



R 60 Fully Automatic Rotor Spinning Machine

The new generation of rotor spinning machines





RIETER

The Comfort of Competence

Rieter is the leading supplier of installations for manufacturing yarns from short staple fibers. Rieter is a competent partner, dedicated to making customers' lives easier by offering care and support from the initial investment discussions to the successful operation of a spinning mill. Rieter's comprehensive know-how from fiber through yarn to the finished textiles provides the basis for innovative machines and consistent yarn quality.

VALUABLE SYSTEMS

Rieter is the only textile machinery manufacturer able to supply all 4 spinning processes and thus provide customers with competent and independent advice, tailored to their individual needs. The outstanding price/performance ratio, high raw material utilization and the longevity of the products makes an investment in Rieter machines extremely attractive. From its inception in 1795 in Switzerland, Rieter has developed high quality standards. All manufacturing facilities are ISO-9001 certified.

CONVINCING TECHNOLOGY

With its comprehensive technological know-how covering all 4 spinning processes through to the textile end product, Rieter advises and assists customers in selecting the right spinning process. A modern training center in Winterthur and five spinning centers with textile laboratories located world-wide are at the disposal of customers for spinning trials and training purposes.

SUPPORTIVE PARTNERSHIP

Dedicated sales and service centers support customers throughout the world. Customers have benefited from this comprehensive network for their entire spinning operations over decades.

Put your confidence in Rieter's competence and enjoy the comfort of partnership!

The innovations of the new R 60 automated rotor spinning machine focus on market needs, based on the strong and successful foundation of the earlier R 40 model.

HIGHER PRODUCTIVITY

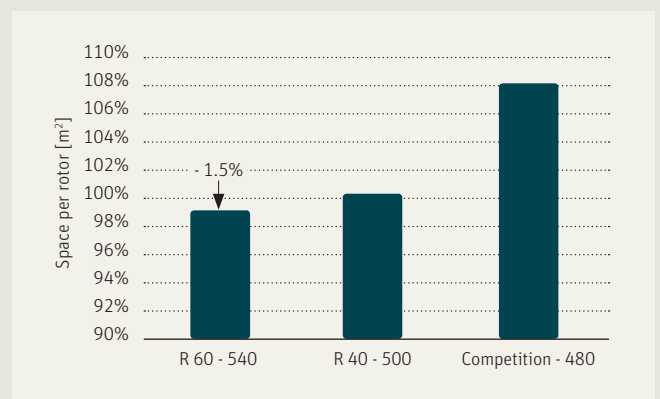
The new S 60 spinning box features optimized spinning geometry that offers additional productivity potential of 5%. With an unsurpassed machine length of 540 spinning positions and a narrow machine design, Rieter again sets the benchmark for maximum productivity per square meter.

INCREASED ECONOMY

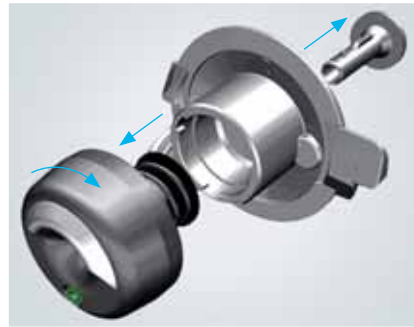
Up to 4 robots with very short cycle times result in unsurpassed efficiency, even with high breakage rates. Yarn manufacturing costs with the R 60 are reduced thanks to the lower energy consumption of the machine.

ENHANCED FLEXIBILITY

Weaving yarn on the left, knitting yarn on the right? No problem with the R 60. Completely independent machine sides (option) allow maximum flexibility. For separate lots, clear separation of empty tubes and full bobbins is guaranteed by the independent, double-sided tube loader concept and two separate package transport belts.



Reduced space requirement for long R 60



Unique TWISTUnit for easy and fast exchange of nozzle, channel insert and TWIST-stop without tools

ECONOMY

High productivity with superior quality

The R 60 offers up to 540 spinning positions per machine. This makes it the longest rotor spinning machine in the world. With this large number of rotor positions, high delivery speeds of up to 260 m/min are possible. Shorter machines can even achieve speeds of up to 350 m/min. Rotor speeds up to 170 000 rpm complete the high productivity potential.

TECHNOLOGICAL ADVANCE WITH THE S 60 SPINNING UNIT

The new S 60 is based on the outstanding properties of the SC-R spinning box, supplemented by valuable innovations. All the main advantages, such as Bypass, fixed fiber support, fixed fiber tuft support and SPEEDpass are also to be found in the new S 60 unit.

With the R 60, rotor speeds up to 5% higher can be achieved without jeopardizing yarn quality. The new spinning geometry of the R 60 lowers spinning tension. The result is fewer yarn breaks during spinning and better working capacity of the yarn produced for the next process.

The “cool nozzle” design prevents fiber accumulations and improves heat dissipation in the technologically important area of the exit nozzle. Especially when producing synthetic fibers, the cooling effect of “cool nozzle” technology has a very positive impact on productivity and quality.

USER-FRIENDLY AUTOMATION CONCEPT

The simple, modular design of the robots on the R 60 permits fast cycles for package changing (doffing), piecing and rotor cleaning in just 20 seconds.

The R 60 can be equipped with up to 4 of these fast robots

- providing the highest machine efficiencies
- producing strong and invisible piecings with AEROpiecing®
- cleaning the rotor grooves perfectly with VARIOclean at each piecing and doffing cycle.

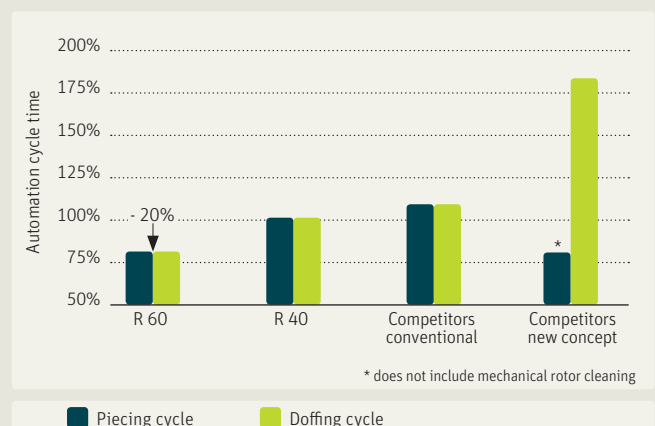
Only Rieter provides individual robot service stations at the foot end and headstock of machines with more than 2 robots. They enable the other robots to easily take over service for the whole machine if one of the robots is undergoing maintenance.

The user-friendliness of Rieter automation systems for rotor spinning machines is mill-proven and well established. Your maintenance staff will enjoy working with the R 60 robots.

Settings are made very comprehensively by means of the unique eXpert Piecing System XPS. Only 6 parameters have to be set on the robot's graphic display. Ergonomics and short maintenance times are guaranteed.



New S 60 spinning unit with “cool nozzle” technology



Cycle time reduced by 20% for piecing on the R 60 always includes VARIOclean rotor cleaning



BYpass on the S 60 enables trash extraction to be adjusted for better spinning results

FLEXIBILITY

Prepared for fast-changing market conditions

Flexibility is one of the strategies for being successful in global yarn markets. The new R 60 rotor spinning machine generation offers rapid adaptation and maximum flexibility with regard to yarn counts, yarn types, raw materials, blends and final application.

INDEPENDENT MACHINE SIDES

The independent sides of the R 60 (option) enable spinning mills to produce two different lots simultaneously on one machine without the risk of confusion. For fast doffing, the robot carries an empty tube. The two-sided UNIfeed tube loader with a total capacity of more than 690 empty tubes guarantees very long running autonomy, especially when producing coarse yarn counts, which usually means a high number of package changes.

FAST LOT CHANGES

With the new R 60, lot changes are made even faster than before. Setting of lot parameters on the new graphic machine display is easier. All spinning elements of the new S 60 spinning box can be exchanged rapidly and without any tools. The unique TWISTunit consisting of exit nozzle, channel insert and TWISTstop is replaced in a few seconds. Using the option of independent machine sides, lot changes can be realized side by side on the machine. While packages are still filling up on one side, the other side can already start up with the new lot.

EASY SETTING

Setting lot parameters on the R 60 is also easier. All settings are made electronically with only a few keystrokes. The new machine display with its graphic desktop and simple, clear menu structure offers easy operating comfort and an excellent overview. For the robot, only 6 parameters are needed to make the complete setting for piecing, thanks to the XPS expert system.



UNIfeed tube loader of standard machine



Double-sided tube loader for independent sides (option)



Easy robot setting with eXpert Piecing System



Easy setting with new graphic machine touch screen display

THE NEW GENERATION OF ROTOR SPINNING MACHINES

More economical with higher productivity and quality



PRODUCTIVITY

- Machine length of up to 540 positions with rotor speeds up to 170 000 rpm
- Higher machine efficiency with lower spinning tension, resulting in fewer yarn breaks
- Higher speeds with synthetic fibers thanks to “cool nozzle” technology
- Very fast robots for high machine efficiency even at high rates of ends down and clearer cuts
- Minimal operator cost, using large can and package sizes of up to 6 kg and 350 mm diameter

FLEXIBILITY

- Independent machine sides to produce two different lots simultaneously (option)
- Easy lot change with all spinning elements and the new TWISTunit
- VARIOspin (option) powered by Amsler Tex for the production of high-quality slub yarns with maximum productivity
- 1, 2, 3 or 4 robots with service stations for easy robot service with little influence on machine efficiency
- Double capacity tube loader with independent sides (option)



QUALITY

- Superior yarn evenness and quality with the new S 60 spinning unit
- "Cool nozzle" technology prevents fiber damage, especially with synthetic fibers
- Superior running performance achieved with adjustable trash extraction using Bypass
- Highest yarn quality due to the fixed fiber tuft support and SPEEDpass (optional)
- Broad spinning component portfolio for optimal yarn construction

ECONOMY

- Up to 5% less energy consumption thanks to newly designed rotor geometry and suction system
- Low loss of good fibers thanks to the Bypass system of the S 60 spinning unit
- Good space utilization due to narrow machine design and 540 spinning positions
- Easy access for fast operation and maintenance

QUALITY

High efficiency in downstream processing



Yarn-like piecings with AEROpiecing® reduce stops in weaving to a minimum

The new S 60 spinning unit produces quality yarn with constant high strength and elongation. In addition, the patented AEROpiecing® piecing principle produces yarn-like piecings. This guarantees high efficiency in the downstream process. Costly breakages in weaving preparation or loom stops can be reduced to the absolute minimum.

YARN QUALITY

The S 60 spinning unit surpasses the already very high quality benchmark of the legendary SC-R spinning unit used on the R 40 with better yarn evenness and lower imperfection values. This advance has been achieved with a new device, which individually centers the nozzle towards the rotor each time the spinning unit closes.

AEROPIECING® PIECING QUALITY

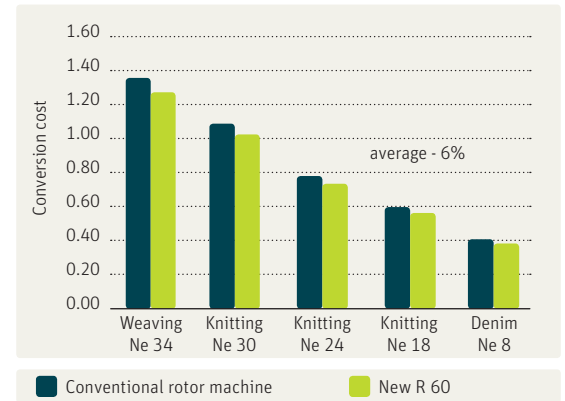
The proven AEROpiecing® technology has been enhanced. Immediately after each yarn break, the innovative single feed drive pulls back the sliver into a protected position. Prior to each piecing, the patented VARIOclean system of the robot cleans the rotors efficiently with two scrapers and compressed air. A perfectly cleaned rotor groove is the prerequisite for superior yarn and piecing quality. Piecing always takes place at a predefined, constant rotor speed. The result of AEROpiecing® are real yarn-like piecings, which perform exactly like yarn in the downstream process.



Unique AEROpiecing® technology for yarn-like piecings

ECONOMY

Reduced yarn conversion cost



Conversion cost can be reduced significantly with higher productivity and lower energy consumption

The new generation rotor spinning machines R 60 needs less energy. This reduces one of the main cost drivers in rotor spinning. For this purpose the rotor and suction drive systems, which are the biggest energy consumers in the machine, were redesigned.

NEW ROTOR GEOMETRY

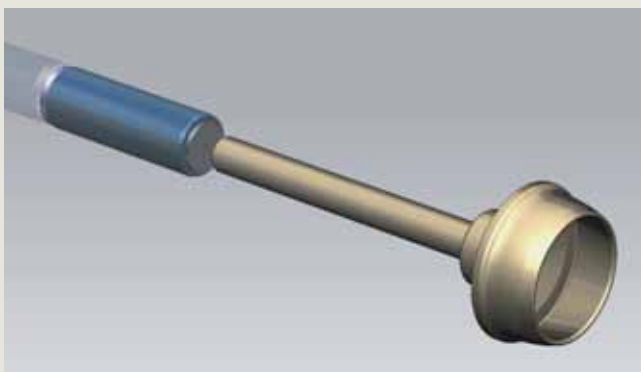
Thanks to the new dimensions of the rotor shaft the entire drive system runs at slower speeds. This leads to reduced energy consumption per rotor.

FRICTION-FREE AXIAL ROTOR BEARING

The friction-free AERObearing enables tangential belt pressure to be reduced, which results in significant energy saving.

ENERGY-SAVING SUCTION SYSTEM

The frequency-controlled inverter drive for the main suction ventilator generates constant negative pressure for spinning and facilitates precise and economical setting. In addition, the intelligent filter cleaning system prevents unintended waste of energy when the filter is filling up. As a result, overall energy consumption of the main fan is reduced.



Friction-free AERObearing and energy-saving rotor geometry



COMFORO® YARN

The Rieter quality rotor yarn

ComfoRo® yarn is the Rieter brand for high-quality rotor yarns from R 40 and R 60 rotor spinning machines.

UNIQUE YARN QUALITY

ComfoRo® is based on the unique yarn quality of the SC-R and S 60 spinning boxes in combination with yarn-like piecings using AEROpiecing® technology. Thanks to the XPS system, this high piecing quality can be achieved easily and safely. ComfoRo® yarn is characterized by superior properties in downstream processing.

PRE-SET YARN CHARACTERISTICS

Yarn properties and yarn characteristics are optimized by the selection of spinning elements suitable for the application. ComfoRo® rotor yarns designed according to the requirements of the following process deliver the best results in the final product.

ECONOMICAL COMFORO® PROCESS

Lowest production costs per kg of yarn are the key to competitiveness. Significantly fewer machines with maximum productivity, reduced power consumption and space requirements, and less operating and maintenance personnel are characteristics of the Rieter rotor spinning mill.

ECONOMICS OF DOWNSTREAM PROCESSING

ComfoRo® weaving yarns are characterized by good unwinding behavior and low sizing pick-up. They cause low fluff on high performance weaving machines.

ComfoRo® knitting yarns are characterized by defined hairiness and low twist. A multiplicity of short fibers guarantees good unwinding behavior for waxed yarns, good covering in the fabric and a pleasant, soft hand. This can be improved further by using finishing technologies optimized for rotor yarns.

ComfoRo® yarn and high-value products made from it enjoy steadily increasing appreciation in the marketplace. Further information on ComfoRo® and how to apply for use of this brand can be found under www.comforo.com

INTEGRATED SLUB YARN DEVICE

VARIOspin, powered by Amsler Tex

Within the applications of automated rotor spinning technology, slub yarns play an important role. Denim fabrics, one of the main destinations of rotor yarns, are to a great extent made from slub yarns.

WORK WITH THE BEST

The optionally integrated fancy yarn device on the new R 60 was jointly developed with Amsler Tex, the leading company in the field of fancy yarns.

PRINCIPLE OF THE SLUB YARN DEVICE

The fully integrated slub yarn solution on the R 60 is based on the specially featured single-feed drive of the S 60 spinning unit. This also allows easy retrofitting of the slub yarn device on the R 60.

SLUB DESIGN AND SIMULATION

The package for manufacturing slub yarn on the R 60 includes the license for the Amsler Tex Effect-Profi software. This tool allows easy and effective generation of programs for slub yarn production as well as the visualization of the effects in the yarn.

TRAINING

An Amsler Tex slub yarn specialist will support customers during start-up of the slub device.



Slub effects are easily created with Amsler Tex Effect-Profi



Fashionable products with slub yarns thanks to VARIOspin, powered by specialist Amsler Tex



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