

打造装备旗舰 引领纺织发展
CREATING A FLAGSHIP IN MANUFACTURING,
LEADING THE DEVELOPMENT OF TEXTILE INDUSTRY



青岛宏大纺织机械有限责任公司
QINGDAO HONGDA TEXTILE MACHINERY CO., LTD.

VCRO-E 托盘式自动络筒机
AUTO-WINDER WITH TRAY



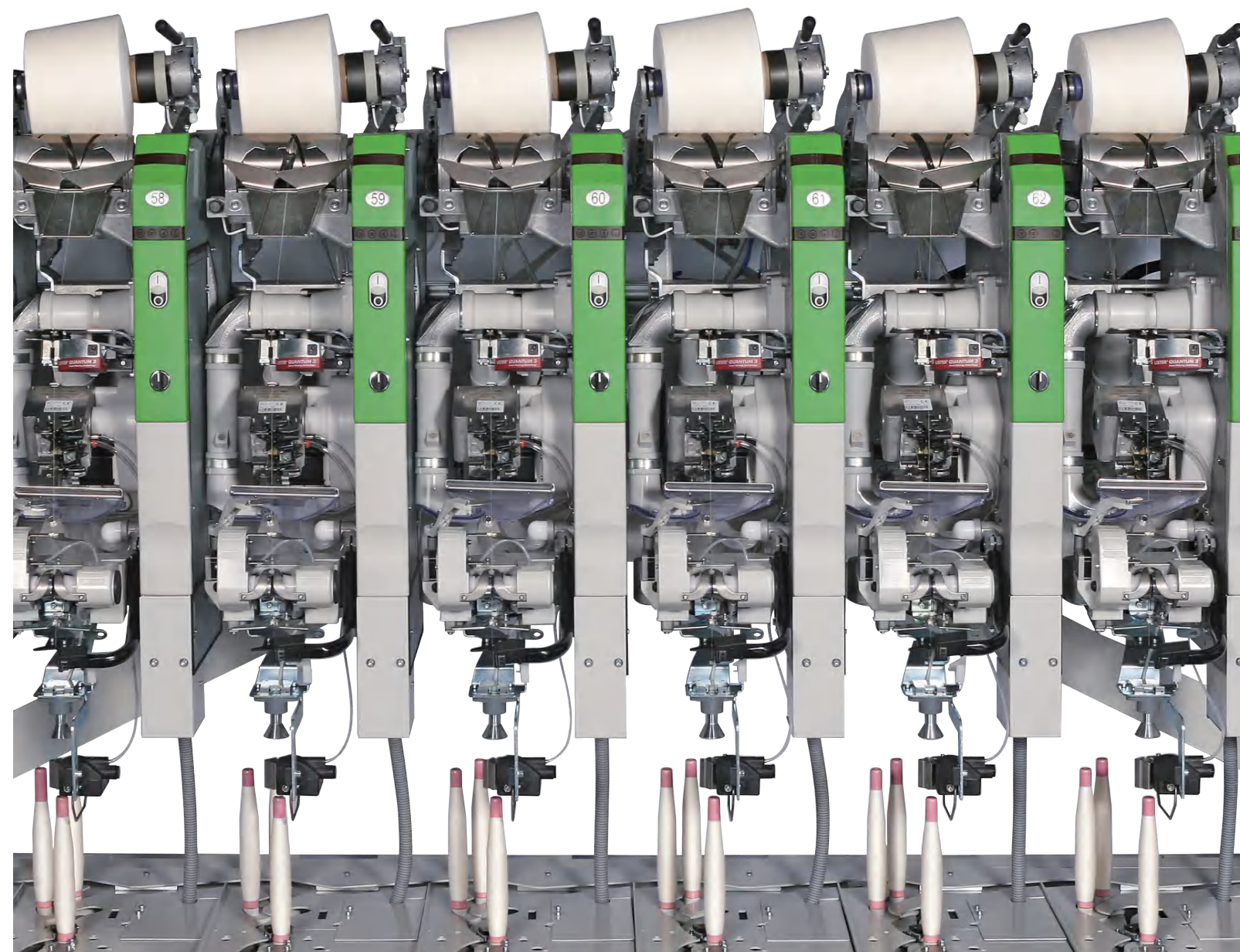
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2024.07





VCRO-E 托盤式自動絡筒機 AUTOMATIC WINDER WITH TRAY



该机型是青岛宏大自主研发的新一代托盘型自动络筒机，能满足用户从6英支至最高支数纱线纺纱要求，最多可配置72锭，设备稳定可靠，产品成纱质量优良，品种适应范围广，操作更为方便简单。

This type is a new generation of auto-winder with tray independently researched and developed by Qingdao Hongda, which can meet users' spinning requirements from 6 to the highest count of yarns and can be equipped with up to 72 spindles. The equipment is stable and reliable, the final product quality is excellent, the variety is suitable for a wide range, and the operation is more convenient and simple.

络筒工序的优选

AUTOMATIC WINDER WITH TRAY
BEST CHOICE FOR YARN WINDING



纱库集中喂纱

大幅减少用工，实现自动化

Feeding yarn by big magazine can great reduce labor

不用人工插管，仅需将细纱管纱箱推至络筒机就能络纱，整个过程实现自动化、连续化生产，提高了劳动生产率，同普通纱库形式的自动络筒机相比，可减少70%用工。

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

在线检测

自诊断自供给，实现智能化

On-line detection, self-diagnosis and self-supply

采用传感器在线检测反馈技术，可根据系统内管纱的存量自动调整供给量，自动启动振动输送及管纱喂给，实现了自动化程度和灵活性。

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

全机监控

精确显示运行状况，实现集中控制

The Inspector Control System Realizes Complete, Control over running accurately

人机界面四级菜单显示，传感器采集数据，上位机情景显示故障精确位置，实时监测纱线运行情况，丰富的上位机显示和存储功能，增加健康管理、工艺配方，满足高端用户生产管理要求。

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.

新型自动络筒机

NEW GENERATION AUTO-WINDER

★智能化集中供纱系统

Intelligentized supply tube yarn of magazine

★优质高效的生头装置

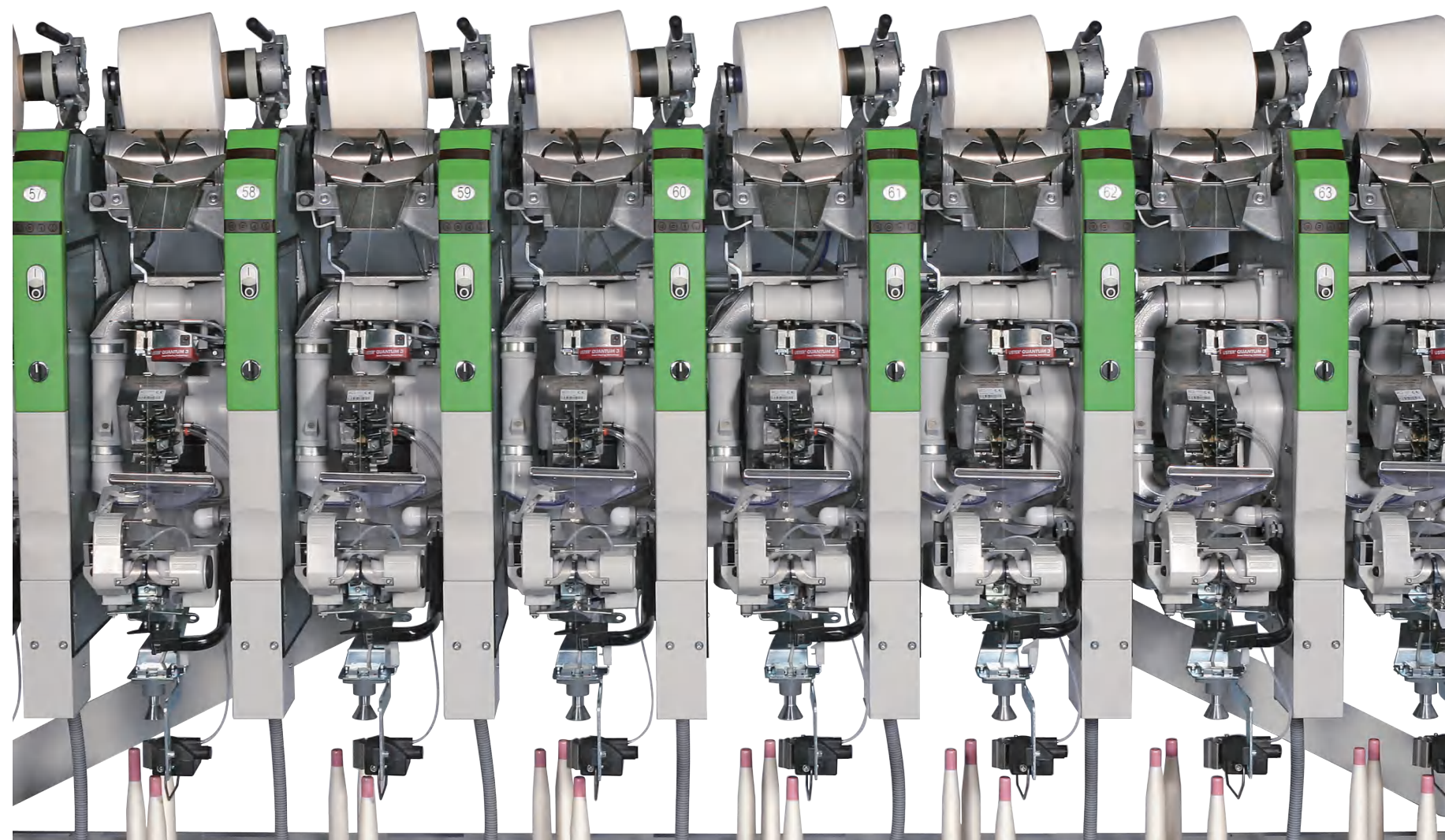
High quality and high efficient picking unit

★灵活的管纱处理系统

Flexible bobbin treatment system

★高效智能的落筒小车

Efficient and smart doffing trolley





智能化纱库集中供纱系统 Intelligent and centralized magazine yarn supply system

智能化管纱供给 Intelligent bobbin supply

管纱由翻斗供给，控纱装置控制管纱向振动平板的供沙量，使得振动盘内管纱数量波动幅度较小。振动平板处带吸风及剪刀装置，保障振动盘的输出速度并避免纱头缠绕。

Bobbin is supplied by the tipper, and the yarn control device controls the yarn supply from bobbin to the vibrating plate, so that the fluctuation range of the bobbin quantity in the vibrating plate is small. The vibrating plate is equipped with air suction and cutting device to ensure the output speed of the vibrating plate and avoid the winding of the yarn head.



灵活调节的振动系统 Flexibly adjustable vibration system

根据管纱单锭需求量可以调节振动盘的振动频率。在保证管纱供应的基础上尽量采用较低的振动频率，保证管纱供给的平稳性和连续性。

The vibration frequency of the disk can be adjusted according to bobbins demand of spindle. On the basis of bobbin supply, the lower vibration frequency can be used as far as possible to ensure the stability and continuity of bobbin supply.



智能空管排出装置（选配） Intelligent empty tube discharge device (optional)

通过传感器识别管纱形状，将空管排除，不进入生头系统，可提高生头效率。

Intelligent empty tube discharge device identifies the shape of bobbin by using sensor, discharges empty tubes which do not enter into the yarn head finding system for improving yarn finding efficiency.



01

采用CCD自主创新检测技术，智能判断管纱大小头。插管结构简单、维护工作量小。低支纱生产效率提高近10%。

CCD detection technology is used to intelligently judge the big and small ends of bobbin. The bobbin plug structure is simple with less maintenance work. The production efficiency of low count yarn is increased by nearly 10%.



CCD检测

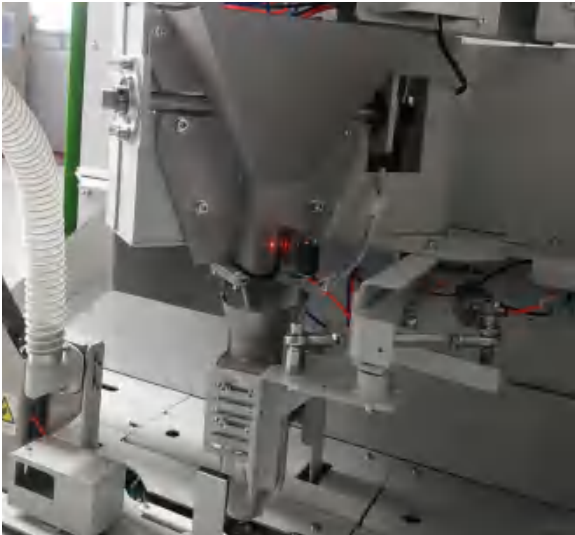


02

单双插管供管能力均达到世界领先水平，可根据需要自行选择。

Single plug and double plug have reached the peer-leading level of the world, which can be selected according to your needs.

	单插管 single plug	双插管 double plug
供管能力 bobbins supply	3000支/小时 per hour	3300支/小时 per hour





优质高效的生头装置 HIGH QUALITY AND HIGH EFFICIENT PIECING UNIT

- ★创新尾纱检测装置，适时检测生头现状。
- ★上下风门控制，提高生头成功率，有效降低压缩空气消耗量。
- ★垂直吸风采用直线导轨上下运动，提高运动精度。
- ★与管纱直径相配的合理的吸风夹头或涡流吹风系统，大大提高了生头率。
- ★多套生头装置，满足长车供纱需求。
- ★CBF生头双刺辊尾纱去除装置，可提高生头成功率5-8%，对非集落纱适应性更强。
- ★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.



转弯剪刀吸风装置
Suction device for turning cutter



挑头吸风装置
Suction for yarn head hooking



纱尾去除装置
Yarn tail removal device



灵活的管纱处理系统 FLEXIBLE BOBBIN TREATMENT SYSTEM

- ★引入高端物流理念。
- ★多通道逻辑判断，使得管纱处理对满管、空管、生头、再生头拔管等动作时，互不干扰，做到有序运行。
- ★空管在输送回路皮带的作用下自动返回，可有效缓解管纱处理的压力。
- ★空管集中回收，自动识别空管和残纱，并分别回收。
- ★可处理不同尺寸和规格的纱管。
- ★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.



- ★可有效减少CBF处回丝，减少挡车工清洁工作量。



高效智能的落筒小车

HIGH EFFICIENT, INTELLECTUAL NEW TYPE OF DOFFING CARRIAGE

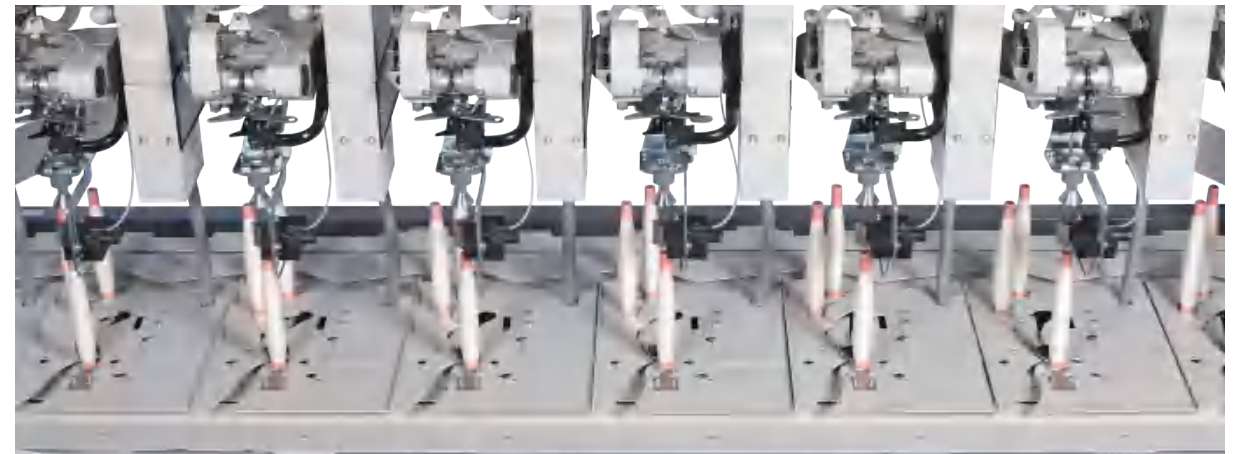
- ★ 高效自动换筒，落筒周期短；
 - ★ 行走速度快速（60m/min）；
 - ★ 适应性强，可落筒纱直径最大 $\Phi 320\text{mm}$ ；
 - ★ 智能化的单锭自动重启；
 - ★ 简洁的自动生头动作，生头纱线位置可调；
 - ★ 智能化判断筒管、筒纱存在，确保落筒顺利进行；
 - ★ 设有手动和自动选项，便于进行落筒调节；
 - ★ 自动筒纱输送；
 - ★ 小车行走速度可达60m/min；
 - ★ 高效自动换筒，换筒周期为13.5秒；
 - ★ 预满筒等待功能，极大地提高小车运转效率。
- ★ High efficient automatic doffing and doffing circle;
 - ★ Traverse speed 60m/min;
 - ★ Doffing package diameter max $\Phi 300\text{mm}$;
 - ★ Intellectualized single spindle automatic re-start;
 - ★ Brife automatic picking action and piecing yarn fixing position is adjustable;
 - ★ Smartjudgement of bobbin and package yarn in existence to ensure favoring doffing;
 - ★ Manual and automatic is optional for convenient doffing adjustment;
 - ★ Automatic package transportation;
 - ★ Trolley traverse speed up to 60m/min;
 - ★ Efficient and automatic package change with doffing cycle of 13.5s;
 - ★ Pre-full wait package function to enhance trolley efficiency greatly.

高效管纱输送系统

High efficient bobbins delivery system

- ★ 空满管均采用单电机传动单根输送带，电机端及张紧端均带皮带调偏功能，传动稳定可靠，调节方便。

The empty and full bobbins are transported independently by single belt driven by single motor, and the motor end and tension end are equipped with belt deflection adjustment mechanism to ensure transmission stable and reliable.



- ★ 等待位的筒纱输送系统,可提供更多的筒纱存储位置,减少收纱工作量。

The package conveying system with waiting position can provide more package storage positions and reduce the work load of yarn collector.

- ★ 空管输送采用前二输送带配置，独立电机驱动，有反转、停转功能，实现高效顺畅排空管的同时节约能源。

The empty tube conveyor adopts the first two conveying belts, which are driven by independent motor and have the functions of reverse and stop to realize the efficient and smooth empty tube discharge and save energy at the same time.



纱线成型高品质 Superior package quality

优异的机械设计—全新的筒子握持机构

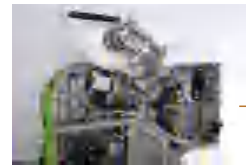
Excellent mechanical design - new package holding mechanism

筒纱平衡加压机构

Package balance pressurization mechanism

随着筒纱直径加大，平衡力逐渐增加，保持筒纱和槽筒之间的接触压力基本不变，确保筒纱密度均匀，成型良好。

As the increase of the package diameter, the balance force increases gradually to make the contact pressure between the drum and the package basically unchanged, so as to ensure uniform package density and perfect package profile.



筒纱握持机构

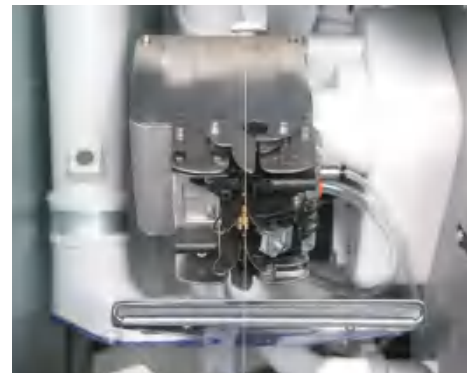
Package holding mechanism

采用双端握持后置式机构：

1. 机构稳定可靠，减少筒子的抖动，有利于获得成形良好的筒子。
2. 间歇式防叠效果得到保证，筒纱无重叠。

Adoption of double end holding and postposition mechanism:

1. the stable and reliable mechanism reduces package tremble in the greatest extent, favorable for obtaining a well profiling package.
2. The intermittent anti-patterning effect is guaranteed, and there is no overlap of the yarn.



798Q新型集中控制空气捻接器

798Q jointair

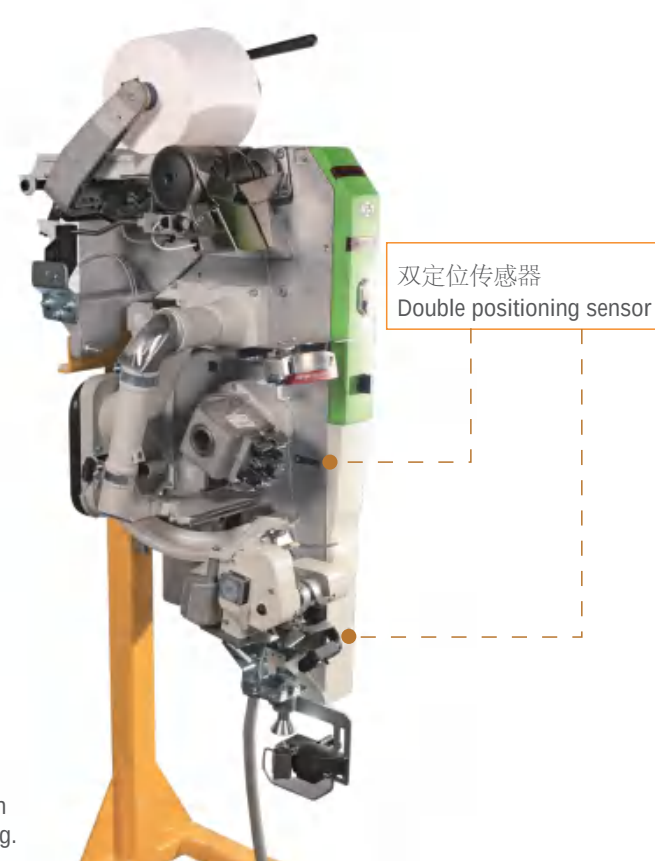
捻接参数可在上位机集中设定，提高单锭捻接质量一致性，使特殊品种纱线同样获得外观完美的接头。

Twisting parameters can be centralized set in ICS to enhance the uniformity of spindle twisting quality. optional to make special yarn get perfect joint.

管纱吸嘴双定位 Twin positioning on suction nozzle

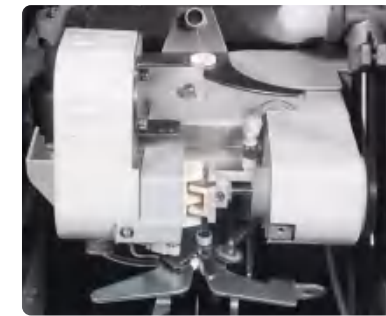
传感器的设计可确保下纱准确地送入捻接器内，进一步提高捻接接头的质量。

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.



恒张力控制系统 Constant tension control system

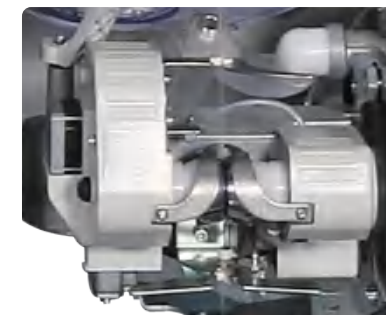
张力传感器实时检测张力值反馈。
Tension sensor monitors tension value feedback in real-time.



栅式张力 Grid type tension

多点式加压有效吸收突发张力波动纱线稳定适用于特殊品种纱线检测。

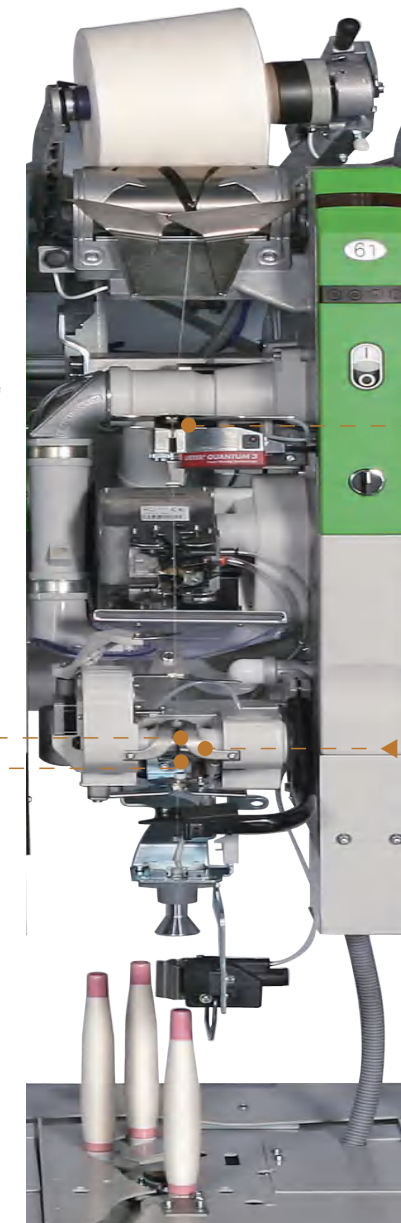
Multi point pressurization finitely absorbs burst tension fluctuation, favorable for yarn stability and abnormal fiber detection.



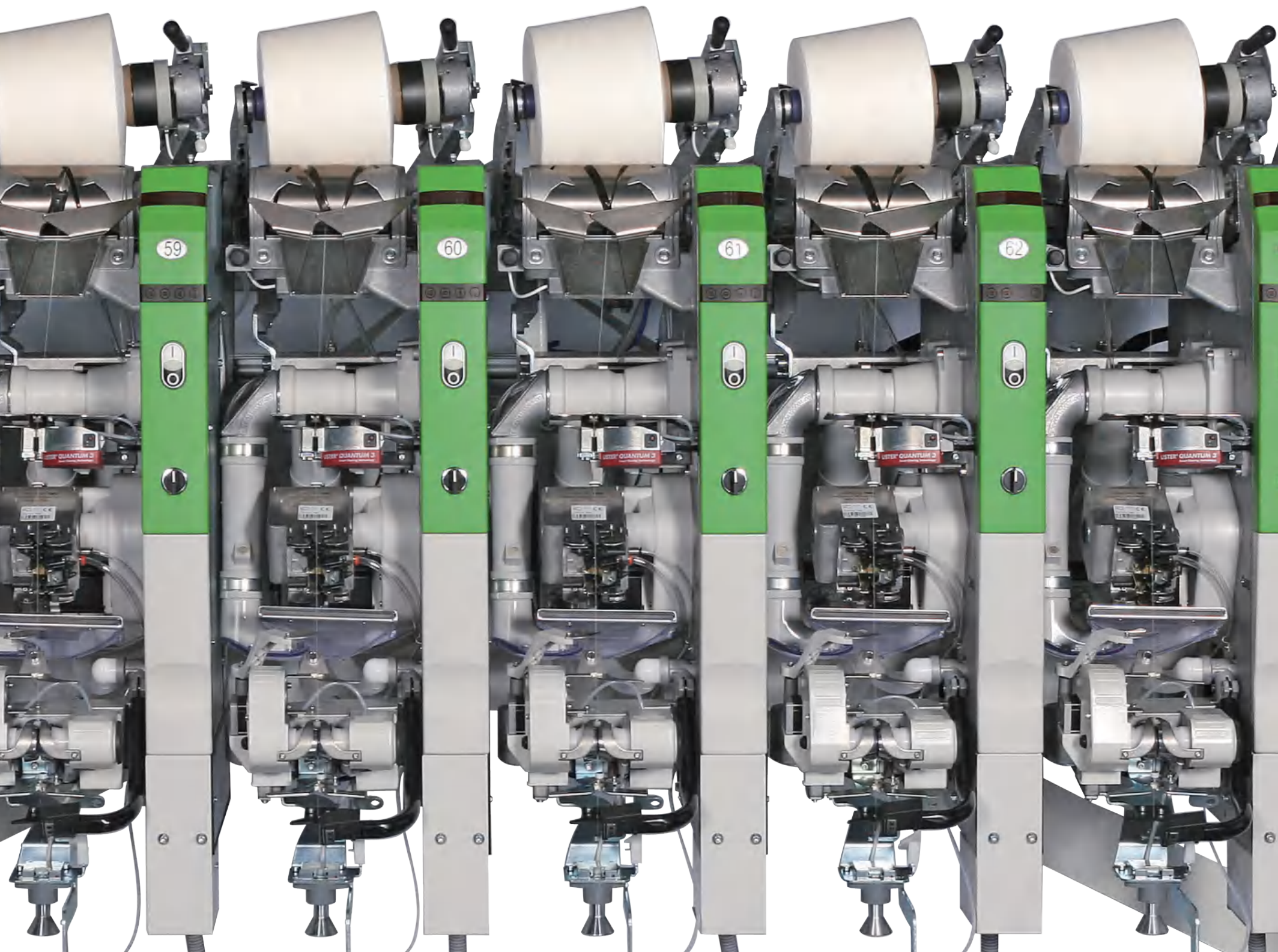
盘式柔性张力 Disc flexible tension

无固定支点，自动优化张力。

No fixed fulcrum, automatically optimizing tension.



单锭控制板实时调整张力输出。
Spindle control board adjusting tension output in real time.



槽筒采用无刷电机同轴驱动 提高了传动效率，改善卷装质量

DRUM DRIVEN BY A COAXIAL CONNECTED BRUSHLESS DC MOTOR

☆槽筒采用无刷电机同轴驱动，提高了传动效率，降低了动力消耗，卷装质量得到改善。

☆采用直流无刷电机同轴驱动槽筒，与传统的皮带传动相比，由于消除了皮带摩擦和滑动所造成的功率损失，因而降低了电力消耗，提高了生产效率。

☆电子式防叠系统消除了条带纱的出现，防叠功能贯穿在槽筒运转的全过程；防叠周期和幅度在监控系统设置的基础上随筒子直径的增长自动调节。

☆筒纱卷绕时，电子清纱器监控实际卷绕过程，发生断纱和纱疵时，支臂立即抬起，筒纱完成刹车，保证了筒纱在刹车瞬间不和槽筒产生摩擦。

☆槽筒启动是逐渐加速的，保证了筒纱与槽筒间的同步，在卷绕过程中，筒纱和槽筒间无滑移，保证了筒纱定长的精确性。

☆槽筒电机及驱动电压等级提高，电流减小，降低能耗，提高电子元器件寿命。

☆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.



单锭智能报警系统

GUARANTEE OF FINE JOINT QUALITY

智能化单锭-智能控制面板

Intelligent spindle - intelligent control panel

上纱部分 Top unit

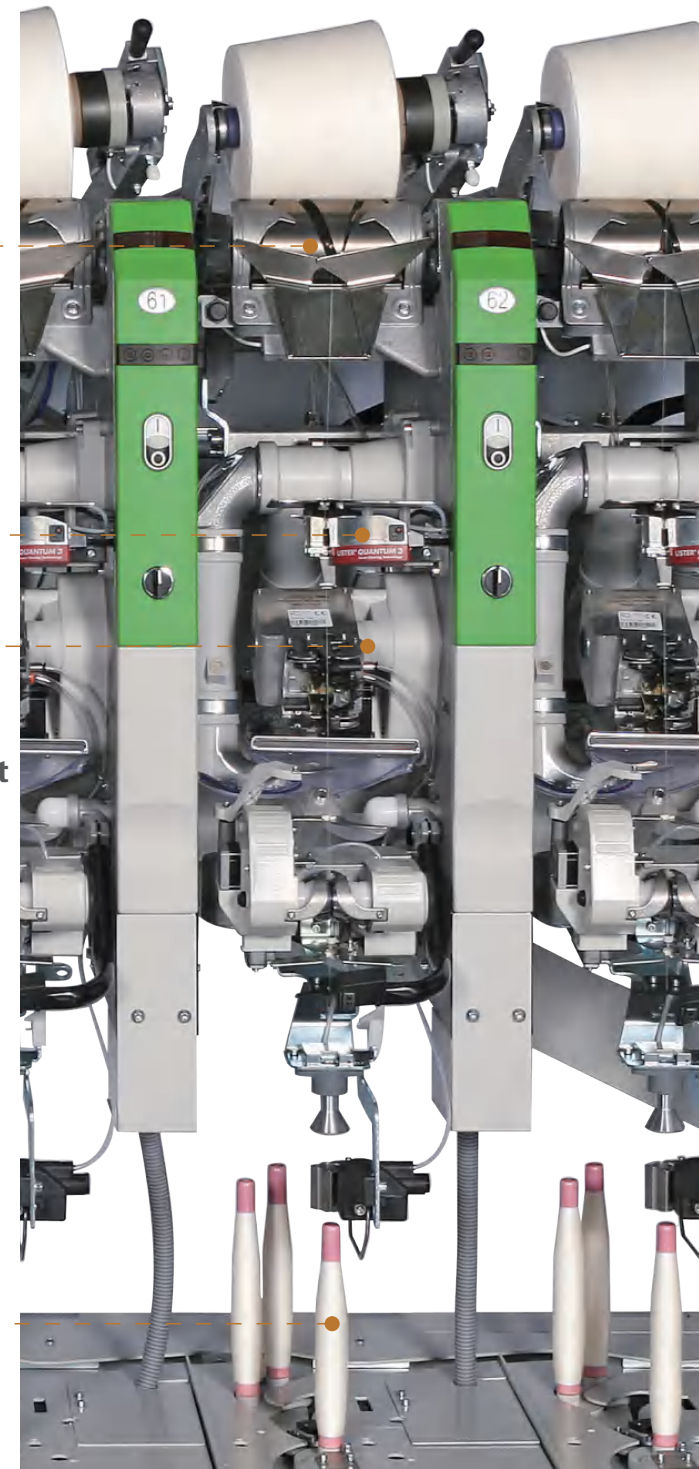
清纱器部分 Yarn clearer

捻接部分 Yarn clearer

下纱部分 Bottom unit

单锭显示具有故障类型指示功能，可指导操作工快速处理停锭，提高单锭运转效率。当由于没有管纱造成单锭红灯时，管纱到达时单锭自动启动，无需人工操作。

Spindle display has the function of indicating fault type for guiding the operator to deal with the stop spindle quickly and improve operation efficiency. When the red light of spindle occurs due to no bobbin yarn, the spindle will wait until bobbin arrival then start automatically, and need not manual operation.



多种捻接装置可自由选择 保证不同品种纱线接头质量

CHOICE OF VARIOUS SPLICERS GUARANTEE OF FINE JOINT QUALITY

与世界领先空捻器制造商合作，保证接头质量紧跟世界潮流。捻接装置采用模块化设计，拆装维修方便。

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型水雾捻接器

4923Q Aquasplicer

使用空气和水的捻接器，主要用于竹节纱、包芯纱、紧密纺等各种纤维的捻接。

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

798Q型空气捻接器

798Q JOINTAIR

通过更换不同型号的捻接腔和压盖，可适用棉、毛、化纤及其混纺纱的捻接。

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.



完美的接头

Perfect joint



798Q型空气捻接器

798Q JOINTAIR



高质量清纱 全程控制纱线质量

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

电子清纱器,对纱线质量进行全程控制，包括对接头质量的控制；对于正常卷绕段和接头处采用两种不同清纱设置。

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 QUANTUM4.0

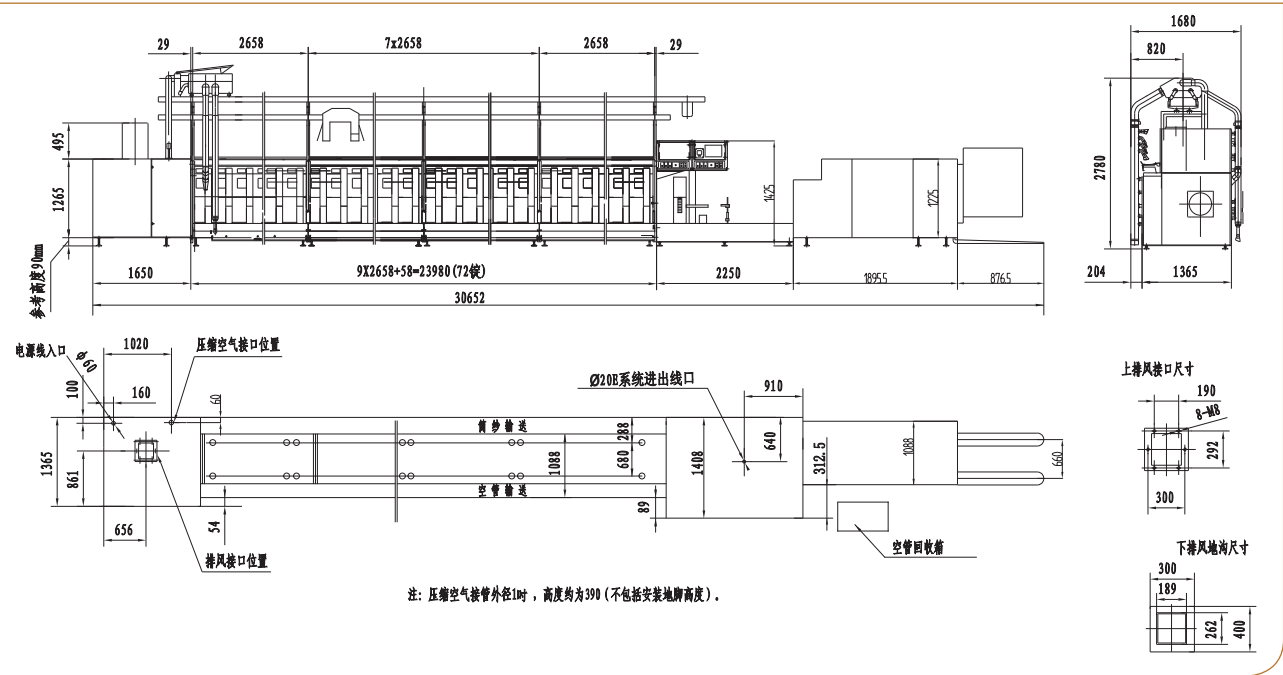


LOEPFE YARNMASTER PRISMA

锭数	60	62	64	66	68	70	72
机器长度(mm)	26714	27354	27994	28732	29372	30012	30652

外形尺寸(双生头单插管)

OVERALL DIMENSIONS



主要技术规格 MAIN TECHNICAL SPECIFICATION

锭数	6 - 72锭,每2锭递增, 无10锭
型式	单锭式, 单面排列, 左、右手车
加工产品范围	棉、毛、麻、化纤的纯、混纺纱线及股线
可加工纱支数	Ne6到最高支
工作负压	变频调速
管纱处理型式	单/双插管, 双/三生头
槽筒驱动	直流无刷电机直接驱动
筒子防叠	通过全程控制电机变速实现
筒纱握持	后弯弓
张力型式	盘式/栅式
纱管尺寸(mm)	长度180 - 230 ; 直径32 - 43
卷绕速度(m/min)	400 - 2200 , 无级调速
接头型式	Mesdan798Q空气捻接器, 水雾捻接器
清纱型式	USTER/LOEPFE电子清纱器
生头能力(支/分)	50 三生头 40 双生头
筒管存储量	4支
管纱输送速度(米/分)	25
通道数量	送管3条, 退管2条
装机功率(KW)	37.9
外形尺寸(mm)	27142×1818×2650 (60锭)
筒管锥度	3 ° 30', 4 ° 20', 5 ° 57'

No. of Spindles	Spindles from 6 to 72 (without 10) in an increment of 2 spindles
Type	Spindle, single-sided arrangement, left hand or right hand machine
Application	Cotton, wool, linen and synthetic fiber pure or blended, or plied yarn
Count of yarn processed	Ne.6 to the highest
Working negative pressure	Speed adjusted by inverter
Patterns of bobbin processing	Single/double bobbins, double or triple piecing unit
Drum	Driven by DC brushless motor
Anti-patterning	Electronic Anti-patterning system
Package holder	Behind bow style
Tension type	Disc / Grid
Bobbin size (mm)	Length 180-230, Diameter 32-43mm
Winding speed (m/min)	400-2200, stepless speed adjustment
Splicer	Mesdan 798Q jointair/splicer, Aquasplicer
Electronic clearer	USTER/LOEPFE
Piecing capability (bobbins/min)	50 3 yarn picking
Quantity of bobbin storage	4 Bobbins
Convey speed of bobbins (m/min)	25
No. of convey belts	3 belts for supply, 2 belts for return
Power installed (KW)	37.9
Overall dimension (mm)	27142 x 1818 x 2650 (60 spindles)
Cone conicity	3 ° 30', 4 ° 20', 5 ° 57'