling

A sliver draft changes the sliver fineness. For this reason, it is essential to select a spring with a spring tension suitable for the fibre weight and especially with linear response during compression and release. In addition it is necessary for the spring to always be centred in the can in order to avoid tilting of the plate that would damage the sliver. The springs used by Dante Bertoni exhibit a special shape. The spring thereby always remains in its centred position without outside intervention. The tilting of the plate is therefore prevented (Fig. 2).

Plate – optimal surface

When filling the cans, the surface finish of the plate becomes important. The roughness is not so important in the card cans as here the plate can exhibit a smooth surface. This is different with the subsequent processes. On plates with smooth surfaces, the sliver slips at the beginning of the sliver coiling process. An excessively rough surface may damage the fibres, especially with finer count sliver. Based on Dante Bertoni's many years of experience, a plate surface was created with small rounded surface elevations – a good compromise.

In this way, the sliver is fixed on the plate – especially important with fine slivers or with high delivery speeds.

Accessories – influence on ergonomics and quality

Accessories improve the handling of the cans, both in terms of work ergonomics and also quality of the yarn.

If the can has handles (Fig.3), the operator does not have to hold the can by its rim. The sliver is therefore not touched by the operator's fingers and remains undamaged. Furthermore, a bumper is recommended. That is a special rubber band with appropriate profile and available in different colours, and serves to protect the cans and to differentiate between the can content.

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Fig.3 Handles on the cans ensure good sliver quality – the sliver in the can stays untouched.



Valentino Orrigoni

Dante Bertoni SRL, CEO

TRENDS & MARKETS

CMT: honesty above all

The Compagnie Mauricienne de Textile Ltée (CMT) is not only the most successful textile and apparel company on Mauritius, but also the biggest employer. An interview with interesting insights.

The Compagnie Mauricienne de Textile Ltée (CMT) was founded in 1986 by Louis Lai Fat Fur and François Woo Shing Hai. Today CMT is the largest vertically organised knitwear manufacturer, and with 25 000 employees the island's largest employer. During a recent visit to Mauritius, François Woo and his Managing Director Anubhava K. Katiyar explained to Rieter how it all started, spoke of their time over the first two decades and how they see the future.

30 Rieter C 51 cards have been operating to the satisfaction of CMT since 2004.

Rieter (R): *Mr. Woo, please tell us something about the beginning.*

François Woo (Woo): Well, I must say that when we started with our ambitious plans, we were – so to speak – completely blind. We had no business plans, no so-called concept, etc. The only thing we knew was that achieving our goals was linked to an enormous challenge. Even today, sometimes I can't believe how far we've come and where we are today.

R: *So a dream came true?*

Woo: Today CMT employs some 13 000 people in Mauritius. At the moment we are erecting a new plant in Bangladesh because capacity on the island is exhausted. When this new 50 000 square-metre, 7-floor building is finished, and that should be at the end of 2015, CMT will employ between 20 000 and 25 000 people.



TRENDS & MARKETS



François Woo Shing Hai, one of the founders of The Compagnie Mauricienne de Textile Ltée. (CMT)

R: *What is your company philosophy?*

Woo: Of course the main focus of every business is to be profitable. Financially we are very soundly based. However, in our thinking it's not only the money that counts. I believe the most important thing in life is to do everything well and right the first time. A passion for the job must be there and this passion is necessary to be successful. If you work really hard with perseverance, I'm quite certain that you can achieve almost everything.

R: *For a vertically integrated company creativity is one of the main success factors. Would you agree with that?*

Woo: Absolutely. Our success is founded on our ability to be creative. As a producer from the yarn through to the finished garment, we depend very much on trends, colours, new yarns and fabrics. That's why we have our own creative department here on the island, but also in London with some ten people and in Paris with five to six people. Today, our customers want to see new products all the time. Therefore, we also depend very much on the best machinery to realise these new fashion products. We invest a lot of money in technology and fashion, that means in creativity. Today we are able to turn our ideas into products within 24 hours.

R: *The current market situation is quite tough throughout the different regions of the world. Mr. Woo, how do you view the current market situation?*

Woo: Prices have been going down continuously for 30 years. It's getting tougher every day. On the other hand, we have invested a lot of money in flexibility. We have no stocks, but we must be able to deliver almost any quantity within extremely short lead times.

R: *Because no customer wants to take the risk of holding stocks and CMT has to play the role of the bank?*

Woo: This is absolutely the case. 10 to 15 years ago our customers ordered big quantities with "normal" delivery lead times. Today, we are in a somewhat virtual business with small lots and extremely short delivery lead times. To be prepared for this you also need very high efficiency, and I am proud to say that, thanks to Mr. Katiyar and his staff, we run our production at an efficiency ratio of over 97 %.

R: *Where are your main competitors based?*

Woo: First of all there is Turkey. This is a very traditional textile country, where you find specialists for everything. In our country, we started from scratch. How do you compete in this situation? It's like the sheepdog against the shepherd. I am certain this situation will last for some years yet.

R: *Do you have problems with the market situation?*

Woo: Like everyone else. As in many other industrial sectors we have an excess of supply. However, supply is not the problem, but demand.

R: *CMT wants to have total control of its products. Is this the reason for being a 100 % vertically oriented company?*

Woo: For sure. We are producing and selling garments, so we need and want to have full control of the quality along the whole production chain.

TRENDS & MARKETS



Anubhava K. Katiyar,
Managing Director of
CMT

The K 45 compact spinning machines fulfil the flexibility requirement of CMT.

R: *The relationship with Rieter Ltd. in Winterthur started in 2003, when CMT ordered the machines for its first spinning mill. Are you happy so far with the machines?*

Anubhava K. Katiyar (AKK): Absolutely. Production has been running since 2004 to our entire satisfaction. When we bought the machines, Rieter was known for its top technology, flexibility and service. And we are still very happy with the machines.

Our expectations were completely fulfilled. A major reason for our entire satisfaction is that Rieter provides an excellent after-sales service. An important fact is that we are not fighting against each other but working together. Today, our cooperation is very far-reaching. We even do test runs for Rieter upon request.

R: *What was necessary to keep the efficiency of the spinning mill at such a high level?*

AKK: First of all, we're always on top of the latest technological developments and updates, which contribute a lot to maintaining this high efficiency. However, we are still trying to get better.

R: *Are there any future investments in sight regarding Rieter machines?*

Woo: We have an investment plan which already includes this issue. And the answer to your unexpressed question, "Would you buy Rieter machines again?" is yes.

R: *How does CMT see the market over the next few years?*

Woo: Very hard. Tougher than ever. I would call it "the survival of the fittest." Nevertheless, I have such a good team with Mr. Katiyar in the lead that I am pretty certain that we will make it.

R: *Has the economic environment changed over the past six years?*

Woo: Yes, very much so. It has changed a lot. We too must adapt to the volatile economic climate. That's how the idea came up to build a factory in Bangladesh for the more basic products.

R: *You are building a factory in Bangladesh in spite of all the continuing social problems?*

Woo: You know, there are different ways to approach a project. Many have failed and tragic projects were not very well prepared. We work in a different way. My son is taking care of all the activities in Bangladesh and is reporting directly to me. It's not only the money that counts, above all it's the people.

R: *What do you do to maintain your position in the market?*

Woo: I can't give you an answer to that question. We must fight every day to keep this position. We have to be honest to everyone. To our personnel, our suppliers, our customers, just to everyone. This is enormously important. You always have to first earn what you want.



TRENDS & MARKETS

The company history of CMT begins with the following words: "It started with simple and humble ideals back in 1986 but lived to the vision of becoming the world's leader in the jerseywear industry."



Production

Currently CMT has a turnover of USD 275 million. Some 20 000 people are employed in manufacturing and service centres at 18 sites in six countries and export some 75 million garments a year. 60 % are exported to Great Britain, 30 % to France, and the remaining 10 % to the USA, Germany, the Netherlands and South Africa.

The spinning mill operates 32 400 ring spindles and 36 000 compact ring spindles, all from the Swiss manufacturer Rieter, as well as some air-jet spindles. To be even more flexible in meeting the demands of its customers, CMT recently installed an R 60 rotor spinning machine with 500 spindles.

Average daily production is 50 tons of yarns of different counts. Staple fibres made from virtually every raw material, such as cotton, wool, Modal, viscose, polyester, polyamide, acrylics, linen and all kind of blends, even metallic fibres, are processed. The yarn count ranges from Ne 1/1 up to Ne 100/1.

The entire output is used for the in-house production of knitwear. The capacity for knitting and dyeing amounts to around 80 tons daily. Some 250 000 garments are cut and sewn every day, 40 000 items embroidered and 50 000 printed. 75 million garments are exported every year.

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Edda Walraf

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TECHNOLOGY

Easy and fast to the new yarn

Today spinning a weaving yarn for shirts, tomorrow a knitting yarn for T-shirts. No problem. The Rieter Spinners' Guide helps to quickly find the right set-up for the spinning process and setting recommendations for the end spinning machine. It also provides support with optimisation of the technology components.

The Spinners' Guide is based on extensive technological know-how. Based on the end application, the spinner finds technological information on the spinning process for different yarn counts and fibres, and basic settings for the spinning processes ring, compact, rotor and Air-jet spinning.

What can the Spinners' Guide do?

The Guide is intuitive and easy to consult and offers the following functions:

- extensive setting recommendations and technology parts for each spinning process and application (Recipes given, Fig.1)
- process recommendations from the fibre preparation through to end spinning machine
- overview of all available technology components of the end spinning machine
- creating personal favourites*
- saving your own notes*
- helpful definitions and conversions.

**only in the electronic version*

A possible scenario in the spinning mill

The customer is spinning yarns from 100 % cotton on ring spinning machines. As the market increasingly demands cotton-polyester blends, the customer wishes to reorganise his production. In the Spinners' Guide he finds under "Ring spinning" and "Polyester blends" recipes from which he can select the suitable yarn. The recipe shows him the necessary settings and technology parts for the desired application. The customer can also retrieve the recommended machine set-up from the blowroom to the end spinning machine.

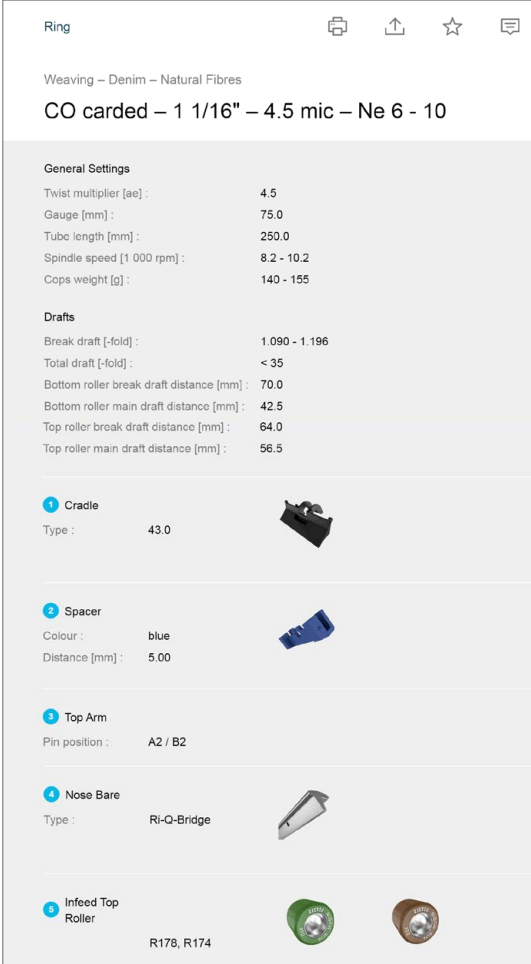
What does the Spinners' Guide look like?

The Spinners' Guide is available in printed form. An electronic version is exclusively available for SPIDERweb customers and Com4® licensees.

In printed form, the Guide is available for the:

- ring spinning machine
- compact spinning machine
- automated rotor spinning machine
- semi-automated rotor spinning machine
- air-jet spinning machine.

The Guide is easy to understand and simple to handle, as it consists of numerous images and very little text. It is available in English. The recommendations apply for the current Rieter models.



The screenshot shows the following settings and components:

General Settings	
Twist multiplier [ae]	4.5
Gauge [mm]	75.0
Tube length [mm]	250.0
Spindle speed [1 000 rpm]	8.2 - 10.2
Cops weight [g]	140 - 155

Drafts	
Break draft [-fold]	1.090 - 1.196
Total draft [-fold]	< 35
Bottom roller break draft distance [mm]	70.0
Bottom roller main draft distance [mm]	42.5
Top roller break draft distance [mm]	64.0
Top roller main draft distance [mm]	56.5





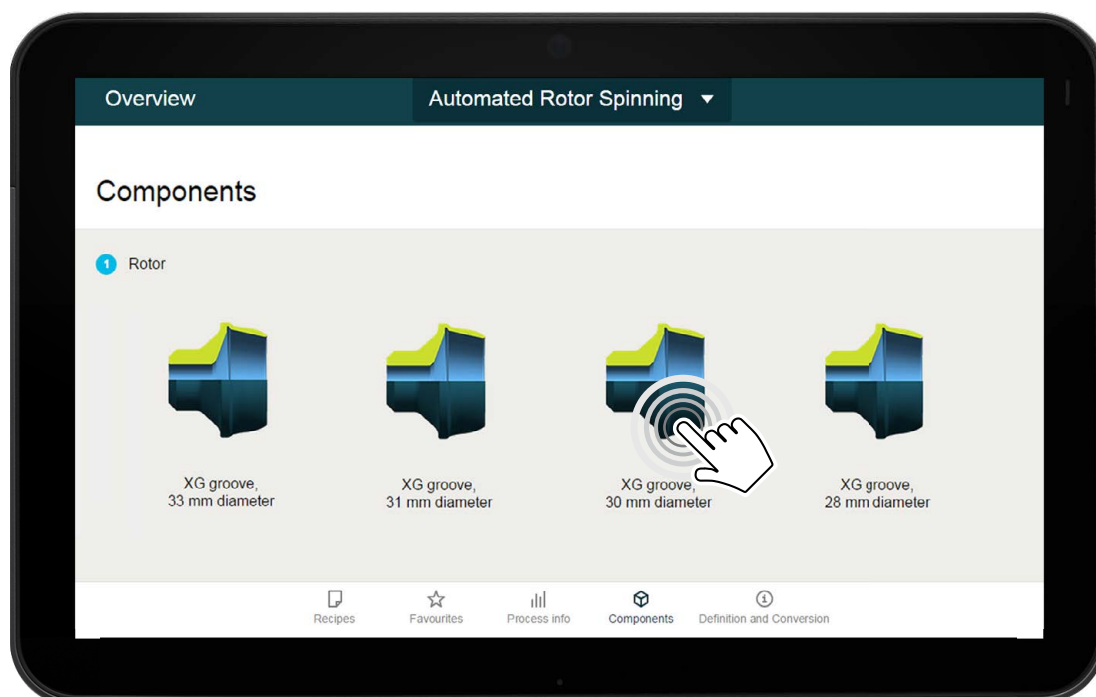
1 Cradle	Type :	43.0	
2 Spacer	Colour :	blue	
	Distance [mm] :	5.00	
3 Top Arm	Pin position :	A2 / B2	
4 Nose Bare	Type :	RI-Q-Bridge	
5 Infeed Top Roller		R178, R174	

Fig. 1 In the Rieter Spinners' Guide, the customer finds numerous setting recommendations for producing quality yarns.

Fig. 2 The digital Guide is even more convenient than the paper version. It is exclusively available for SPIDERweb customers and Com4® licensees.



What are the advantages?

The customer finds a default setting and the appropriate technology parts for his desired yarn. That saves valuable time. In addition, he profits from process recommendations from the bales to the yarn, based on the know-how from Rieter as system supplier.

The electronic Guide offers even more. The respective recipe can be electronically sent as a document. Furthermore, the click on a technology element shows with which other articles the same element can be used. The components store can thus be optimised. Recipes can also be marked as favourites and saved along with personal notes.

Who can order the Guide and how?

The Spinners' Guide is free of charge for Rieter customers with the current Rieter end spinning machines. The Guide in paper form can be ordered through the Rieter contact person.

Exclusive for SPIDERweb customers and Com4® licensees, the Guide is also available electronically. It is an app, which runs on a tablet, iPad or computer (Fig.2). The app is personified and can be requested from the following email address: digvijay.sable@rieter.com.

The following details are required:

- First name
- Surname
- Company name
- Personal email address.

The Rieter Spinners' Guide – the reference work for successful spinners.

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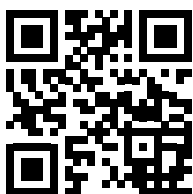
Anja Knick

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AFTER SALES

Retrofit packages for man-made fibres

In the recent years, the textile industry has witnessed a continuous increase in the use of man-made fibres. Clothing companies are embracing synthetic fibres and yarn manufacturers are looking at converting their machines to remain in the game. Rieter After Sales provides special packages to retrofit existing equipment to today's needs.



<http://bit.ly/RASvideo2015>

Based on the globally growing per capita income and the constant quantity of cotton available, the production of synthetic fibres and blends will continue to grow to cover increasing demand. Asian countries such as China and India will especially push this change due to their growing income levels.



For these reasons, customers need to adjust their entire spinning mill process to produce high-quality synthetic yarns.

Expert teams

It is therefore important that adequately trained management personnel is available, with the necessary technical and technological knowledge. While technical knowledge relates more to machines, technological aspects are concerned with processing. The competent After Sales team covers all important aspects and helps customers to find the best solution.

An integrated solution

Rieter After Sales offers various conversion packages to upgrade existing mills for all production steps: from fibre to yarn, from blowroom to end spinning.

A solid understanding of the machine settings and maintenance procedures is a prerequisite for a sustainable high performing yarn production. Rieter experts know the machines like the back of their hands and can assess and optimise the spinning mill to help customers compete effectively in the competitive environment.

Comfort is: A partnership at eye level

Rieter is worldwide the only supplier of outstanding complete systems for all four spinning processes. Your success matters to us. Success is based on trust. Trust is know-how. We support you with progressive modernisations of spinning facilities and comprehensive services.

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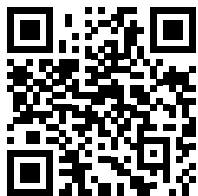
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OUR CUSTOMERS

That is “The Comfort of Competence”

Customers trust in complete systems from Rieter when making investments. Experience what Rieter understands under “The Comfort of Competence” by the example of Gildan, a customer in the USA.



<http://bit.ly/Gildan-Rieter-video>

Gildan has commissioned a highly automated rotor spinning mill with 27 000 rotor boxes in Salisbury (USA), supported by Rieter as system supplier. Gildan has decided in favour of Rieter because Rieter offers everything from one source. We already reported on this in the last edition of Link and drew attention to the reference brochure.

A comprehensive insight into the world of Gildan is shown by a video. Under the slogan “The Comfort of Competence”, it can be clearly seen what customers can expect from Rieter.

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From capital budgeting through to return on investment, Rieter supports its customers in achieving defined goals.



Joachim Maier

Senior Marketing Manager
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From our customers’ point of view



“Our partnership with Rieter with respect to spinning mill and service contributes to differentiating our product range on a high quality level.”

CHUCK WARD
President, Gildan Yarns, LLC

Gildan is a leading supplier of high-quality branded apparel, such as T-shirts, fleece jackets, sport shirts, underwear, socks and hosiery. The company sells under its own various trademarks but also has licences for the Under Armour®, Mossy Oak®, and New Balance® brands. The products are primarily marketed in the USA, Canada, Europe, Asia Pacific and Latin America. Worldwide the company employs more than 43 000 employees. Gildan has an extremely flexible production and can ensure the highest quality standards from the fibre to the end product.

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CMT, a company on the island of Mauritius, spinning approx. 50 tons of yarn daily from varying staple fibres.