



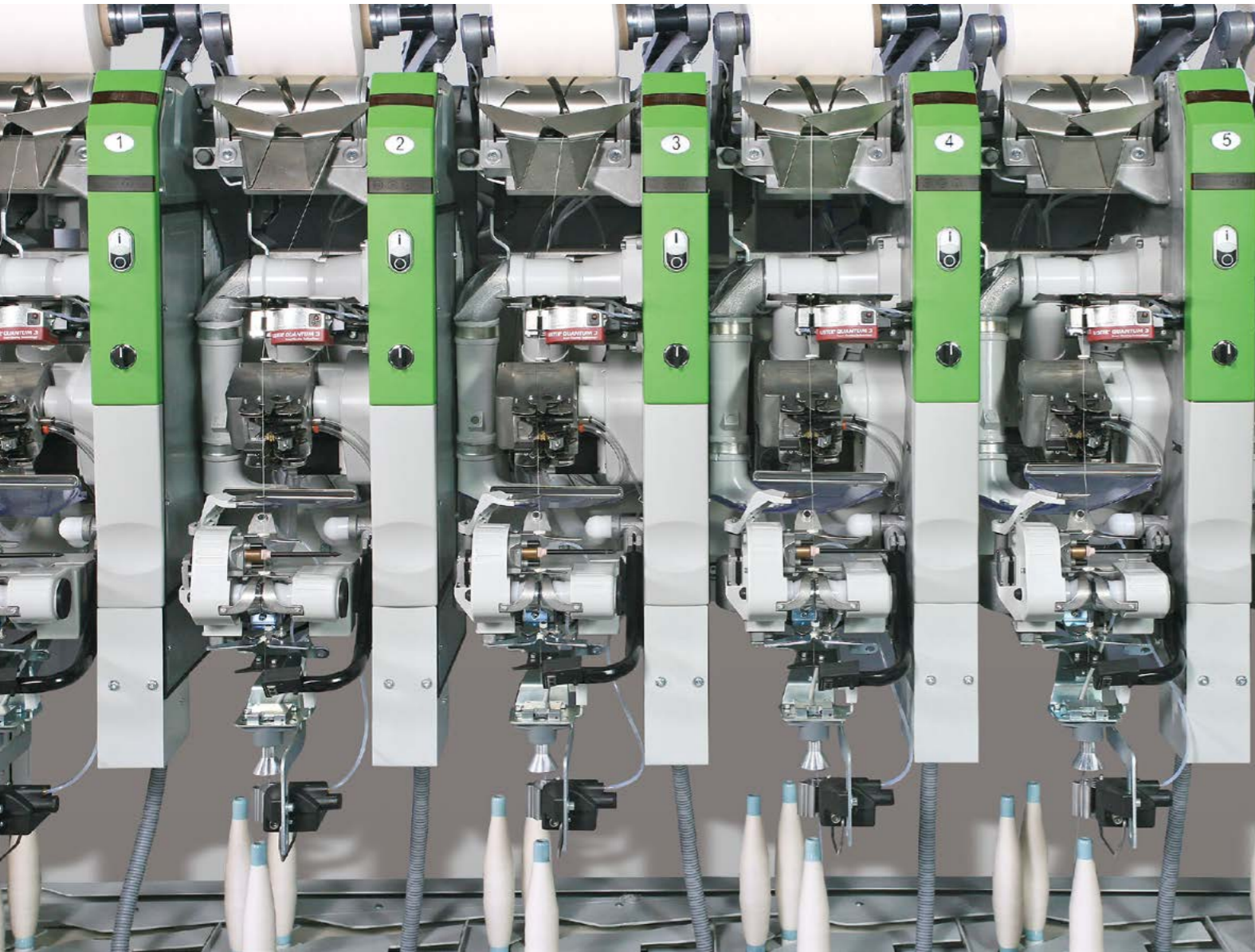
# AUTO-WINDER

VCRO-E | VCRO-I | SMARO-NEW



e-brochure

Preeminent supplier of  
**TEXTILE EQUIPMENT**



## Contents

Main Features .....	01
VCRO-E Auto-Winder with Tray .....	05
VCRO-I Auto-Winder Linked with Ring Spinning Frame ..	11
SMARO-NEW Auto-Winder .....	15
Global Network .....	23

## MAIN FEATURES



### High efficient and high quality piecing unit

- Innovative Yarn tail monitoring device, for timely detecting the current situation of yarn picking.
- Upper/lower air door control to enhance picking success rate and efficiently reduce air consumption.
- Vertical suction moves up and down along straight rail to enhance motion precision.
- Suction nip and vortex blowing system resonably fit with tube diameter greatly increase piecing rate.
- Multi sets of yarn picking devices meet yarn supply for long machine in utmost.
- CBF double-roll yarn end removing device in picker can enhance yarn picking success rate 5-8%, more suitable to non-intensive doffing.



### High efficient and intelligent doffing unit

- High efficient automatic doffing and doffing circle.
- Traverse speed 60m/min.
- Doffing package diameter max  $\Phi$  300mm.
- Intellectualized single spindle automatic re-start.
- Brife automatic picking action and piecing yarn fixing position is adjustable.
- Smart judgement of bobbin and package yarn in existence to ensure favoring doffing.
- Manual and automatic is optional for convenient doffing adjustment.
- Automatic package transportation.

## CHOICE OF VARIOUS SPLICERS GUARANTEE OF FINE JOINT QUALITY

Cooperation with the leading splicer manufacturers in the world guarantees fine joint quality and meets the trend of textile industry Splicing system adopts modular-design for easy installation and maintenance. Different types of splicers can be interchanged according to different customer requirements.

### 4923Q Aquasplicer

Aquasplicer mainly suitable for the splicing of slub yarn, core spun yarn and compact ring spun yarn.

### 798Q Jointair

Different chambers and covers can be adapted to suit the specific requirements of the material to be spliced, such as cotton, wool, manmade staple fiber and their blends.



798Q Jointair

## TOP LEVEL ELECTRONIC YARN CLEARER WHOLE PROCESS CONTROL OF YARN QUALITY

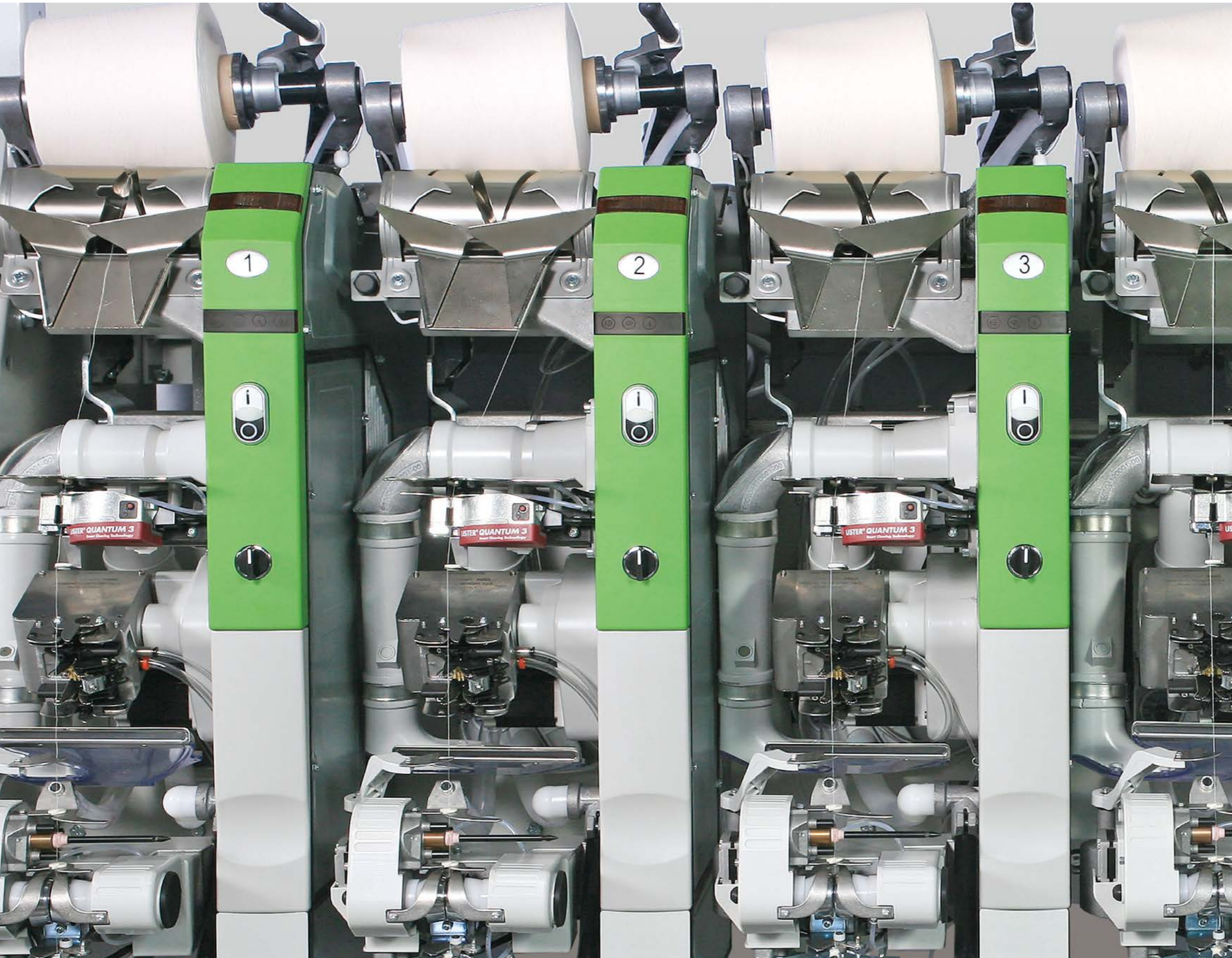
Electronic clearers control yarn quality, including yarn joint quality, during the complete winding process. Two different yarn clearer settings are adopted for normal yarn winding and yarn joint respectively. The most advanced electronic yarn clearer models can be equipped. Foreign fiber detecting function can be chosen as optional.



USTER QUANTUM3 Q/DATA



LOEPFE YARNMASTER ZENIT

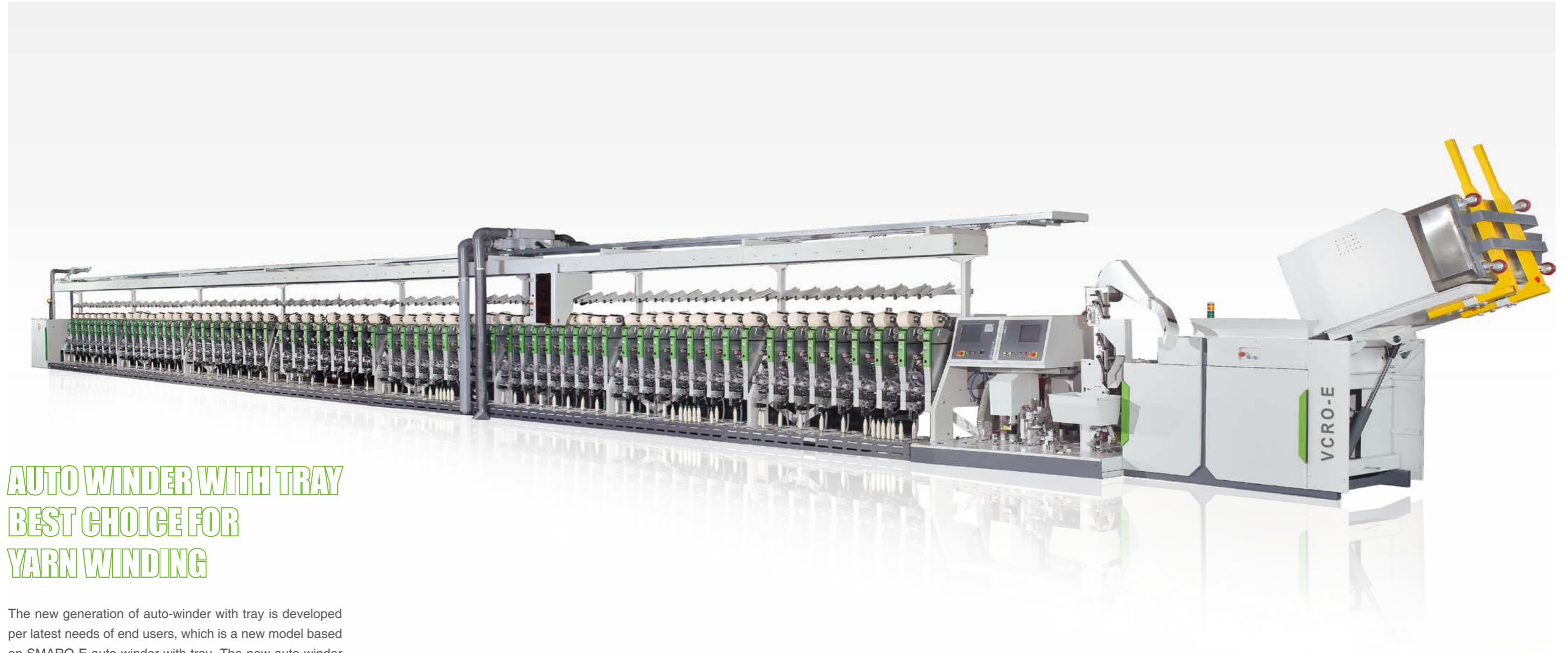


## DRUM DRIVEN BY A COAXIAL CONNECTED BRUSHLESS DC MOTOR

- Drum driven by a coaxial connected brushless DC motor, aiming at high driving efficiency, low power consumption and superior package quality.
- Compared with the traditional belt drive, the coaxial drive eliminates the power loss caused by belt friction and sliding. Thereby the productivity is improved due to the lower power consumption.
- Electronic anti-patterning system functions during the whole winding process to eliminate the formation of critical patterned yarn. The anti-patterning cycle and range is pre-set in HMI and changed automatically according to the dynamic package diameter.
- Yarn clearer monitors whole winding process. When yarn breaks or defect occurs, package lifts instantaneously for package brake, which ensure no friction between package and drum during instantaneous brake.
- Drum speed is accelerated gradually which ensure synchronization and free of slippage between package and drum during winding process and ensure precise package yarn length.
- High grade of drum motor through increasing driving voltage and decreasing current, reduce energy consumption and improve the life of electronic components.

## VCRO-E

### AUTO WINDER WITH TRAY



## AUTO WINDER WITH TRAY BEST CHOICE FOR YARN WINDING

The new generation of auto-winder with tray is developed per latest needs of end users, which is a new model based on SMARO-E auto winder with tray. The new auto-winder can meet the requirements of customers from Ne.6 to the highest count of yarn and it can have 72 spindles in one machine. With several international and national patents for invention are applied for the new machine, it's featured with stable and reliable performance, winding into perfect package, adapting to wide range of various types of yarn and more convenient and easier to be operated.

## FEEDING YARN BY BIG MAGAZINE SIGNIFICANTLY REDUCE THE LABOR

Need not manually insert tube, operator only need to push tube box from spinning frame to winder for winding. The whole process realizes automatic and successional production and enhance production efficiency. Compared with common auto-winder, it can reduces 70% labor.

## ON-LINE DETECTION SELF-DIAGNOSIS AND SELF-SUPPLY

According to actual production, on-line detection and feedback from sensor automatically start vibration transportation and tube yarn feed, featured by maximum automation and exibility.

## MACHINE MONITORING COMPLETELY AND ACCURATELY CONTROL IN MOTION

Human-machine interface display four levels menu, sensor collect data, ICS display scene of fault accurate position, real-time monitor yarn performance. ICS's abundant display and storage function can increase health management and technological recipe to meet the needs of high-end customers.



## INTELLIGENTIZED MAGAZINE SUPPLY TUBE YARN

- Bobbin yarn is supplied by bucket instead of manual supply and each spindle is provided with spare bobbin transporting channel.
- Automatically adjust vibration frequency according to bobbin requirement to ensure bobbin supply continuity.
- Intellectually identify big end and small end, accurately and effectively put bobbin onto tray.
- Smart empty bobbin discharger.



## FLEXIBLE BOBBIN TREATMENT SYSTEM

- Introduce the latest high grade logistics idea.
- Multi-channel logic judgment ensure every bobbin treatment action, such as draw up of full bobbin, empty bobbin, bobbin reading , bobbin re-reading in order without interference.
- Empty bobbins go back automatically on conveyor loop, so bobbin treatment pressure is alleviated effectively.
- Concentratively collect empty bobbins and automatically identify empty bobbin from skinny one.
- Be able to treat various bobbins with different dimension and specification.

## HIGH EFFICIENT YARN PROCESSING

### High efficient bobbin yarn supply system

Single or double bobbins of yarn supply device can be optional and reach to 3000 bobbins/h supplied. By CCD control, the bigger or smaller end of bobbin could be judged intelligently. CBF can be optioned with 2 or 3 yarn piecing systems, which could reach to 50 bobbins/min, Max. no. of 72 spindles is available.



### High efficient auto-doffer

Trolley traverse speed up to 60m/min;  
Efficient and automatic package change with doffing cycle of 13.5s;  
Pre-full package function to enhance trolley efficiency greatly.



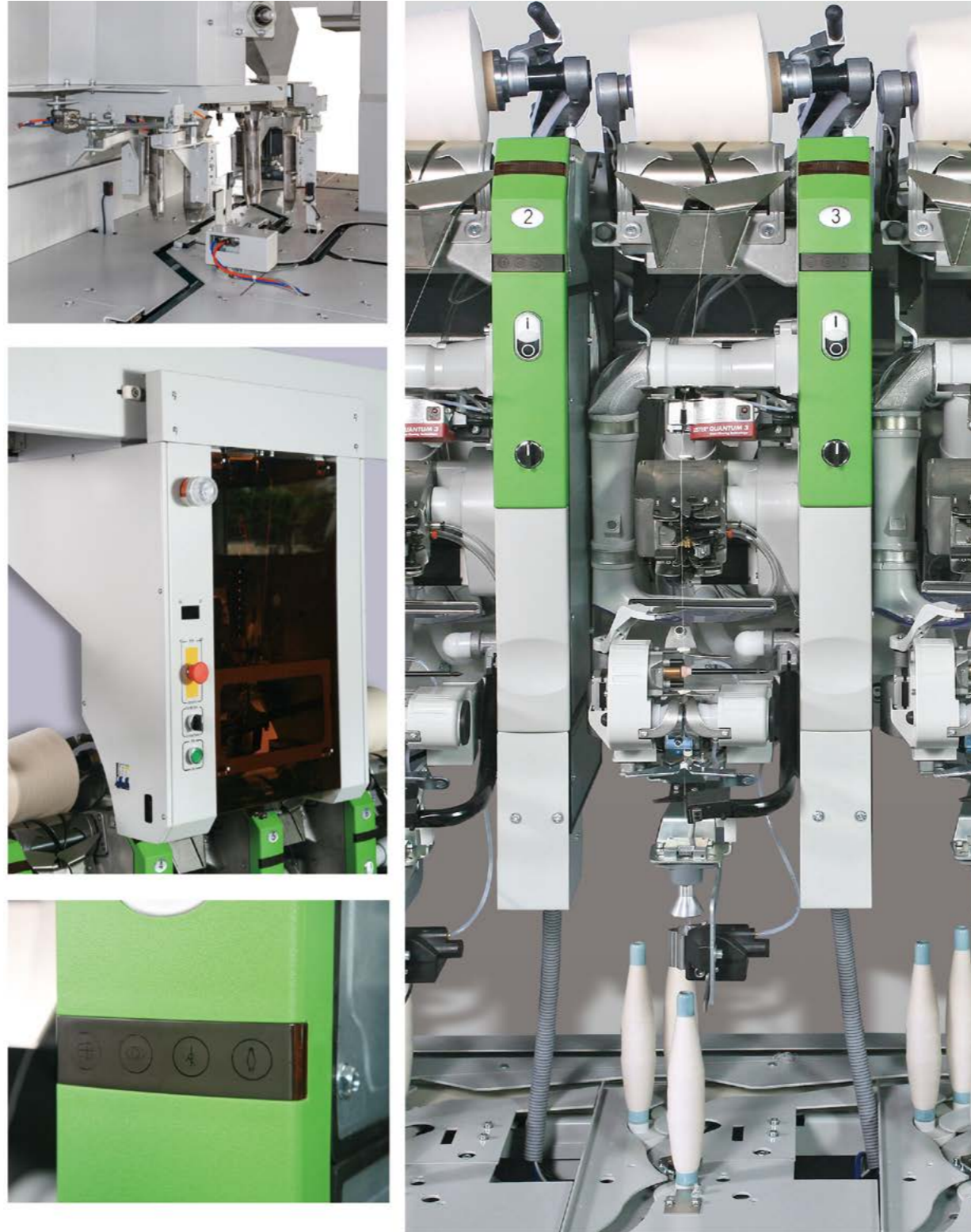
### Short single spindle circulation

Adoption of high speed CPU with powerful hardware source can reduce spindle circulation time to 6.5s thus to enhance efficiency and production.



### Intelligent alarm system

Spindle display menu can indicate fault type that can instruct operator to troubleshooting stopped spindle rapidly so as to enhance spindle efficiency.



### New type of grid tension mechanism (Optional)

With the tension sensor close loop control, dynamic compensating the yarn tension real-timely. The yarn tension generated could be more constant and benefit to package forming.

### The new bobbin changing mechanism

Driven by a separated motor, can center the bobbin automatically. Whereas, more steady tension is ensured during unwinding of bobbins and to achieve better yarn packages.



### Package yarn gripping mechanism

Adopts rear gripping method, which is a steady and reliable structure and minimize the bobbin in jittering, helping to form good packages.



### The new axial package yarn braking mechanism

Can brake quickly and effectively and improve the success rate of the yarn end's suction, avoid waste and twined yarn So as to guarantee quality of package yarn.

### Twin positioning on suction nozzle

The design of twin positioning sensors on suction nozzle can ensure the yarn could be introduced accurately into splicer and improve the quality of splicing.

## VCRO-I

### AUTO-WINDER LINKED WITH RING SPINNING FRAME

## A SYMBOL OF EFFECTIVE YARN QUALITY CONTROL

The new generation of auto-winder with linking is developed as per latest needs of end users, which is a new model based on SMARO-I auto winder with linking system and could link with any spinning machines with longest length to 1,800 spindles. The new auto-winder can meet the requirements of customers from No.6 to the highest count of yarn. It's featured with improvements in stable and reliable performance, winding into perfect package and easier to be operated. Its brightest spot is the spinning quality tracking system, by using RFID ie. radio-frequency technique, the faulty bobbins can be traced back to the spindle of the spinning machine, thereby to solve the spinning problem and improve the quality of yarn.



## HIGH QUALITY

Automatic bobbin feeding from spinning frame to auto-winder improves yarn cleanness and avoids yarn contact damage.

## HIGH EFFICIENCY

To solve the friction between package of spinning frame and speed SO as to enhance the spindle speed of spinning frame and increase productivity.

## ENHANCING AUTOMATIC LEVEL SAVING MANPOWER

To transport yarn package and feed bobbin automatically so as to save labor and connect the two labor-intensive procedures directly not only to realize automation and continuous production but also to improve quality and enhance productivity.

## COMPLETELY AUTOMATIC YARN SUPPLY

- Bobbin supply from spinning frame to auto-winder is completely automatic, free of manual feed. Behind single spindle it is designed with spare bobbin convey channel;
- Bobbin conveyor increase logic judgment to make following actions such as full bobbin, empty bobbin, picking, re-piecing, waste yarn treatment, stop, pass in CBF not interfered with each other;
- Bobbin change is automatically detected and feed;
- Empty bobbin is automatically transported back to spinning frame by lop belt;
- Bobbin is transported by support disc that eliminate bobbin yarn surface damage and reduce pilling increment.



## SMARO-NEW AUTO-WINDER



### GUARANTEE OF YARN QUALITY IMPROVEMENT

SMARO-NEW automatic winder inherits the advantages of SMARO series winder, adopts brand-new profile design-featured by beautiful and dignified, adopts the brand-new smart anti-pattering device, new type of tension control system and new type of balloon control mechanism to ensure perfect package building, more even winding tension, high machine operation stability and reliability to meet customer requirement better.



## BETTER

- New type of anti-pattering mechanism
- New type of the enclosed drum cover
- New type of soft tension mechanism
- Electronic anti-wrap drum
- Drum optional freely

## FASTER

- Tension close loop control system.
- Optimized bobbin yarn suction nozzle.
- Optimized package yarn suction program.
- Optimized gill pin structure
- Improved spindle panel installation method

## MORE RELIABLE

- New type of soft tension structure.
- Optimized tension yarn-catcher structure
- Optimized empty bobbin conveyor
- Increased empty bobbin selection box
- Optimized air door structure.
- Transparent lints box window.
- Optimized mobile fan structure.

## UNIFORM AND CONSISTENT YARN TENSION, EXCELLENT BUILDING OF YARN PACKAGE

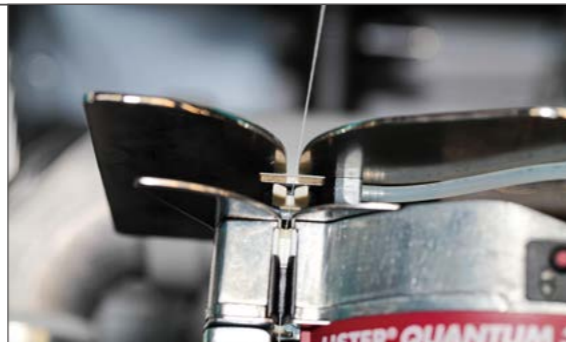
New type of electronic anti-patterning system, adopting balance pressure regulating in ratio, functions during the whole winding process to eliminate the formation of critical patterned yarn. Multi-type of drums optional for different yarns meet the requirement of package building and capacity.



New type of closed drum cover can efficiently prevent package yarn tail from throwing off, greatly reduce yarn wrap on small bobbin side, prevent bobbin building problem, enhance one-time head suction successful rate. Electronic anti-wrap drum can prevent yarn wrap on drum and stepped winding yarn, optimize package building and reduce material waste.



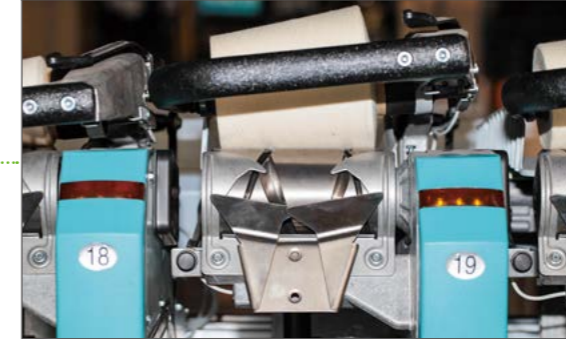
Newly increased tension close-loop control ensures even doffing tension, enhance winding speed 10-20% and production efficiency 2-5%.



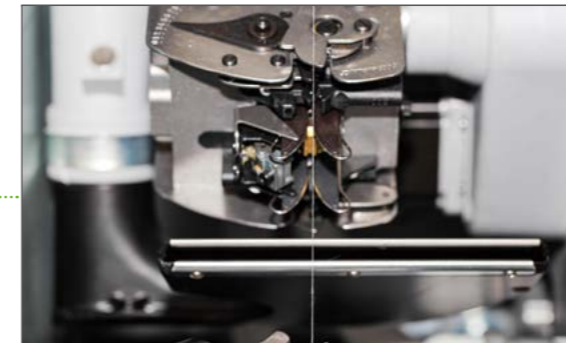
New type of soft tension structure can stabilize yarn tension and enhance production efficiency.



## OPTIMIZED SYSTEM STRUCTURE TO ENHANCE PRODUCTION EFFICIENCY



Comparing with traditional belt drive, DC brushless motor coaxial drive winding drum could reduce the electricity consumption and improve the productivity due to the elimination of the power loss caused by belt friction and slipping



Package yarn head suction program is optimized, which efficiently prevent the problems such as yarn choking on package yarn suction nozzle, enhance production efficiency 1-2% and enhance machine operation reliability.



Position of gill pin inside package suction nozzle is moved backwards to increase yarn direction plane and enhance yarn suction successful rate.

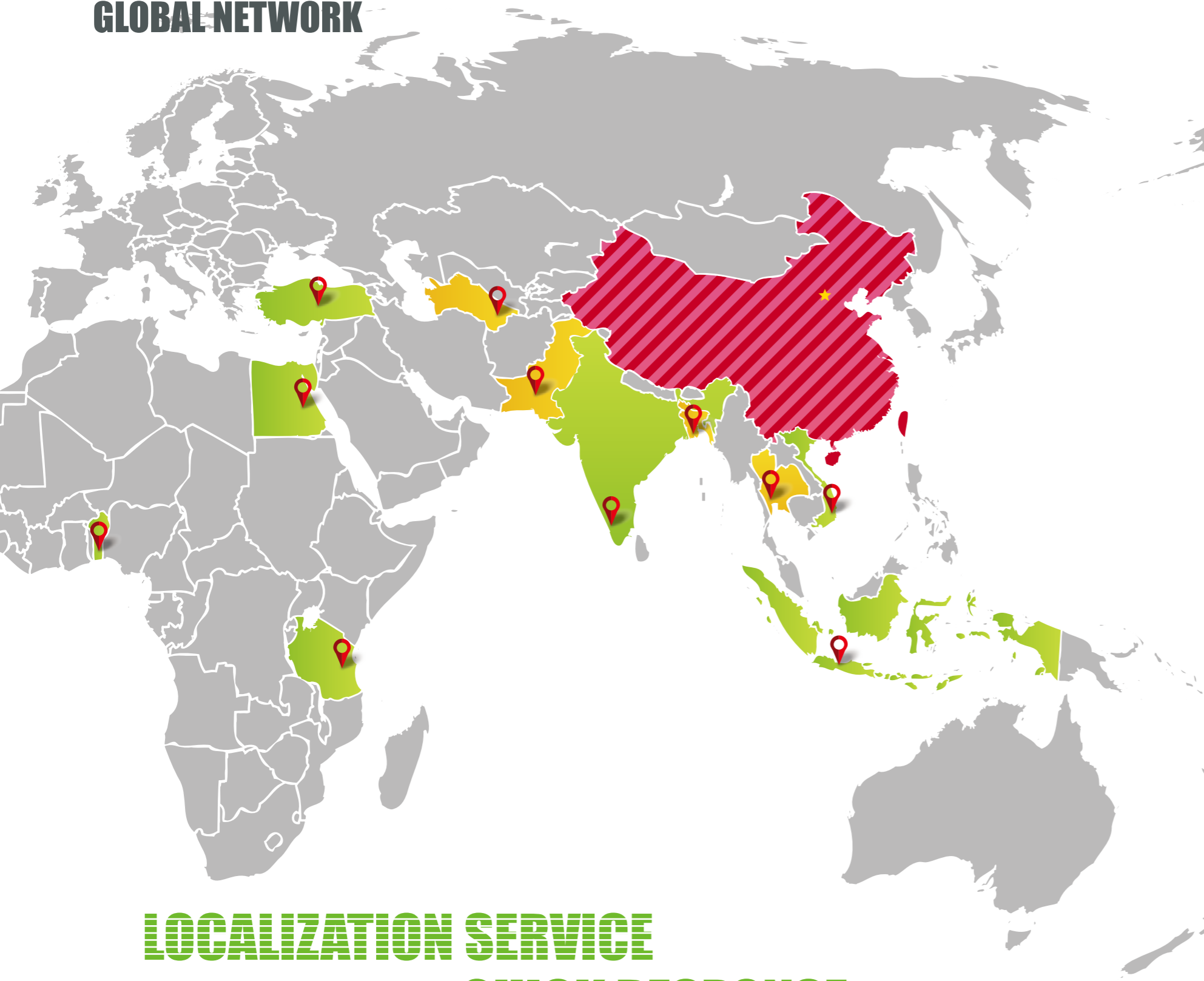


Bobbin suction nozzle control is optimized, the aero position of bobbin suction nozzle is controllable and twisting program is monitored, which can reduce the rate of ejecting bobbin by spindle and enhance production efficiency.

## MAIN SPECIFICATIONS

Model	VCRO-E	VCRO-I	SMARO-NEW
Type	Single-spindle, single-sided arrangement, left hand or right hand	Single-spindle, single-sided arrangement, left hand or right hand	Single-spindles, single-sided arrangement, left or right hand.
Fields of application	Nm 3.5 to the highest count cotton, wool, synthetic and blended spinning yarn or plied yarn	Nm 3.5 to the highest count cotton, wool, synthetic and blended spinning yarn or plied yarn	Nm3.5 to the highest count cotton, wool, synthetic yarn and blended single yarn.
Winding speed(m/min)	400~2200 , stepless speed regulation	400~2200 , stepless speed regulation	400-2200m/min,step-less speed regulation
Number of winding spindles	6 to 36, every two spacing increment	6 to 36, every two spacing increment	6 to 72 every two spacing increment.
Spindles distance (mm)	320	320	320
Applicable bobbin taper	4°20',5°57'	4°20',5°57'	4°20, 5°57'
Feeding bobbin yarn specification (mm)	Φ=32~43, Length =180~230	Φ=32~43, Length =180~230	Φ=32-65, Length=180-300
Joint type	Mesdan 798Q Jointair / Splicer, Aquasplicer	Air splicer, Aquasplicer	Airsplicer, aquasplicer
Electronic clearer	USTER / LOEPFE	USTER, LOEPFE	USTER, LOEPFE
The winding drum	Driven by DC brushless motor	DC motor coaxial transmission, step-less speed regulation	DC motor coaxial transmission, step-less speed regulation
Anti-patterning	Electronic Anti-patterning system	Electronic anti-patterning system	Motor speed variation controlled in whole process
Joints circle	-	Electrical logic control, intelligent cycle	Electrical logic control, intelligent cycle
Tension control	Disc / Grid	Electromagnetic weighting, closed-loop control	Electromagnetic pressure
Waxing	-	Optional	-
Picking ability	50 3 yarn picking	40 (Double Piecing Unit, option)	-
Support disc diameter(mm)	-	Φ70	-
Channel No.	3 belts for supply, 2 belts for return	2 for bobbin forward, 1 for bobbin back	-
Total installation power (kw)	37.9	28	33.57 (actual consumption 11-15kw)
Dimension (mm)	27142 x 1818 x 2650 (60 spindles)	15240x1818x2650 (32 spindles)	22627 X1365X2650 (60 spindles)

# GLOBAL NETWORK



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