

Automatic package winding
Autoconer X6

RIETER



Autoconer X6

Automatic material flow – type D, V



Autoconer X6

Benchmark in winding
and splicing quality

A row of industrial winding machines, likely for cable or wire, featuring large spools and control panels. The machines are arranged in a line, and the word "Autoconer" is overlaid in large white letters across the top. The control panels have digital displays showing numbers like 52, 54, and 55.

Autoconer

Thanks to energy-efficient drives, Power on demand vacuum control and high-speed winding technologies the Autoconer X6 uses up to 20% less energy and winds with up to 6% higher productivity.



RENK

Highest Efficiency



Autocon

Spliced joints that are indistinguishable from the parent yarn and process-optimized package formats are the hallmarks of the Autoconer X6. The innovative Smartsplicer systems deliver superior quality, regardless of the raw material.

Yarn-Like Splicing

ner X6





Flexible, Intelligent Spinning
Mill Automation

Autocoro



ner X6

Customized automation, intelligent material flow based on RFID technology and flexible spinning mill design using Multilink and Multilot/Duo-Lot are characteristic for the Autoconer X6.

OUTSTANDING

ADVANTAGES

High Productivity

High-speed winding and short cycle sequences with Launch Control, Smartcycle, Smartjet, Eco-Drum-Drive

High cycle rates in the whole material flow

Up to 96 winding units

Yarn-like Splicing

Smartsplicer family to splice all materials

Open prism technology for improved splice quality, easy handling, more universal use

Process and System Integration – Intelligence linking

Type V – highest automation level

System integration with Rieter ring spinning and compact-spinning machines

Online quality monitoring in linked systems with SPID

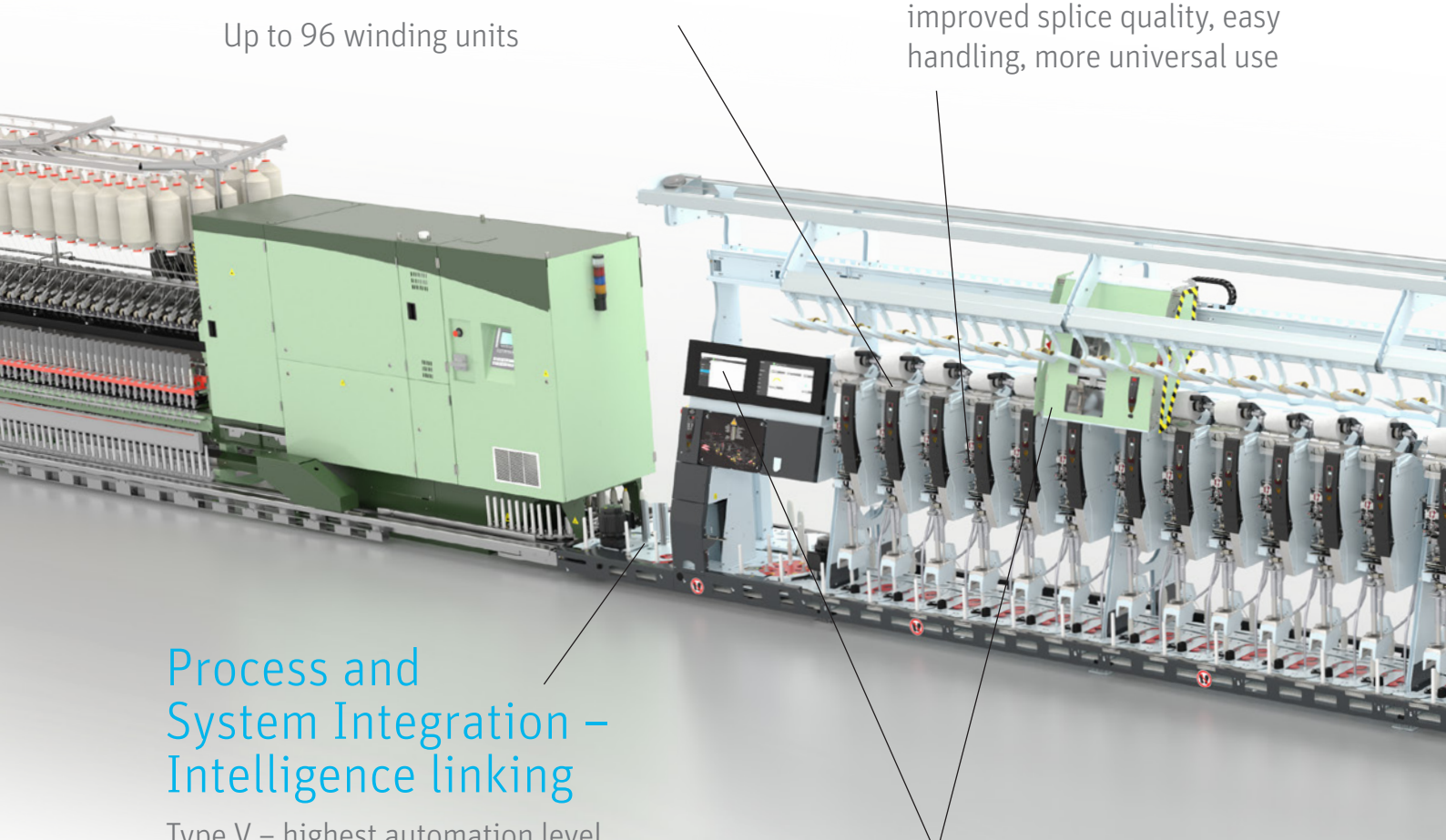
Integration into spinning mill management system ESSENTIAL

High Process Reliability, Easy Handling

Package doffer with intelligent functions

Operating unit for central settings and data analysis

Autocalibration functions, sensor-controlled functions



Autoconer X6 (D, V)

Quality Packages

Benchmark for commodity and high-end applications

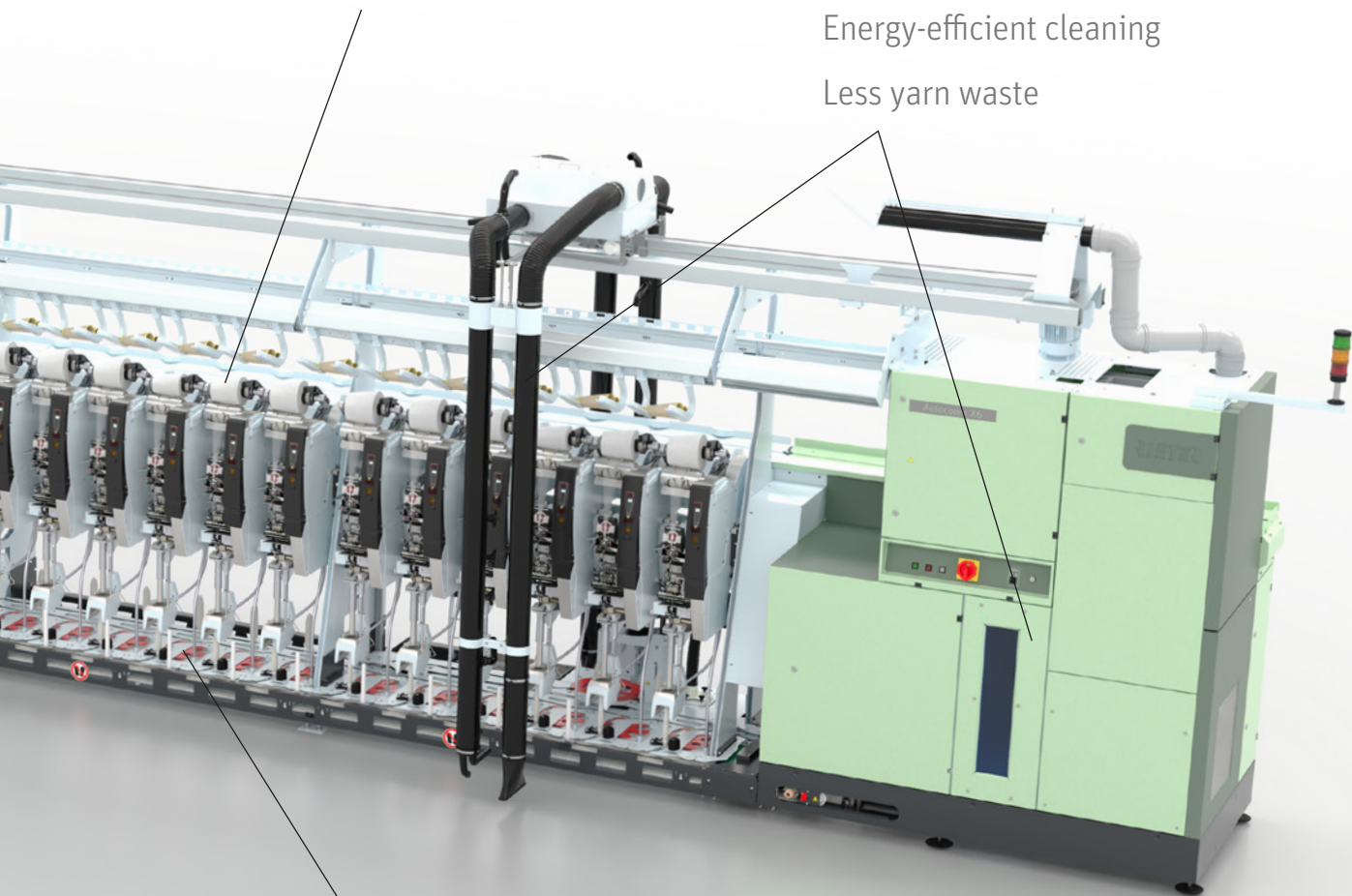
Flexible, drumless winding technology Preci FX

Resource Saving Winding

Low energy consumption with Power on demand vacuum control

Energy-efficient cleaning

Less yarn waste



Flexible Spinning Mill Automation

Most flexible and intelligent material flow based on RFID

Customized automation, functional aggregates incl. new Crossfeed, Color Check

Type D with Q-Package, Duo-Lot

Highest flexibility level with Multilink/Multilot

Process and System Integration – Intelligence Linking

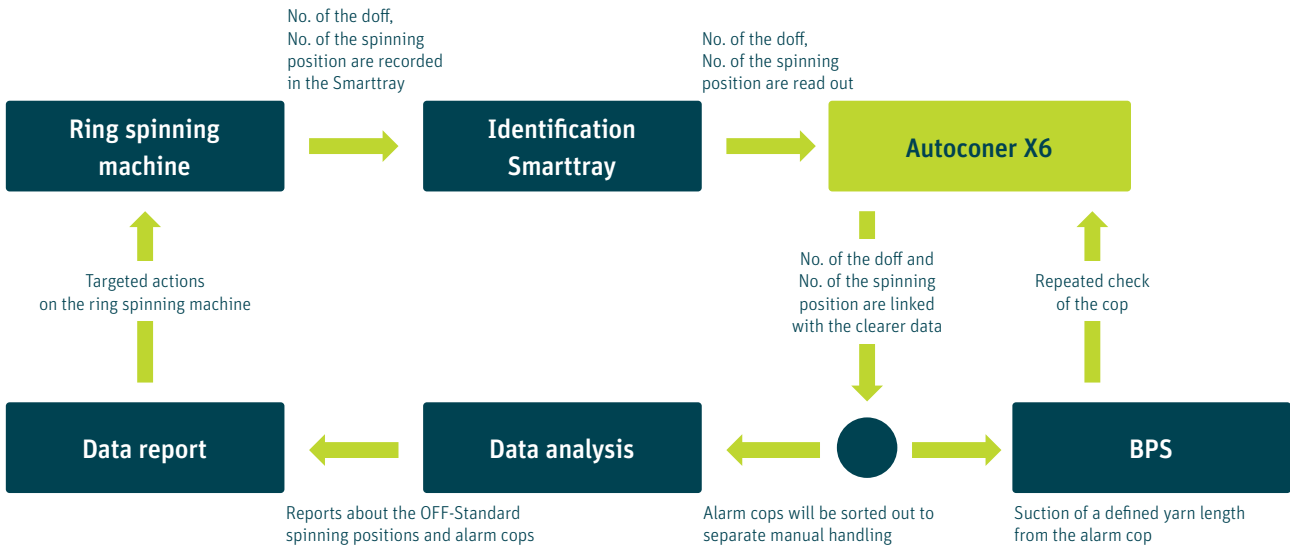
Highest level of spinning mill automation

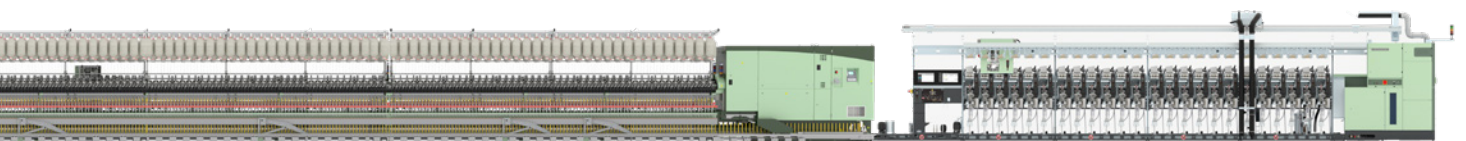
The fully automatic link solution consisting of spinning and winding machines makes a spinning mill independent of the availability and performance of personnel.

Cops and tubes circulate directly in a closed process system of ring spinning and winding machines on intelligent Smarttrays. The integrated RFID chips guarantee efficient material flow and process control. The capacities of the spinning and winding machine are precisely matched to each other.

SPID: continuous quality control in standard

The Spindle Identification System (SPID) records the quality data for all cops online. Alarm cops in which the clearer detects a fault (e.g. yarn count alarm) are reliably removed from the material cycle. All other yarn quality criteria (e.g. foreign fiber, short defects, neps, etc.) are analyzed to determine whether they are within the individually adjustable quality limits. Thanks to precise fault diagnosis and assignment to the ring spindle, the exact identification of faulty ring spindles is ensured. The personnel can intervene in a targeted and timely manner, so SPID enables to keep an eye on the continuous development of quality at all times.





Flexible Spinning Mill Automation



Type D: Flexible mill integration

The Autoconer X6 type D is a flexible stand-alone solution. It can be integrated into any spinning plant layout, ensuring flexibility and reducing personnel workload. The cops are fed into the RFID-controlled material flow via the flat circular conveyor.

Reliable and variable automatic cops processing

Type D guarantees highest flexibility in terms of lot size, 10 to 96 winding units/machine are available. Highest cycle rates, decentralized arrangement of all aggregates ensure process reliability even with changing throughput rates. Using the special UWL-A preparation aggregate also processing of manually doffed cops is possible.



Q-Package: Quality and efficiency increase

Thanks to the Q-Package and RFID technology, customers can process any lot size with more profit. Q-Package includes different material lot change strategies for individual lot management and high flexibility in feed material handling.

In addition, operators are supported by the intelligent alarm cops management. Alarm cops are sorted out of the winding unit. It does not wait for manual processing with a "red-yellow light". This results in higher operator independence and higher productivity.

Type D: Duo-Lot

With the function Duo-Lot, type D machines can process two different material feeds. Highest flexibility and process reliability is given using the RFID technology. Easy lot variation and adaptation, clear operator guidance, high throughput rates, no material mix-up, Q-Package function as standard, free selectable number and configuration of BPS.

Type V: Multilink + Multilot

The Rieter Multilink is characterized by highest throughput rates (up to 60/min for the interface) for highest productivity (up to 96 winding units) and SPID monitoring system as standard. Multilot, processing of up to four different materials on one Autoconer, is unbeatable by the unique color-coded operator guidance, the simple lot size/lot range adaptation at the operating unit and most flexible, customized material flow configuration.

Type V: Individual link solution

Whether direct link or underfloor link: Rieter creates an individual solution, suitable for the requirements of a spinning mill. The new Multilink offers even more flexibility in spinning mill design, with optimum space utilization and cost-saving potential. Links with up to four ring spinning machines are possible, in parallel or serial positioning.



Most Flexible and Intelligent Material Flow

RFID technology as standard

The Cops Cloud is the Industry 4.0 material flow system. With a decentralized design, intelligent belt transport system and RFID control of all cops and tubes, the Cops Cloud guarantees maximum process reliability.

Intelligent Smarttrays

Customers benefit from intelligent cop and tube logistics with complete material tracking. RFID chips turn peg trays into Smarttrays. Thanks to the intelligent material flow, the position and status of all cops and tubes is known at all times. RFID is the basis for intelligent lot changes and direct quality monitoring of the cops.

All winding units always in action

Instead of waiting for a cop, winding units simply collect the next cop from the Cops Cloud. The material flows where it is needed. The Autoconer X6 winds continuously with maximum productivity – even on machines with 96 winding units.

Circuit as an intelligent storage line

The material flows in an intelligent circuit. The Smarttrays run to the processing aggregates and winding units under RFID control. No separate storage lines and path variations are necessary. There are no backlogs that reduce the productivity of aggregates/winding units, as in other material flow systems. The entire circuit can be used as a storage area; RFID ensures intelligent distribution and targeted assignments of Smarttrays.



Unique reliability in material feed

With Vario Reserve, the Autoconer X6 varies the number of reserve cops to compensate material flow variations. If a winding unit should nevertheless be temporarily at risk of being under-supplied, unique Cops Sharing is activated automatically: the neighbouring winding unit immediately releases a cop, allowing production to continue without any stoppage or interruption. High speed feeding brings the cops to the winding units at maximum speed, controlled by sensors.

Integration of type RM units

Integration of up to five type RM winding units into type D, V machines is possible, to benefit from maximum flexibility, for separate winding of sorted out cops.



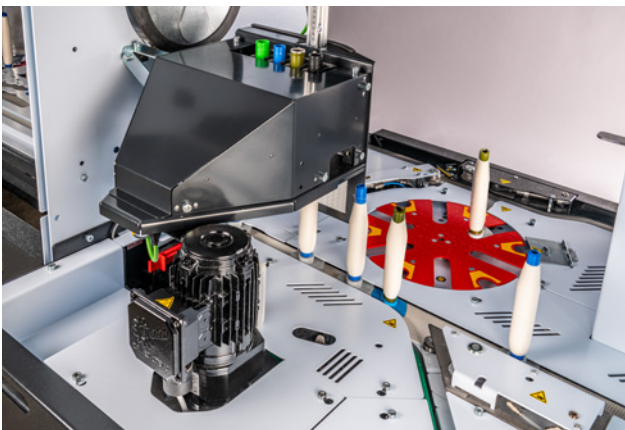
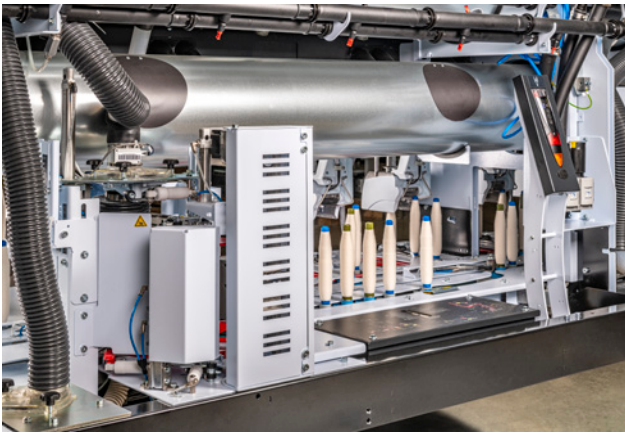
Powerful Aggregates for Customized Automation

High-speed cop preparation

Depending on the machine length and capacity requirement, several cop preparation stations can be arranged decentralized along the cop feed.

As with the pit stop in Formula 1, the unprepared cops move into the space-saving stations located outside the circuit. Immediately after processing, they filter into the cop feed again. Each preparation station can supply any winding unit; there is no fixed winding unit assignment.

For processing of elastic yarns the BPS is equipped with the Top winding device.



Color Check: no material and lot mix-up

Color Check guarantees maximum process reliability by monitoring the correct combination/allocation of cops and Smartray.

Incorrect combinations due to manual intervention are excluded. For Multilot, Duo-Lot and also for single lot processing with stand-alone machines, type D Color Check ensures that only the cops of the defined lot are processed. Incorrect cops are safely ejected before processing.

Crossfeed: the turbo for material feeding

Crossfeed is an additional central feeding point to equalize high traffic volume by cops travel-time reduction. Especially for high-cycle rate machines (> 50/min) this ensures safe cops feeding to all winding units by cops travel-time reduction by up to 50%.



Tube inspector

The tube inspector for the targeted control of tubes/cops after the winding process comes with proven mechanical operation and, as an optional feature, as optical tube inspector with infrared technology. Its advantages: color contrasts between yarn and tube are not necessary, reliable single yarn and “stocking” detection, highest cycle rates of up to 100/min, contactless control non-stop.

Tube stripper

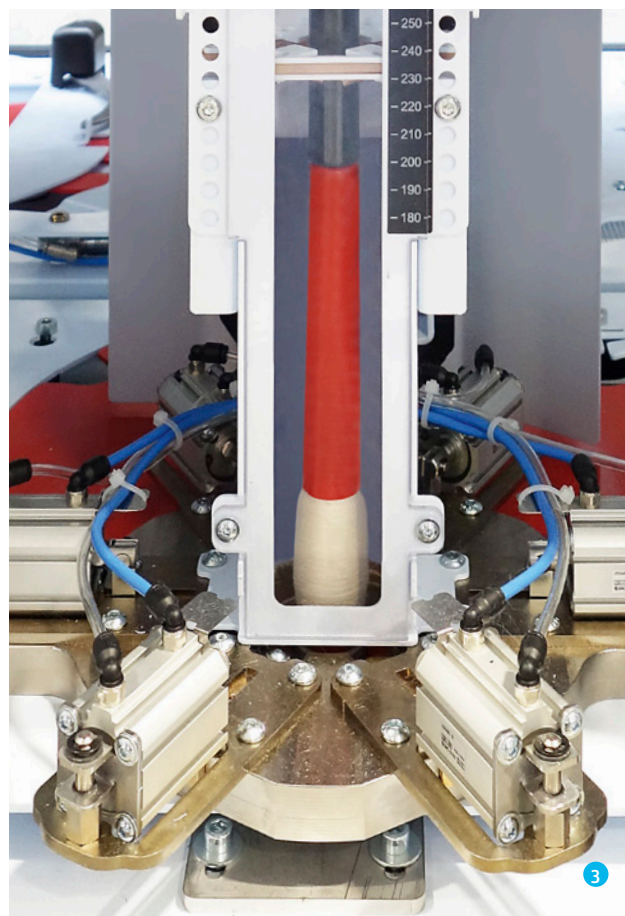
The tube stripper powerfully and yet gently removes yarn residues from the tube. It is space-saving, easily accessible and easily retrofitted at the rear of the machine.



Cops & spinning tube extractor for automatic lot changes

The Cops & spinning tube extractor on the Autoconer X6 type D removes empty tubes, takes unprepared cops out of the material flow and separates tubes and cops into containers. It also enables a fully automatic feed change without manual intervention.

1. Optic tube inspector (optional)
2. Mechanic tube inspector
3. Tube stripper (optional)



First-Class Package Quality

Perfect package build-up

- Improved electronic anti-patterning of the latest generation
- Secure yarn guiding and yarn displacement with Eco-Drum-Drive System
- Launch Control (non-slip acceleration)
- Actively controlled yarn trap to safely avoid winding of loose, wound-in yarn residues
- Precisely measured yarn lengths

Process-oriented package format

- Manufacture of any package format
 - Cylindrical to tapered up to 5°57'
 - Traverse 3", 4", 5", 6"
- Large diameter of up to 326 mm

Uniform density

- Yarn tension control for uniform package density as interaction of Tension Control, unwinding accelerator and yarn tensioner
- Cradle compensation



Excellent yarn quality

- Gentle yarn guiding thanks to straight yarn path with little deflection and well-positioned yarn guiding elements
- Waxing unit for satisfactorily waxed yarns.

Reliable quality assurance

- Quality Cut power failure circuit (lifting of the package, no pattern zones or damage to surface of the package)
- Central setting of winding and splicing parameters for absolute uniformity and reproducibility
- Autocalibration e.g. of suction tube and splicer feeder arm
- Quality-assured monitoring of wound yarn length/diameter
- Drum lap detection, Quality Guard
- Sensor monitoring of yarn path and winding process

Efficient waxing unit

The waxing unit waxes S- and Z-yarns perfectly and gently without handling, always in the optimal range in combination with Autotense FX. The waxing unit is highly efficient: 30% less waste wax with secured waxing application thanks to wax roll monitoring by sensor.



Preci FX for Process-Optimized Package Design

Individual, flexible package design

With Preci FX, packages can be designed flexibly and individually. It increases efficiency in downstream processes and minimizes logistics and process costs. Preci FX allows to switch between three winding technologies: pattern-free random winding, precision or step-precision winding.

Easy to operate

Define process-optimized package characteristics. Set the appropriate winding parameters at the operating unit in the minimum of time. Take advantage of proven sample recipes. Customer can switch flexibly between 3", 4", 5" or 6" format with minimum conversion effort.

Cost-effective downstream processing

The machine produces perfect, pattern-free packages for every process with maximum reproducibility and minimum set-up effort:

- Packages with a high packing density for warping, weaving, twisting, knitting
- Packages with low, uniform density and round flanks for the dyeing mills
- Special biconical packages or packages with a filling function for best unwinding behavior
- Stable packages with optimum shape when processing elastic materials

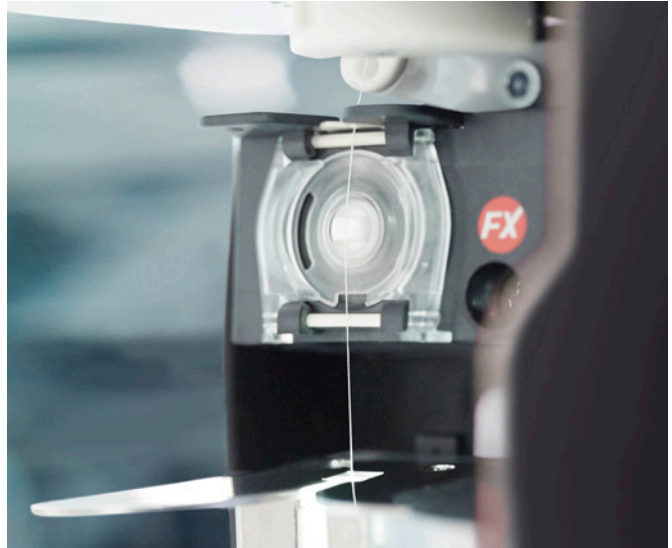
The ceramic-coated surface of the drive roller makes it possible to process a wide range of materials without high wear.



Premium Drum Winding

Autotense FX with Variotense FX

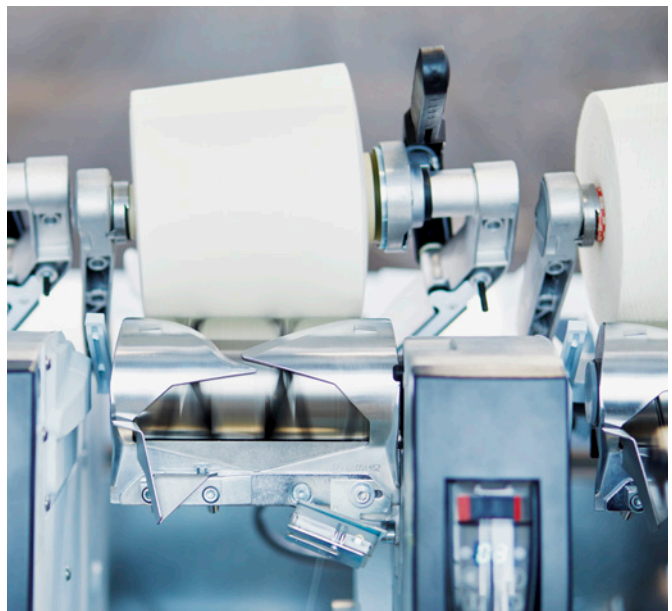
Autotense FX monitors continuously the yarn tension level and adjusts the yarn tension to exactly the required level: a sensor measures the yarn tension continuously at each winding unit, and the tensioner readjusts it in fractions of a second. Set the parameter for yarn tension in cN centrally at the HMI. The integrated Variotense FX function ensures almost straight package flanks when processing elastic yarns by targeted yarn tension adaptation.



Propack FX including Variopack FX

Propack FX is the electronic package-cradle anti-patterning system and avoids critical pattern zones before they develop. Variopack FX ensures straight flanks on packages with elastic yarn by targeted adaptation of yarn tension and cradle pressure. For packages with superb dyeing and unwinding characteristics.

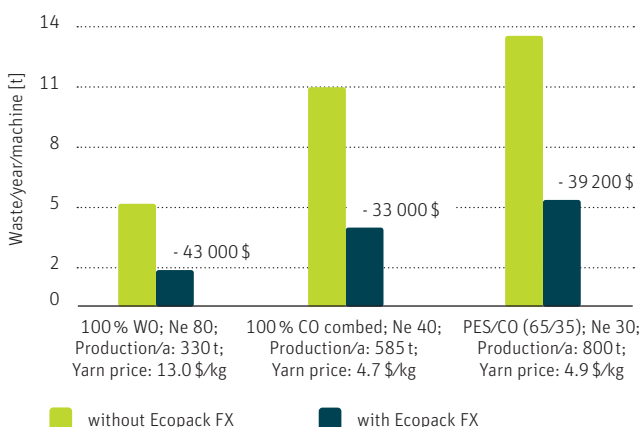
Additional benefits of Propack FX: central setting of cradle pressure and higher cradle contact pressure when starting up winding – for increased productivity and high reproducibility.



Lower waste with Ecopack FX

Ecopack FX produces quality packages with a length deviation of less than 1% thanks to the contactless optical precision length measurement. Due to the exact measured yarn length package by package customer profit by drastic reduced yarn waste in downstream processing, especially in warping process.

Ecopack FX: reduction of yarn waste



Balloon control with Speedster FX

Speedster FX influences the balloon formation during unwinding of the cops. With this sensor controlled cops unwinding high yarn processing speeds are possible without negative impact on yarn quality.

The effects of this technologically optimal balloon formation are depending on different parameters e.g. tube length, yarn count, material, set winding speed. Lower yarn stress during cops unwinding, reduction of sloughing-off yarn layers, excellent yarn quality and high productivity are the results.



Yarn-Like Splicing

Yarn-like splicing for all applications

With the Smartsplicer family the Autoconer X6 sets the benchmark for easiest handling and impressive quality in every application. The unique simplicity reduces the operator's workload and ensures top splicing quality:

- Appearance of the splice identical to the yarn
- Maximum strength
- Outstanding dyeing results
- Profitable downstream processing

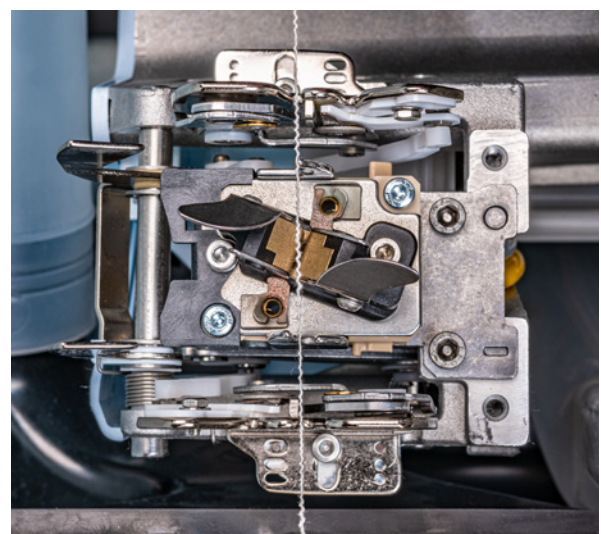
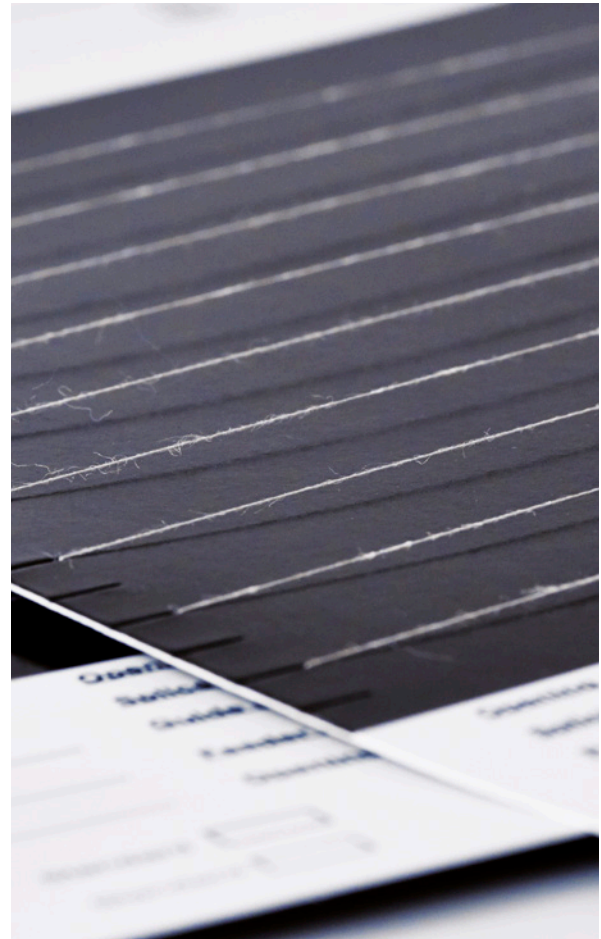
Ready for use, easy handling

With just a few clicks, the operator can set all splicing parameters centrally. The intelligent autocalibration of the splicer feeder arm ensures consistent splicing quality. Pre-configured, optimally adapted splicing components in the winding unit (Quick-Change Unit) minimize the setup effort. The splicer comes ready for use, and with ceramic shears as standard.

Stay up-to-date with new features, easy to retrofit

With the new open prism technology Rieter is making splicing even better and much easier. And another small part brings a big advantage. The new feeder arm centering leads to a higher reproducibility and stability for splice quality. It is easy to retrofit. Ask for technological support and decide for the right technology for your application.

All customers can update their system to currently available splice technology, as all innovations are compatible down to Autoconer 338.



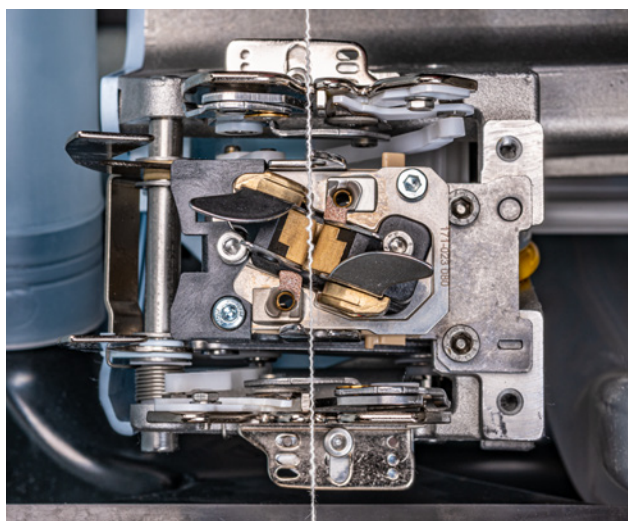
Open Prism Splice Technology

Designed for universal use, splicing on new level

With the open prism technology, spinning mills can cover the entire spectrum of cotton yarns and cotton blends (>30% CO), as well as elastic yarns in a wide variety of material combinations with CO, PES, CV and blends as single, duo or multi-core yarns. The prism OZ1 is recommended for Ne 30 to Ne 120 and finer, with the all-new OZ2 prism, customers can widen the application range up to Ne 4. In future the application range is being expanded to include S-twisted yarns with the new prism OS. Customers obtain greater and much more even average splice strength and better splice optic.

Denim yarn spectrum with one splice system

The production of modern denim fabrics requires both coarse single yarns and high-elastic core yarns. This is where the open prism technology is unique and unbeatable: all types of yarns can be processed with one splicing system. You can easily switch between elastic and standard yarn processing. The splicing parameters are almost the same.



Less handling and maintenance, greater process reliability

Operators will find the system easy to use: nearly the same settings for a wide yarn count range; less cleaning required due to open design and drastic reduction in amount of water used, or even dry splicing. The splice process itself is more stable, while the fault rate and number of splice cuts are reduced to a minimum, unparalleled in the market.

Special advantages in elastic yarn application

When splicing cotton-based elastic core yarns, duo-core yarns and multi-core yarns, the open prisms are used in combination with the Elastosplicer. Customers benefit from a number of advantages:

- Dry splicing of elastic yarns or with a significantly smaller amount of water
- Elasticity of the splice zone right through to the finished fabrics
- Dyeable splice joints for uniform dyeing process
- Embedded elastic filament ends

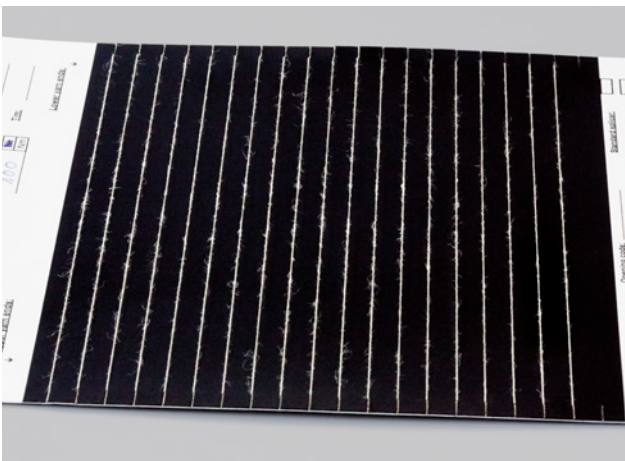
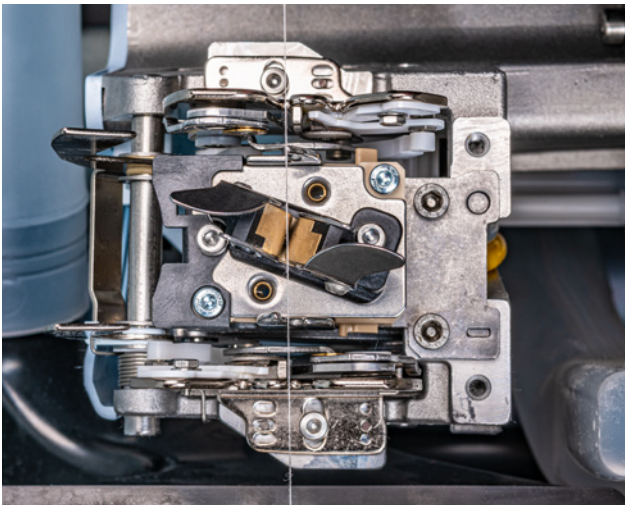


Smartsplicer Family

Smartsplicer (open/closed)

Easy handling and short, reliable splicing cycles make the pneumatic Smartsplicer a winner. It is suitable for:

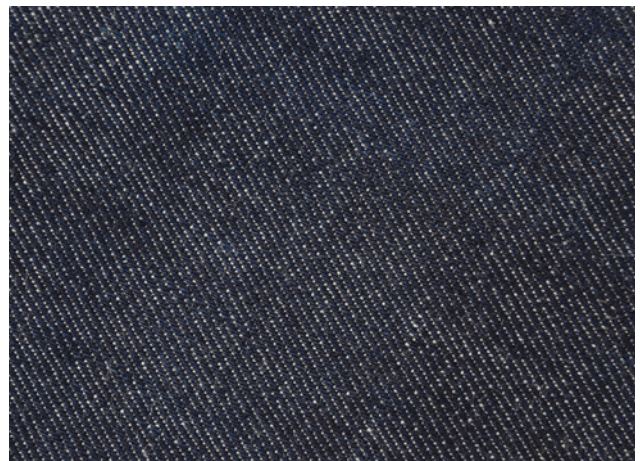
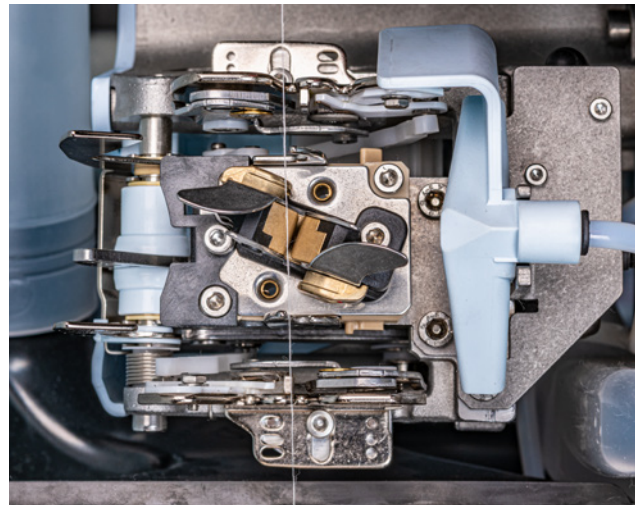
- Standard yarns cotton, blends
- Compact yarns cotton, blends
- Polyester, viscose, blends



Smartsplicer Injection (open/closed)

The splicing air is enriched with moisture by a metering valve. This is set simply and centrally at the operating unit. The result is higher strength and an improved appearance. In combination with open prisms the water amount can be drastically reduced or in many cases it's no longer needed. It is suitable for:

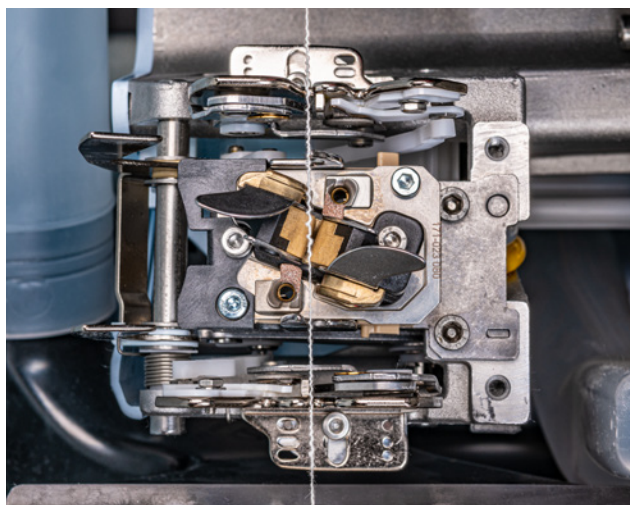
- Cotton yarns, compact yarns
- Denim yarns
- Linen yarns
- Rotor and air-jet yarns
- Plyed yarns



Smartsplicer Elasto (open/closed)

The splicer head includes braking elements for reliable processing the elastic material. The combination Elasto/ Thermo or Elasto/Injection is also possible.

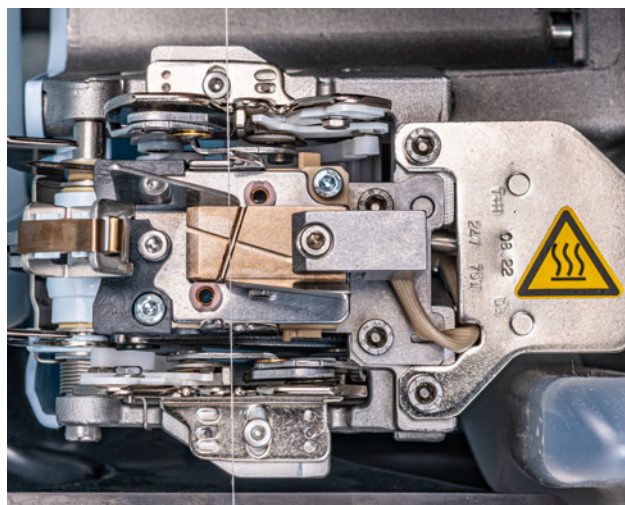
- Elastic core yarns
- Dual core yarns (Elasto/Injection)
- Multi-core yarns (Elasto/Injection)



Smartsplicer Thermo

For wool and wool blends the splicing air can be heated incrementally by selecting the temperature centrally at the operating unit. It is used for:

- Wool yarns, also with elastic content
- Wool blends, also with elastic content
- Synthetic yarns, also with elastic content



Winding Technology for Maximum Production Output

Productivity increased

The winding process of the Autoconer X6 is optimized for maximum performance. Short cycle times, maximum acceleration, short braking, efficient yarn search, reliable material supply, intelligent and precisely coordinated technologies increase the productivity.

Eco-Drum-Drive System

Reduced energy costs, formidable performance: the innovative Eco-Drum-Drive System with energy-efficient bearing technology makes it possible. Unproductive downtimes are cut nearly to zero. Spinning mills produce more per shift.

Yarn tension control for excellent cops unwinding

The combination of unwinding accelerator and effective yarn tensioning systems (Tension Control, Autotense FX) ensures uniform yarn unwinding over the entire cop.

Launch Control: faster to high speed

With Launch Control, the Autoconer X6 accelerates to maximum speed faster than before – automatically and without slippage. And the additional contact pressure generated by Propack FX (optional) will get the production off to an even quicker start.

High-speed anti-patterning

The anti-patterning cycle has been optimized to increase efficiency with simultaneous, gentle yarn handling. Customers benefit from enhanced productivity, even during this key phase in the winding process.



Shorter cycle, higher productivity

From clearer cut to package restart within shortest time: cycle sequences have been intelligently automated. With Smartcycle, the cycle process can be variably customized – for measurably higher productivity.

Long-term stable yarn pick-up by autocalibration

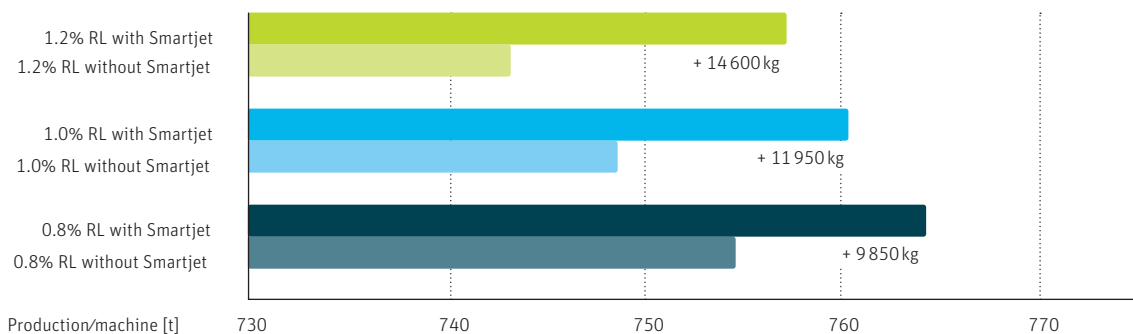
The position of the aerodynamically optimized suction nozzle gives a reliable function with long-term stability and reproducibility thanks to intelligent autocalibration – for maximum efficiency.

Intensified upper yarn search with Smartjet

Thanks to a variable cycle sequence, the suction nozzle intensifies the yarn search. If the yarn can not be detected, the doffer supports with the unique Smartjet. Reduction of manually operated red lights up to 80% is possible.

Higher productivity thanks to Smartjet

Example: CO, Ne 40, type RM (80 spindles), 8400 working hours



Efficiency with Up to 96 Winding Units

Types D and V: 100 % supply to winding units

With the automated Autoconer X6 models, customers benefit from highly productive, intelligent material flow technologies and processing aggregates with the highest cycle rates: the cops are distributed rapidly to all winding units as required.

More kilograms per square meter

When planning spinning mills it is important to make maximum use of the space for the required production capacity. Simply to wind more kilograms on the same area. Long machines (up to 96 winding units) mean that the layout can be organized to yield the highest productivity. With Multilink, Duo-Lot and Multilot space-saving mill design with highest production capacity per square meter is possible.



Resource-Saving Winding: Energy Efficiency

Optimized aerodynamics

Circular cross-sections in suction channels, an innovative surface structure and other flow optimisations minimise air resistance. No valuable energy is wasted on the Autoconer X6.

Energy Monitoring

On the Energy Monitoring display it is possible to check the current energy and compressed air consumption per kilogram of yarn. The stored consumption data can be analyzed in order to make the production even more energy-efficient.

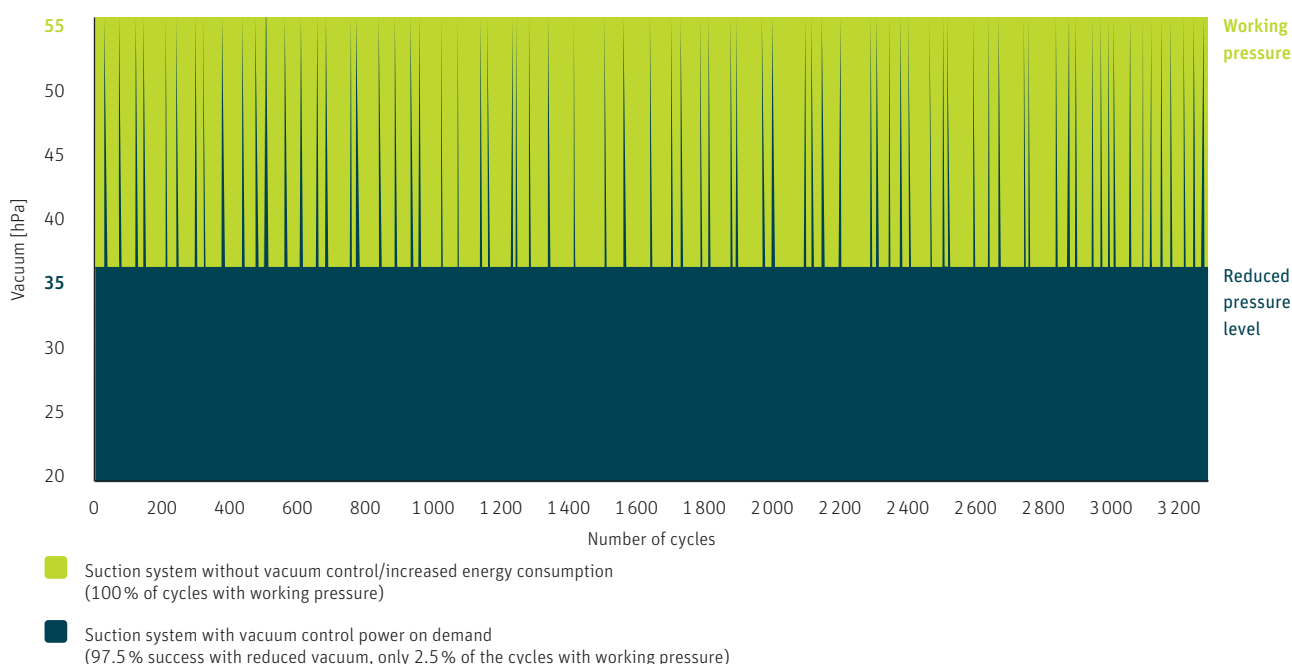
Powerful and economical drive technology

Whether Eco-Drum-Drive, suction system motor, frequency converter or belt drives – the Autoconer X6 drives convert energy into performance. High-quality and economical motors of the latest generation achieve higher efficiencies and energy savings.

Vacuum control Power on demand

Vacum control enables winding with an absolutely low vacuum level. The suction system automatically regulates between energy-saving standby mode and higher vacuum for reliable yarn pick-up. Massive energy savings are the result.

Secure, smart and economical vacuum supply (Practice sample: type D, 70 winding units)



Less Yarn Waste

Reliable upper yarn pick-up

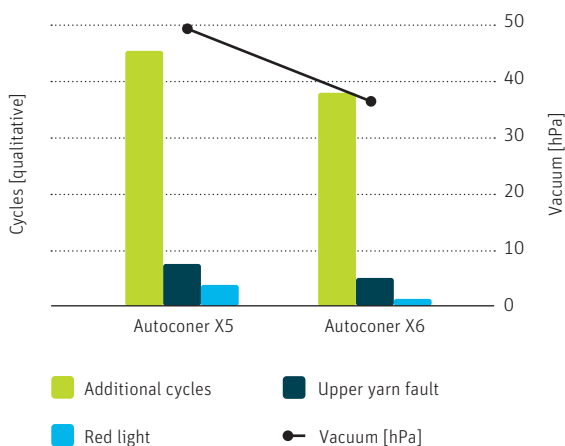
Only the Autoconer X6 offers complete solutions for the perfect interplay of upper yarn pick-up without damaging the yarn: the intelligent upper yarn sensor, the aerodynamically optimized suction nozzle with a special surface finish and Smartcycle with its intelligent cycling sequence. Smartjet in the doffer rounds off the automated, efficient upper yarn search.

Massive yarn savings

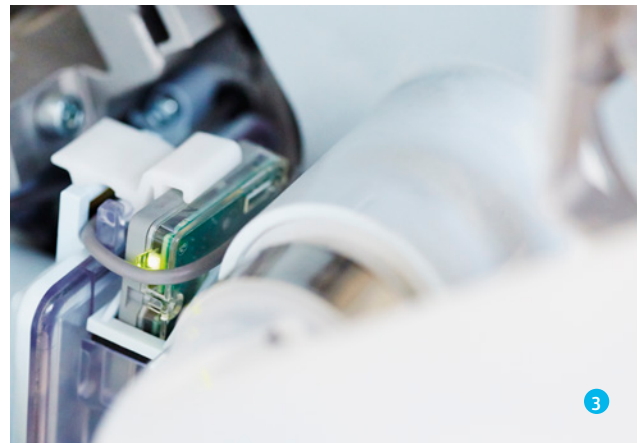
Ecopack FX guarantees precisely measured yarn lengths and thus minimizes yarn residues in downstream processing. The lower yarn sensor and snarl preventer minimize yarn waste during cycling. Yarn and dust residues are collected separately: for the recycling of valuable yarn resources.

The Autoconer X6 with all its aggregates and functional processes is consistently designed for economical and frugal use of valuable yarn resources.

Reliable high upper yarn pick-up with energy-saving vacuum



1. Smartjet
2. Snarl preventer
3. Upper yarn sensor
4. Smartcycle with suction tube



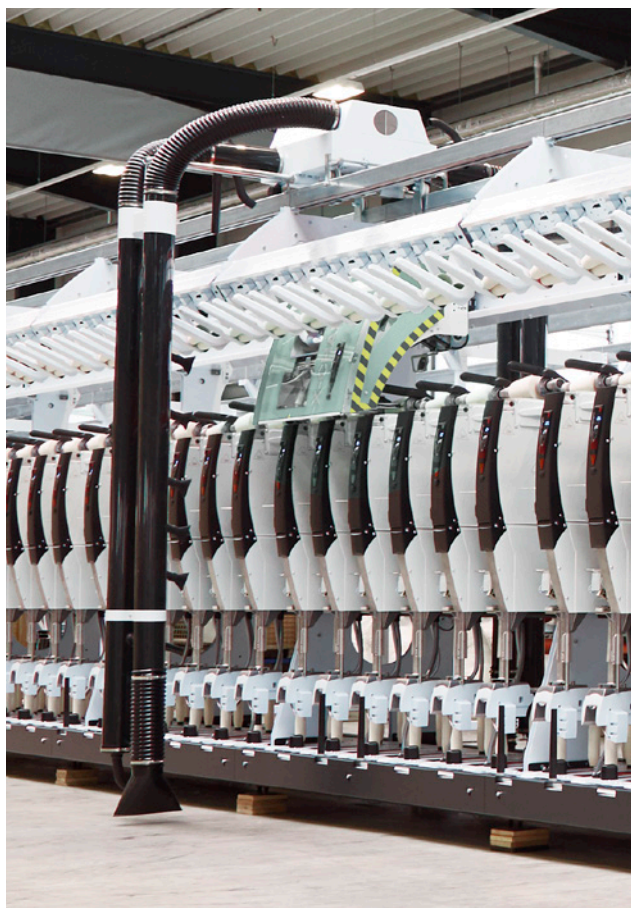
Energy-Saving Cleaning

Multijet: lower compressed air consumption

The frequency and intensity of the blowing pulses for cleaning the winding unit can be set according to customers requirements: centrally at the operating unit. This enables to control the consumption individually and save valuable compressed air.

Optimized dust removal system

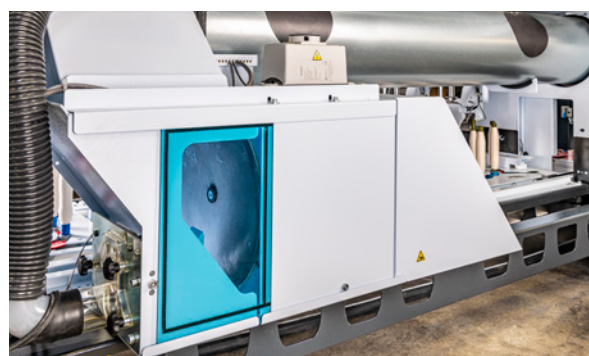
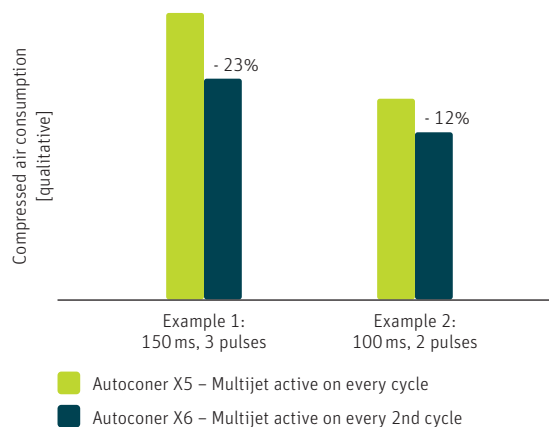
The Autoconer X6 cop dust removal system has been designed to be more aerodynamically efficient. One module can now keep 24 winding units clean, i.e. 20% more than before.



Energy-optimized traveling cleaner

Thanks to an aerodynamically intelligent design of the traveling cleaner, compressed air is precisely directed to the critical points and thus better exploited. Customers benefit from increased efficiency through more effective drive and low energy consumption.

Reduction in compressed air consumption with Multijet



Intelligent Package and Tube Handling

Doffing in record time

X-Change doffs all common package and tube formats within a very short time (Multitube handling), with intelligent advance request mode, travel optimization, a high travel speed (43 m/min) and 10-second doffing time. The advantage: maximum doffer capacity, minimum manual effort.

A clever concept: the empty tube strategy

If the tube magazine of a winding unit is empty, X-Change automatically fetches an empty tube of the same format from a neighbouring magazine and starts package doffing straight away. It cuts waiting times and speeds up production.

Learning capability and intelligent handling

During initial application X-Change “learns” the shape and structure of the tubes and how best to grip it. It remembers this upon renewed presentation. The doffer does this automatically.

Tube Check

Thanks to Multitube handling, the X-Change doffer doffs all common package formats by itself. With Tube Check the doffer detects tubes that are not round by laser sensor and removes them independently. The packages are always held securely in the cradle to ensure high package quality.



Intermediate package storage

The combination of doffer and intermediate package storage offers further optimization potential for doffing and clearing the finished packages. Thanks to the intermediate storage of two finished packages and lot-by-lot clearing, it is possible to vary production, doffing and personnel capacity.

1. Intermediate package storage
2. Tube Check
3. Doffer with multitube handling



Quality Assurance in Detail

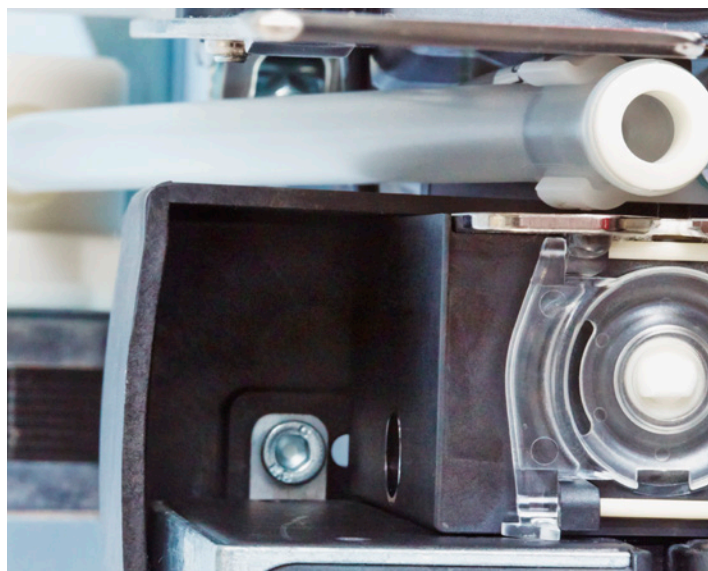
Autocalibration: on the safe side, package for package

The splicer feeder arm and the suction tube for upper yarn pick-up are self-calibrating. Everything is thus set correctly round the clock – no manual checks are required. Spinning mills profit from absolute production reliability and optimally reproducible package quality.



Quality Cut: safe in case of power failure

In case of a power failure, Quality Cut prevents uncleared yarn from being wound onto the package, avoiding wound-in yarn ends and run-out patterns.



Reliable downstream processing: the active yarn trap

The active yarn trap effectively sucks in loose yarn ends and dirt during winding – for even more process and quality assurance in downstream processing. Its aerodynamic design and targeted switching on and off during the winding and cycling process guarantee reliable function.



Easy Handling and Data Management

Powerful, comfortable user cockpit

The operating unit concept is characterized by clear functionality and utility. Capacitive touch display with a large, user-friendly 15.6" display, a zoom function, as is used in computers and smartphones as well as functional and practical graphics are characteristic.

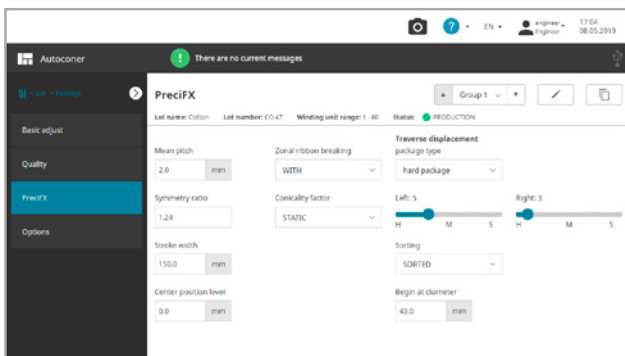
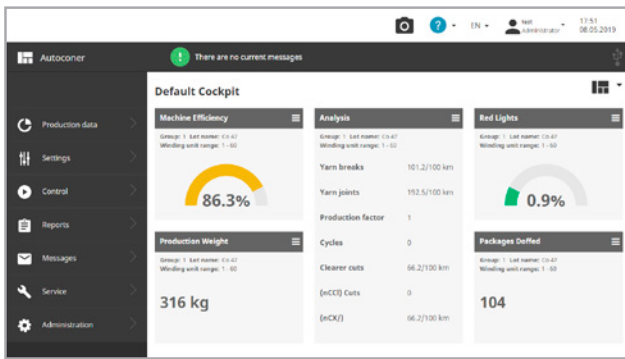
Individual configuration of the start screen with winding and process parameters of each user is possible as a cockpit. It is designed for state-of-the-art data archiving with much larger storage capacity. The extensive range of graphical and tabular evaluations can be adapted individually. Trend and history graphs over up to 15 shifts offer extensive analysis and optimization possibilities for the winding process.

Long service life, low maintenance effort

The Autoconer X6 uses extremely durable components, machine-specific optimized electronic components and robust process controls. A long service life and reduced servicing are the result – creating the ideal and easy handling production conditions!

Integration into ESSENTIAL

With ESSENTIAL, Rieter's all-in-one mill management system, data management for winding can be integrated into the overall spinning process management.



Process Reliability and Intelligent Control

Automation smartly networked

Reliability and efficiency without manual intervention. The Autoconer X6 realises this concept for the future down to the last detail.

Its automated process sequences are smartly interconnected and intelligently controlled. For increased efficiency and reliable high performance.

Upper yarn pick-up piecing cycle	Material flow	Doffer X-Change	Launch control
Vacuum control Power on demand	Cops Sharing Vario Reserve	Empty tube strategy	Slip-free start-up
Smartcycle	SPID	Intermediate storage	
Smartjet	Q-Package		

Smart sensor technology and autocalibration

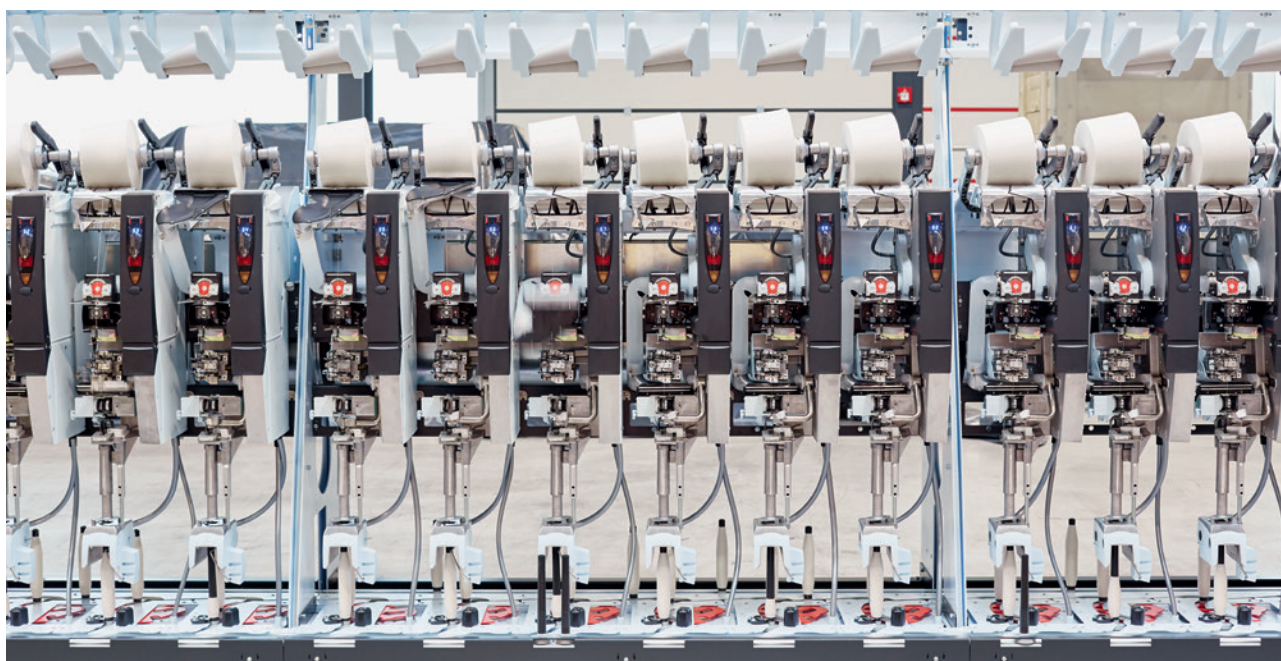
The Autoconer X6 uses the latest sensor systems and drives for autocalibrating aggregates and functions. The advantage: precise, reproducible settings that remain stable over a long period without any manual input.

Smartsplicer	Smartcycle	Doffer X-Change
Autocalibration feeder arm	Autocalibration suction nozzle	Teaching mode
		Multitube handling

Automatic function monitoring

The functional design and intelligent sequences minimise stoppages and manual intervention. Customers benefit from greater process reliability and less workload for staff.

Circular magazine	Doffer X-Change
Automatic elimination of incorrect creelings	Package start-up control
	Tube Check



Technical Data

Machine concept	Single spindle machine, single-sided longitudinal design. Available as right-hand and left-hand machines.
Spindle gauge	320 mm from winding unit to winding unit.
Materials processed	Single and plied yarns of natural and man-made staple fibers; a winding test may be required in some cases.
Yarn count ranges	<ul style="list-style-type: none"> • 333 tex to 5.9 tex (Nm 3 to Nm 170; Ne 2 to Ne 100) • Winding test required for coarser or finer yarns
Package formats	<ul style="list-style-type: none"> • 83 mm (3 ") traverse, cylindrical to 4 ° 20 ' • 108 mm (4 ") traverse, cylindrical to 4 ° 20 ' • 125 mm (5 ") traverse, cylindrical to 4 ° 20 ' • 150 mm (6 ") traverse, cylindrical to 5 ° 57 ' optionally with increasing taper up to 11 °
Package tubes	Cylindrical and tapered, according to DIN/ISO standards.
Package diameter	<ul style="list-style-type: none"> • Max. 320 mm, from cylindrical to 5 ° 57 ' tubes • Max. 300 mm, for 5 ° 57 ' tubes with increasing taper to 11 ° • Emergency stop at 326 mm • Max. 260 mm, with intermediate storage.
Winding speed	Infinitely variable from 300 to 2 200 m/min, depending on yarn type, cop buildup and machine specification.
Acoustic emissions	Acoustic emission data satisfy the international standard EN ISO 9902-4.
Installed power	Depending on the number of winding units and the specified equipment options.
Connections	Power and compressed air supply via customer connections.
Vacuum	<ul style="list-style-type: none"> • Vacuum generated by the suction system. • Discharge of hot exhaust air from the Autoconer X6.

Equipment options feeding		
	Type D	Type V
Feed cop length	180 – 260 mm	180 – 260 mm
Feed cop diameter	max. 52 mm	max. 52 mm
Material feed/automation	Automatic cop feed by flat/circular conveyer (standalone machine)	Automatic feed of cops to the winding machine and return of empty tubes to the ring-spinning machine (link installation)
Winding units/section size	Sections of 4, 6 winding units, 10 to 96 winding units, in steps of 2, according to section arrangement	



Machine Equipment Options, Automation Units

Autoconer X6	Type D	Type V
Cleaning the machine		
Multijet per winding unit with adjustable frequency of the pulse	■	■
Cop dust removal	■	■
Standard traveling cleaner	■	■
Joint collecting chamber for yarn waste and dust	■	■
Separate chambers for yarn waste and dust	■	■
Automatic emptying of yarn waste chamber into a central suction system	■	■
Package doffing and removal		
X-Change package doffer	■	■
Smartjet	■	■
Tube Check	■	■
Package conveyor belt	■	■
Package removal system with intermediate storage (packages max. 260mm diameter)	■	■
Interface with automatic package removal	■	■
Information systems		
Operating unit with graphic user interface via touchscreen and USB interface	■	■
Spinning mill management system ESSENTIAL	■	■
Power unit		
Energy Monitoring	■	■
Energy Monitoring Pneumatic	■	■
Suction system with intelligent vacuum control (AVC) and sensor, Power on demand	■	■
Automation units		
Smarttray with RFID	■	■
Flat circular conveyor	■	-
Direct link	-	■
Underfloor link	-	■
Multilink, Multilot	-	■
Duo-Lot	■	-
1st cop preparation station BPS	■	■
2nd and more BPS	■	■
Top winding device	■	■
UWL-A	■	■
Crossfeed	■	■
Color Check	■	■
Mechanical tube inspector	■	■
Optical tube inspector	■	■
Tube stripper	■	■
Cops & spinning tube extractor	■	-
Spindle Identification System SPID	-	■
Q-Package	■	-

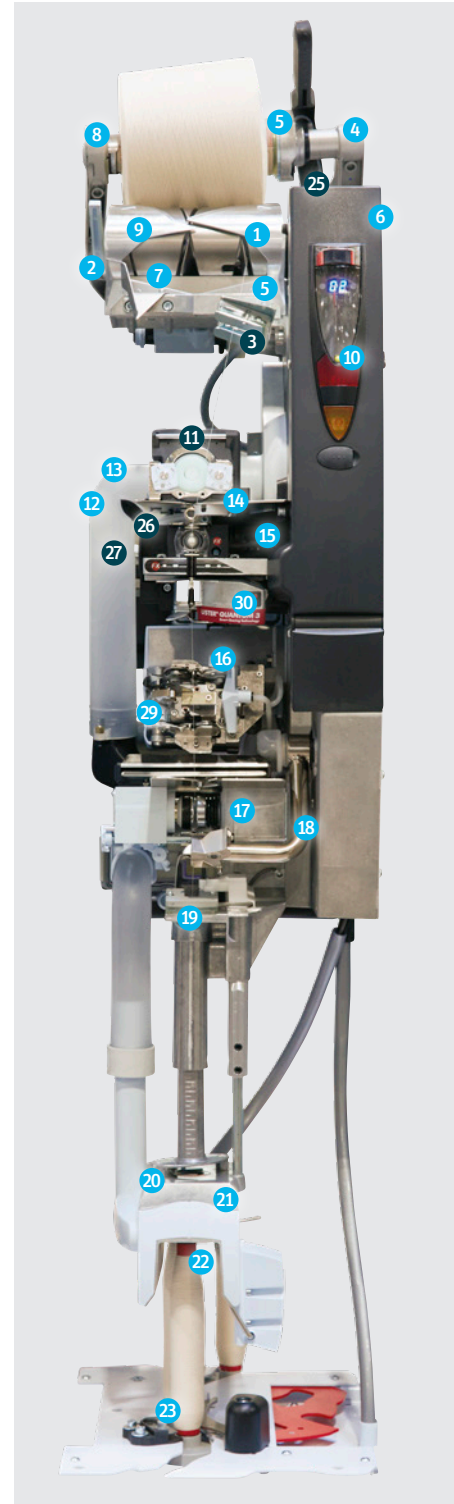
■ Standard

■ Option

- not available

Equipment Options Winding Unit

	Type D	Type V
Winding unit, winding unit control system, units in the yarn path		
Eco-Drum-Drive System for winding speeds of 300 to 2 200 m/min (1)	■	■
Drum lap detection (2)	■	■
Quality Guard sensor (not in combination with Preci FX) (3)	■	■
Package cradle incl. cradle compensation (4)	■	■
Package brake and lift-off after yarn break or cop idling (5)	■	■
Launch Control (6)	■	■
Electronically controlled, high-speed anti-patterning (7)	■	■
Electronic length measurement and package diameter computation (8)	■	■
Quality Cut power failure circuit (9)	■	■
Winding unit display (10)	■	■
Waxing including wax roll monitoring (11)	■	■
Suction tube with autocalibration, Smartcycle (12)	■	■
Upper yarn sensor (13)	■	■
Yarn trap (14)	■	■
Tension Control (15)	■	■
Multijet (16)	■	■
Electromagnetic yarn tensioner, centrally adjustable (17)	■	■
Gripper arm (18)	■	■
Lower yarn sensor (19)	■	■
Residual yarn shears (20)	■	■
Adjustable unwinding accelerator (21)	■	■
Snarl preventer (22)	■	■
Material feed (cops) (23)	■	■
FX-Serie		
Preci FX (24)	■	■
Anti-patterning system Propack FX incl. Variopack FX (not in combination with Preci FX) (25)	■	■
Yarn tension control system Autotense FX incl. Variotense FX (26)	■	■
Precision length measuring system Ecopack FX (27)	■	■
Speedster FX (28)	■	■
Automatic yarn joining		
Smartsplicer (for standard and compact yarns) (29)	■	■
Smartsplicer Injection, Thermo, Elasto (29)	■	■
Electronic yarn clearing (30)		
Standard clearer	■	■
Superior clearer	■	■



Type D/V

■ Standard ■ Option

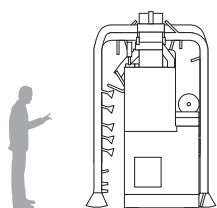


Dimensions

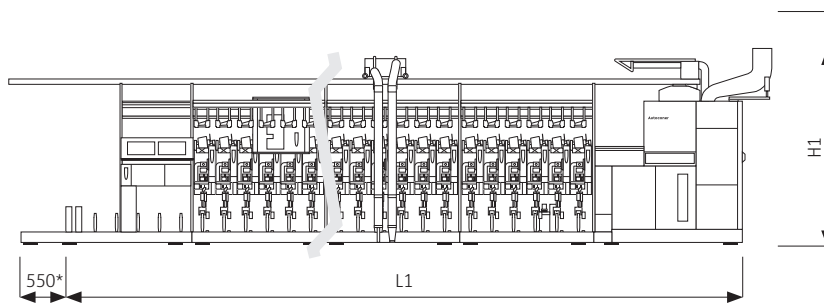
Machine dimensions Autoconer X6, type D, V															
Winding units	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
L1 [mm]	7612	8252	8970	9610	10250	10968	11608	12248	12966	13606	14246	14964	15604	16244	16962
Winding units	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
L1 [mm]	17602	18242	18960	19600	20240	20958	21598	22238	22956	23596	24236	24954	25594	26234	26952
Winding units	70	72	74	76	78	80	82	84	86	88	90	92	94	96	
L1 [mm]	27592	28232	28950	29590	30230	30948	31588	32228	32946	33586	34226	34944	35584	36224	

Height	
H1 [mm]	2 928
H2 [mm]	2 700 – 3 580

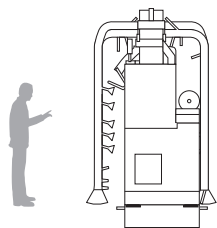
Interface module		
L2	Flat-circular conveyor for type D (mm) + lifter	3 615.5
L3	Underfloor link, interface standard	2 500
L4	Underfloor link, additional interface for Rieter	120



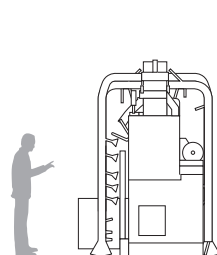
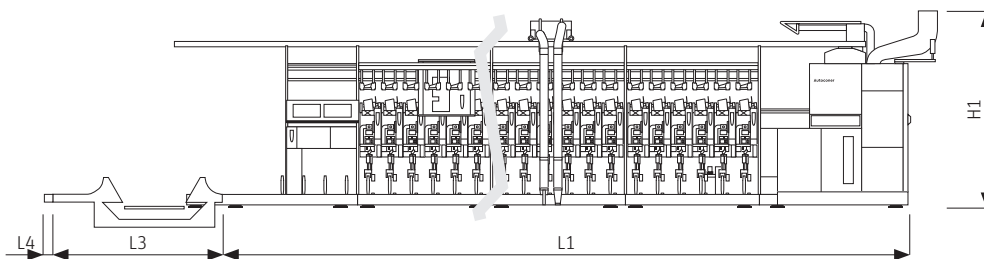
Autoconer X6, type V direct link



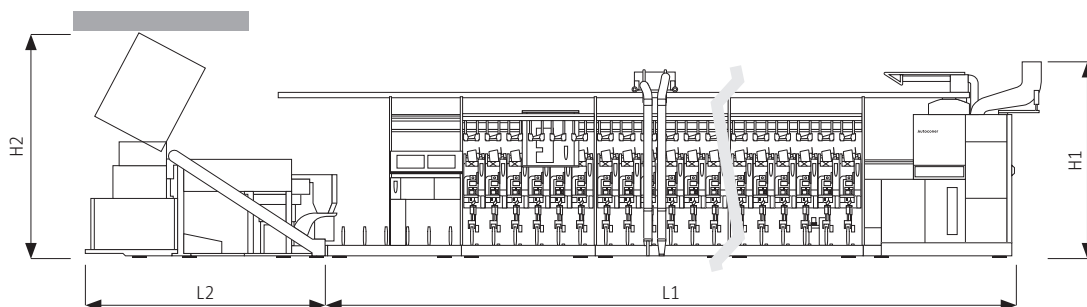
*not for Rieter and Z 72XL

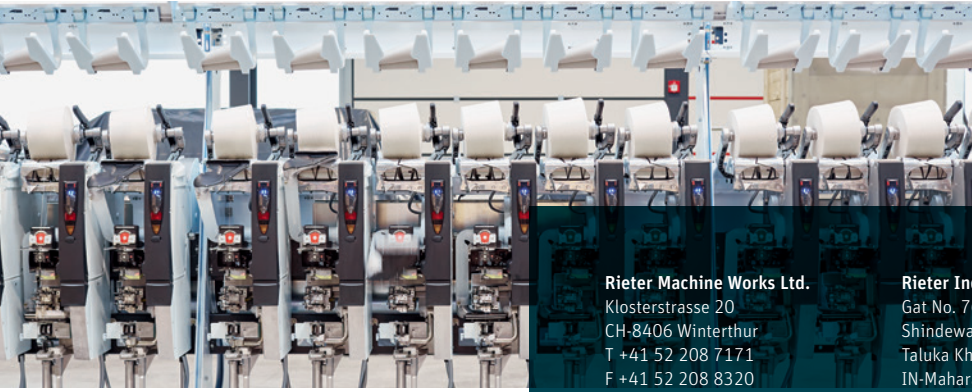


Autoconer X6, type V underfloor link



Autoconer X6, type D





Rieter Machine Works Ltd.
Klosterstrasse 20
CH-8406 Winterthur
T +41 52 208 7171
F +41 52 208 8320
machines@rieter.com
aftersales@rieter.com

Rieter India Private Ltd.
Gat No. 768/2, Village Wing
Shindewadi-Bhor Road
Taluka Khandala, District Satara
IN-Maharashtra 412 801
T +91 2169 664 141
F +91 2169 664 226

**Rieter (China) Textile
Instruments Co., Ltd.**
390 West Hehai Road
Changzhou 213022, Jiangsu
P.R. China
T +86 519 8511 0675
F +86 519 8511 0673

www.rieter.com



The data and illustrations in this brochure and on the corresponding data carrier refer to the date of printing. Rieter reserves the right to make any necessary changes at any time and without special notice. Rieter systems and Rieter innovations are protected by patents.

3563-v1 en 2310