

Rotor spinning
Rotor spinning machine R 70

RIETER

R 70

Fully automatic rotor spinning machine R 70



The new benchmark for production
and raw material utilization

R70 OUTSTANDING ADVANTAGES

Better Raw-Material Utilization

Higher trash extraction thanks to optimized Bypass

Unique spinning elements SPEEDpass and CHANNELpass with individual centering of the rotor and nozzle

Higher Productivity

Up to 7% higher productivity thanks to improved rotor spinning technology

Simple Operation and Maintenance

Designed for easy access to components. Operator guidance with smart information screens

Energy Consumption Always in View

Interface to the ESSENTIAL – Rieter Digital Spinning Suite

More Flexibility

Saving up to 10% of down times by flexibly producing multiple lots on one machine

Exceptional Package Quality

Flexible setting for package density

Prepared for packages with 350 mm diameter and 6 kg weight

Excellent damping, ready for high delivery speed

High Efficiency

Higher productivity thanks to simultaneous yarn piecings on multiple spinning boxes

Quick start-up of the machine after a stop

Fast lot change



Decisive Advantages for Downstream processing

Yarn-like piecings thanks to efficient rotor cleaning at every piecing and unique preparation of the yarn end

Reduced Energy Consumption

Lower energy consumption thanks to the latest drive technology

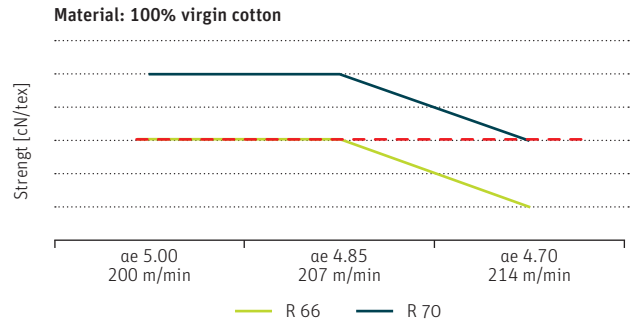
Up To 7% Higher Production

Innovations based on leading technology

Higher strength equals higher production

The fully automatic rotor spinning machine R 70 combines the advantages of the most advanced spinning box with optimal deployment of individual drives at each spinning position. This results in higher productivity, in raw material savings and a in reduced energy demand.

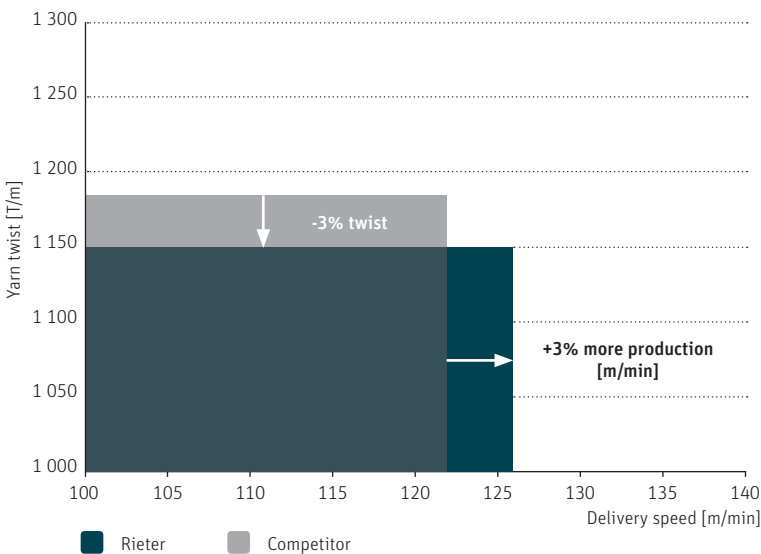
The R 70 spinning box offers outstanding advantages in terms of productivity and raw material saving. It achieves better spinning stability and higher yarn strength compared to other machines. The potential for higher yarn strength can be converted directly into higher productivity. In certain cotton applications, the R 70 achieves even higher yarn strength and, at the same time, better spinning stability in comparison to competitors' machines. The higher strength enables yarn twisting



to be reduced and consequently production to be increased. Mill results for several cotton applications showed, that reduction of yarn twist by 3% has been possible at same rotor speed, resulting in 3% more production. Energy consumption was kept consistently low – and still a higher yarn strength has been achieved compared to others.

Higher productivity and same yarn tenacity with lower twist

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Alternatively, other applications allow the rotor speed to be increased. Tests have shown that the R 70 is up to 7% more productive in comparison to the previous model. The excellent spinning stability ensures a low ends down level and consequently high machine efficiency.

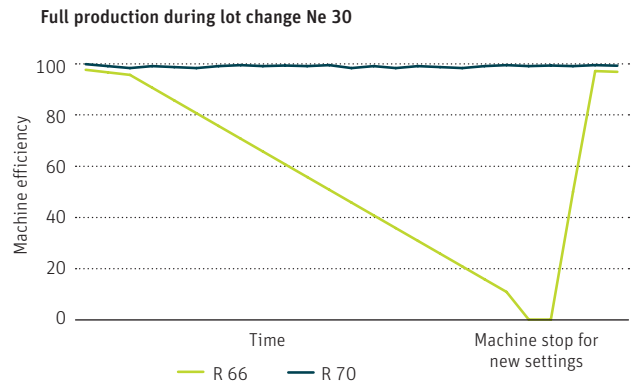
Higher efficiency with automation at every spinning position

Each spinning position is equipped with very reliable ultra-modern, electronically controlled individual drives and an innovative automation system. This enables up to 36 spinning positions to start spinning at the same time and allows more ends down to be eliminated without the efficiency being considerably affected. Production even remains high when external influences cause a high rate of ends down to occur. For minimum production loss repeated piecing attempts are avoided by a high success rate. It is based on the unique cleaning of the rotor groove at each piecing, the unique yarn end preparation without influence by wrapper fibers and on the further developed unique AEROpiecing technology for an exactly repeated piecing process.

Furthermore, this parallel operating automation makes it possible to restart the R 70 within a short space of time after a stop. The production efficiency even remains high when there are frequent interruptions.

Increased production thanks to faster lot change

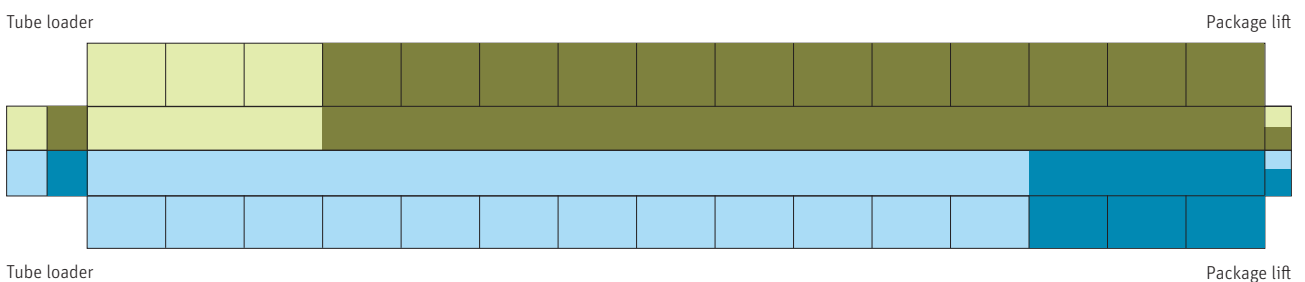
The smart machine concept allows continuous lot change. Once the yarn has reached its target length on a package, the full package is replaced with an empty tube in a new color. The spinning position can then immediately produce a new lot with different settings. This principle saves the run-out times before the lot changes that are required with centrally driven machines. This minimizes production losses. Depending on the frequency of this change, this enables annual production to be increased by more than 2%.



High flexibility with multiple lots per machine side

Every R 70 is equipped with VARIOlot 2 x 1 by default. It consists for each machine side of an independent tube loader, a package conveyor belt and a package lift. This enables a different lot to be spun on each side. As an option, the machine can also process multiple lots per side at the same time (e.g. VARIOlot 2 x 2). The tube loader 2 x 6 of the R 70 with up to 300 positions per side provides an outstanding high flexibility. VARIOlot combined with the Continuous Lot Change function reduces the number of lot changes needed. This can result in gain of up to 10% production time.

VARIOlot 2 x 2: up to 2 lots per machine side



Space saving

Despite having the same number of spinning positions, the R 70 requires less space than the previous model. This means that, even in existing buildings, maximum production in the space available can be achieved with the R 70.

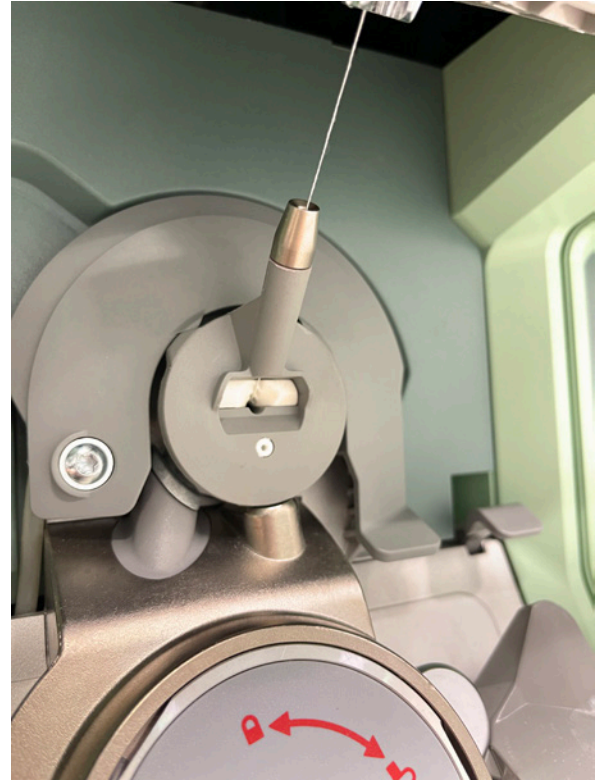
Savings in the Raw Material

Potential for 2% savings with improved trash extraction

Leading quality thanks to unique technology components

The easy-to-access and maintenance-friendly spinning box at the R 70 is equipped with following unique, proven technology elements:

- TWISTunit easy to handle
- Self-centering for exact alignment of the nozzle and rotor
- Cool-Nozzle technology for better heat dissipation
- CHANNELinsert options with and without SPEEDpass for optimizing the fiber flow
- CHANNELpass for adjustment to the fiber types



Improved trash extraction

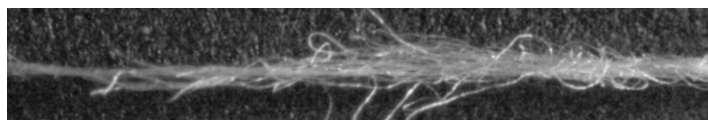
The redesign of well-known and proven BYpass function for trash extraction enables even more trash particles to be extracted. The result is fewer ends down. The more efficient trash extraction means that the rotor groove gets less dirty. The yarn quality remains consistently high, even when the rotor is running for a long time.

Decisive advantages for downstream processing

A clean rotor groove secures best yarn quality and increases the success rate of piecing. The proven technology of the targeted pneumatic cleaning of the rotor groove at each piecing is integrated into the R 70. The yarns exhibit optimal running behavior in downstream processing.

Greater reliability when piecing

The R 70 sets new benchmarks with its innovative piecing technology. The yarn end is processed uniformly and in such a careful way that would otherwise only be possible by hand. The piecing is therefore stronger and looks better too. In conjunction with the rotor cleaning, this new technology ensures a high piecing success rate.



Energy savings of up to 5%

Latest technology and efficient solutions

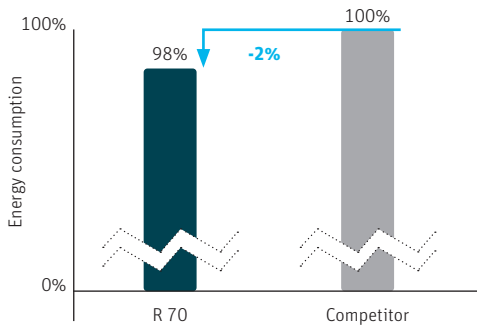
Low energy consumption

The modern single drives of the R 70 apply newest technology, are highly efficient and consume little energy. Friction losses through additional drive elements, for example the belts and pulleys, are no longer an issue. If a spinning position is not in use, the single drives are stopped and do not consume any energy. In addition, the unique automatic filter cleaning of R 70 and its optimized air routing reduce the energy requirements of the machine by up to 5%.

The particularly low energy consumption of the R 70 results in lower electrical losses, which means that less heat is generated. In addition to savings of expensive energy, the spinning positions therefore heat up less, and less effort is needed to air-condition the spinning room.

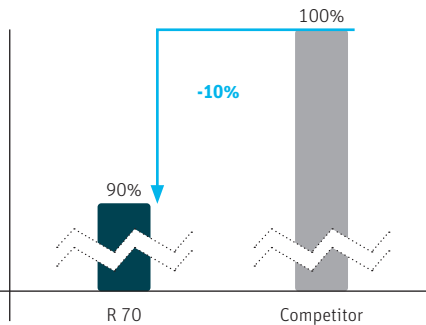
Rotor drive

Electromagnetic rotor motor for minimal energy consumption at very high rotor speeds



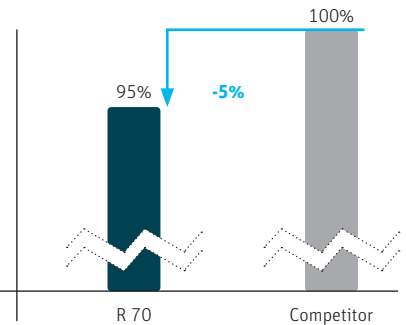
Suction

Energy-saving automated filter cleaning and electronically controlled suction



Single drives

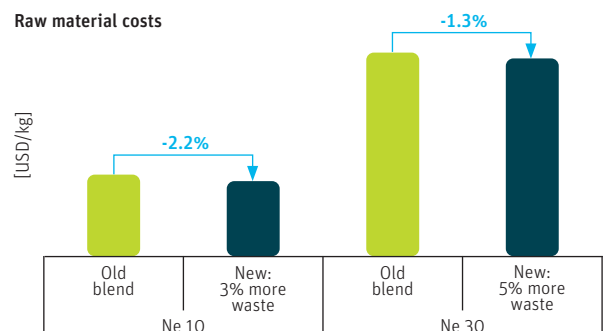
Most modern single drive technology for reduced energy consumption



Optimized raw material costs

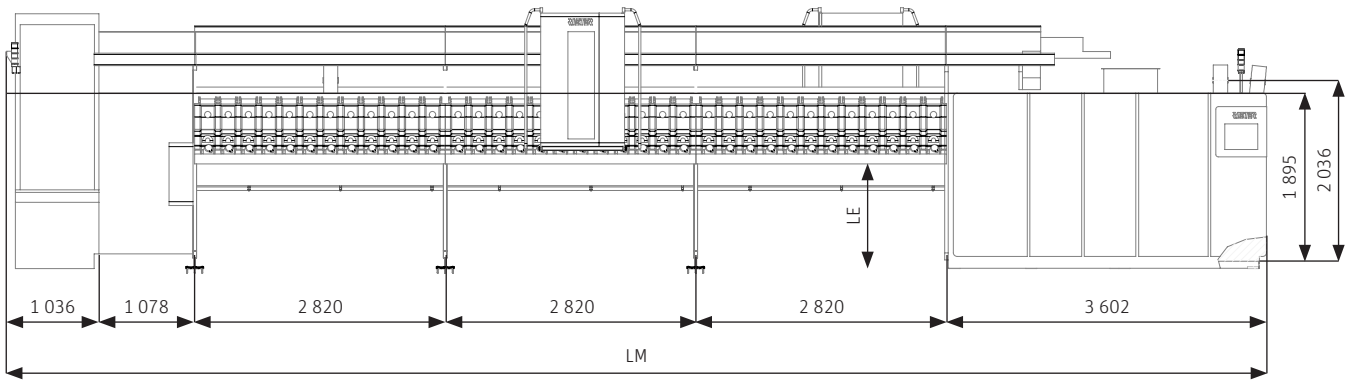
The R 70 combines advantages of the latest spinning technology with potentially higher yarn strength and better trash extraction, and the latest automation technology to handle high ends down rates including cleaning of the rotor groove at each piecing. This allows a better utilization of the raw material and is resulting in previously unrivaled possibilities for optimizing costs with the R 70.

Raw material costs



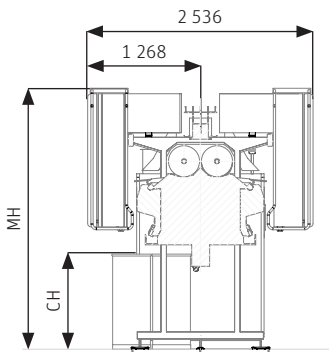
Machine Data

R 70 rotor spinning machine



Length dimensions and weights

Machine specification	Spinning units	Sections	LM Machine length [mm]	Net weight [kg]	Comments
Base machine, 2 sections, 2 robots	48	2	LM = 5 640	7 170	-
Additional section	24	1	LS = 2 820	1 135	Total length max. 32 sections
Additional 2 robots	-	-	-	600	-



Height dimensions

CH Can height [mm]	LE Lower edge section [mm]	MH Machine height [mm]	RS Service height for erection [mm]
1 070	1 175	2 950	3 500
1 200	1 305	3 080	3 600

Technological data	
Material	Natural and man-made fibers up to 60 mm length
Sliver weight	Nm 0.14 – 0.27; Ne 0.08 – 0.16; 7.4 – 3.7 ktex
Draft	25 to 400-fold
Yarn count	Nm 5 – 100; Ne 3 – 60; 200 – 10 tex
Yarn twist	196 – 1 500 T/m; 5 – 38 TPI
Machine data	
Design	Double sided rotor spinning machine with sectional construction, with two package transport belts and package removal on one machine end. Spinning positions with individual drives and individual automation for piecing and rotor cleaning. Machine with robots for doffing and additional mechanical rotor cleaning
Spin box R 70	Advanced technology in robust design including unique adjustable Bypass function Single motor driven rotors, magnetic axial and radial bearings, technically prepared for up to 200 000 rpm Single motor driven opening rollers, with infinitely variable electronic settings, 6 000 – 11 000 rpm Single motor driven and digitally controlled sliver feeding
Unique technology parts	The R 70 spin box allows flexible optimization by unique additional elements: <ul style="list-style-type: none"> • Bypass: setting influences trash extraction • CHANNELpass: exchangeable element for optimized fiber guiding* • SPEEDpass: exchangeable element for additional airflow in the fiber channel
AEROpiecing plus	AEROpiecing technology for most exactly repeated piecing process at a defined constant rotor speed Targeted cleaning of the rotor groove with compressed air at each piecing cycle Innovative preparation and opening of the yarn end by friction through grinding Piecing process by means of single motor driven units
Delivery speed	max. 350 m/min with cylindrical packages for any machine length
Winding system	Digitally controlled winding process and package build using single motor drives for package and yarn guide. Ready to produce high and low package density. Package cradles designed for uniform contact pressure, including effective damping system also for manmade fibers. Electronic length measuring for packages with defined yarn length
Suction system	Efficient and energy saving suction system with adjustable automatic filter cleaning in machine end stock. Separate collection of <ul style="list-style-type: none"> • trash from spin box and trash belt • hard waste from automation Possibility to connect to central waste collection Electronic setting of spinning vacuum for a constant and electronically controlled spinning vacuum Exhaust air optionally directed upwards or downwards
Operator guidance	Main machine panel with color touch screen for graphically oriented operator guidance 4-coloured signal lamps on head stock and end stock with programmable alarm indication Signal lamp on each section, different signal for malfunction and missing sliver Indications and information with smart colored touchscreen displays at the spinning positions

* Option

Machine data	
Gauge	230 mm
Number of spinning units	24 per section; maximum 32 sections or 768 spinning units
Robots*	2, 4, 6, 8 robots per machine for doffing With additional combined mechanical & pneumatical rotor cleaning unit*
Round cans	Diameter up to 450 mm or 18" in two rows under the machine Diameter up to 500 mm or 20" in three rows
Rectangular cans	220 × 920 mm
Can height	1 070 mm (42") and 1 200 mm (48")
Tube loader	Included in the head stock for all tube shapes; individual tube loader for each machine sides; split into 6 rows with individual activation; storage capacity 600 tubes = 2 × 6 × 50 tubes
Package size	Cylindrical packages up to 350 mm diameter or 6 kg weight
Package removal system	Package transport with conveyor belts to the end stock PACKAGElift* for manual removal; self-adapting to ergonomic working height Interface for automatic transport and palletizing systems*
Waxing device*	With individual drive and big wax roll diameter 75 mm on each spinning unit
Trash belt suction	Effective trash removal for long machines with high trash content
XS – eXpert System	Easy and fast setting of the parameters for automation with the eXpert System Including eXpert Piecing System for piecing parameters with proposal of setting values
iDS – intelligent Drive System	Higher machine efficiency with the intelligent Drive System (iDS) because robot avoids idle travelling
Yarn quality monitoring*	Rieter Q yarn clearers (opto-digital yarn clearer) for clearing of thick and thin places Optical foreign fiber detection* included in the Rieter Q yarn clearer
Energy monitoring*	Machine equipped with measuring device for electrical energy consumption. indication of consumption per kg of yarn on the machine screen
VARIOLot	Spinning with different settings on one machine VARIOLot 2 × 1 for two independent machine sides including one additional Continuous Lot Change VARIOLot 2 × 2* each machine side can be assigned to two production groups VARIOLot full* to assign the production groups fully using the flexibility of the tube loader
TESTspindles*	Assignment of spinning positions to produce sample and test packages with manual package doffing
VARIOspin*	Equipment for fancy yarn production operation of single production groups can be freely selected in combination with VARIOLot
ESSENTIAL*	Equipped for the interface to ESSENTIAL, the all-in-one mill management system

* Option



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