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SPINNING Solutions
纺纱解决方案

RFCA10 高产梳棉机
RFCA10 CARDING MACHINE



关于日发纺机

日发纺机创建于1993年，是国家重点高新技术企业、国家机械工业重点骨干企业、国家863计划CIMS工程示范企业、全国CAD应用工程示范企业、中国纺织机械协会副会长单位。现旗下控股山东日发纺织机械有限公司、安徽日发纺织机械有限公司、浙江日发纺机技术有限公司。

公司以成为“敏捷化的国际性公司”为愿景，以“为用户提供智能纺织装备系统解决方案，并协助用户逐步实现数字化工厂梦想”为使命，秉承“质量、创新、快速反应”的核心价值观，致力于机电行业的“数字科技”，已成为国内外享有高知名度的纺织装备生产企业。二十几年来已成功开发了清梳联、并条机、转杯纺纱机、喷气涡流纺纱机、倍捻机、直捻机、假捻变形机、精密并纱（络筒）机、自动穿经机、喷气织机、喷水织机、剑杆织机、毛巾织机、特种织机、针织圆机、无缝内衣机、袜机、非织造布设备等系列的上百种产品，能够为行业提供纺纱、前准备、织造、非织造等解决方案，涉及纺织行业的各个领域。产品遍及全国各地，并销往全球30多个国家和地区，在各个行业的市场占有率位居前列。

日发纺机正致力于创造崭新的“数字科技”理念，在未来的整机生产中，建立“人流、物流、信息流”的互动平台，实现科技、环境、制造的和谐统一。铸就“信息化、敏捷化、国际化”的机械制造生产基地。

安徽日发纺织机械有限公司系日发纺机全资子公司，注册成立于2013年，位于马鞍山承接产业转移示范园区内。公司主要产品为清梳联、并条机、转杯纺纱机、针刺、水刺非织造布设备，继承日发纺机二十多年的专业经验使安徽日发纺机成长为高端纺纱装备研发制造基地。



About Us

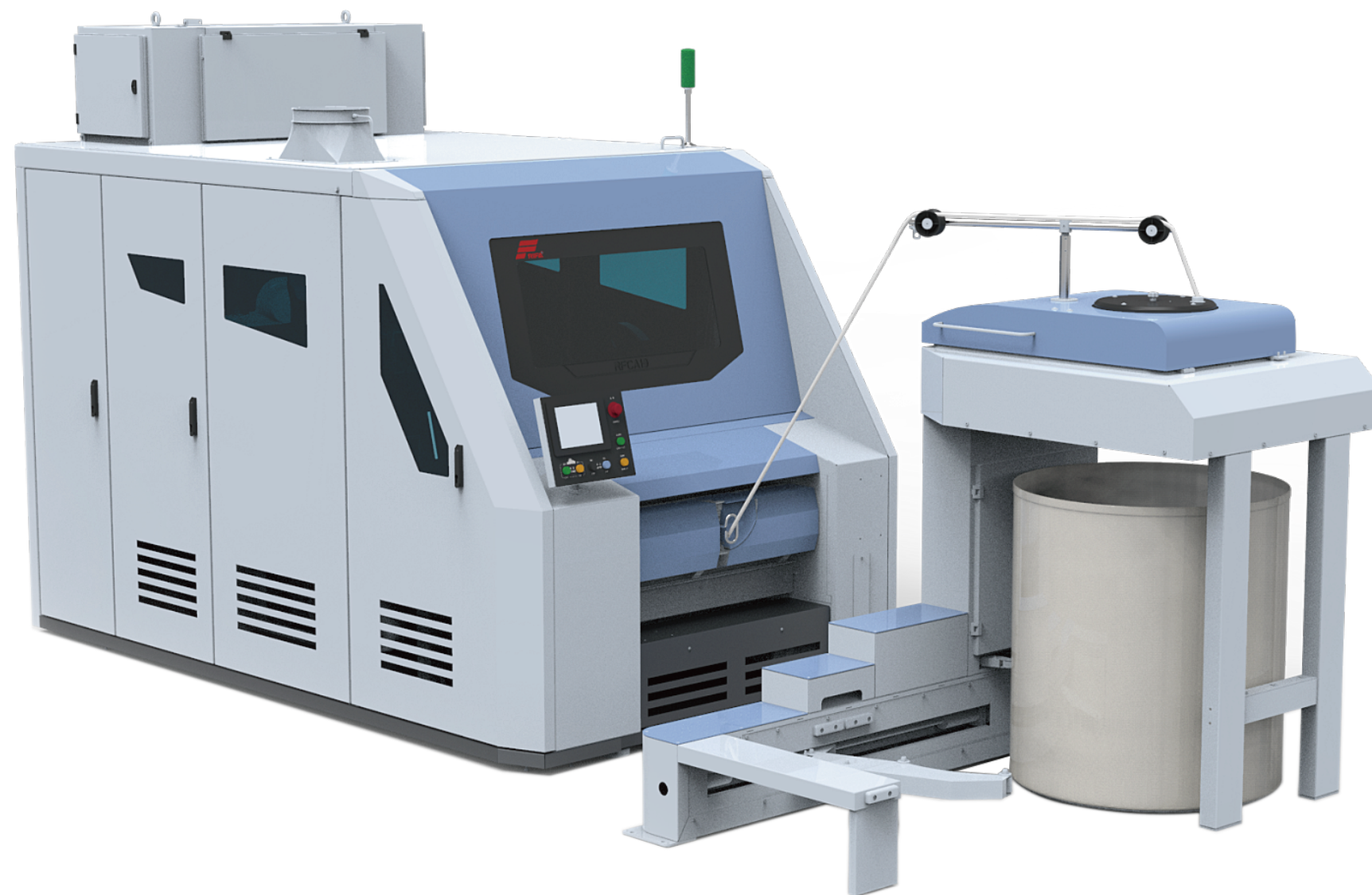
Zhejiang Rifa textile machinery co., ltd. is founded in 1993. The company is a China national key high-tech enterprises, a key enterprise of the China national machinery industry, a demonstration enterprise of both China national 863 program CIMS engineering and China national CAD application engineering, a China national torch plan high-tech enterprise, and a vice president unit of China textile machinery association. It now holds three subsidiaries: Shandong Rifa textile machinery co., ltd. , Anhui Rifa textile machinery co., ltd. And Zhejiang Rifa textile machinery tech co., ltd.

With the vision of “become an agile and international company”, the mission of “Provide users with intelligent textile equipment system solutions, and help users gradually realize the dream of a digital factory” and the core values of “quality, innovation and rapid response”, Zhejiang Rifa Textile Machinery Co., Ltd. is devoted to the area of “digital technology” in mechanical and electrical industry, and has become a well-known textile equipment manufacturer with excellent reputation at home and abroad. For over twenty years, the company has successfully developed four solutions such as spinning, fiber preparation, weaving and non-woven, including blow-room machine, draw frame, rotor spinning machine, air jet vortex spinning machine, two-for-one twister machine, twister machine for tire cord, false-twist texturing machine, precise winding machine (precise rewinding machine), automatic warp drawing machine, air jet loom, water jet loom, rapier loom, terry towel loom, specific loom, circular knitting machine, seamless knitting machine, hosiery machine and non-woven equipment, and hundreds of machines. These products have been distributed to all areas around China and sold to more than 30 foreign countries and regions with a leading market share in each respective industry.

RIFA is devoting itself to create a whole new theory of digital technology, establishing an interactive platform of “people flow, material flow and information flow”, realizing harmony and unify of science and technology, environment and manufacturing, and aiming to become a manufacturing base of “informatization, agility and internationalization”.

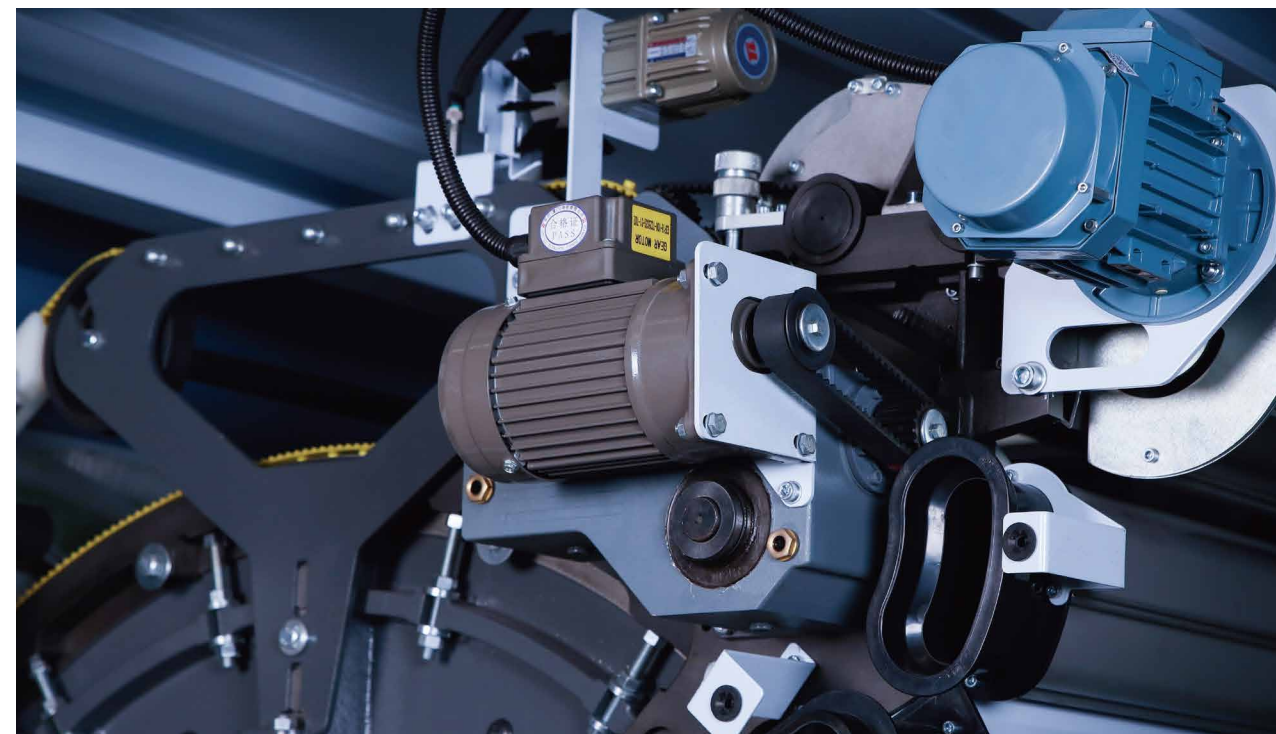
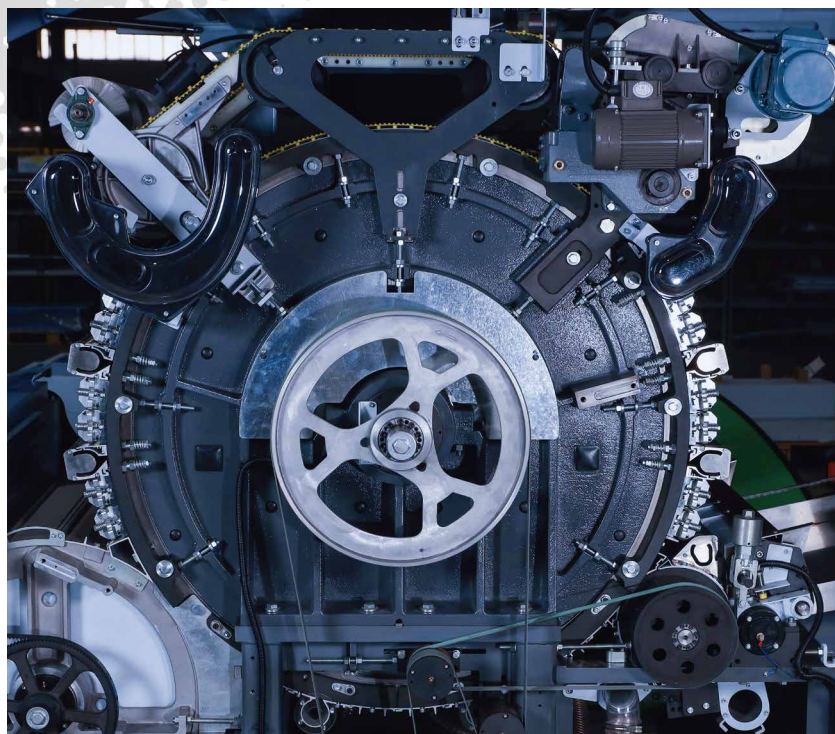
Anhui Rifa Textile Machinery Co., Ltd. is a wholly owned subsidiary of Zhejiang Rifa Textile Machinery Co., Ltd., it is founded in 2013, located in Ma'an Shan City. The leading products are blow-room machine, draw frame, rotor spinning machine, needle&spunlace non-woven equipment, succeeding above 20 year professional experience from zhejiang Rifa, anhui Rifa has grown to a top grade spinning research and manufacturing base.





RFCA10梳棉机是安徽日发纺织机械有限公司自主研制的新一代高产梳棉机。增大分梳区域,减少占地面积,质量和产能达到最优配置。设备操作简单、安全、易于维护、节能降耗,运行成本低,本机为单刺辊梳棉机,可广泛应用于转杯纺、普梳环锭纺、精梳环锭纺,也可用于涡流纺中。

The RFCA10 carding machine is a new generation of high production carding machine independently developed by Anhui Rifa Textile Machinery Co.,Ltd. It has increased carding area, reduced floor space, so the quality and capacity are achieved the optimal configuration. It has simple and safe operation, easy maintenance, saving energy and reducing consumption, and low operation cost. This single licker-in carding machine could be widely used for rotor spinning、carded ring spinning、combed ring spinning or vertex spinning.



RFCA10主要技术特点

- 喂棉箱与梳棉机一体化设计, 结构紧凑;
- 机架采用整体焊接结构, 刚性好, 整机运行稳定性高;
- 棉箱开松打手采用4排螺旋状角钉形式, 开松更细致;
- 棉箱喂棉罗拉、梳棉机给棉罗拉均采用顺向喂棉, 对棉层弹性握持, 可降低纤维损伤;
- 刺辊区配置有除尘刀、预分梳板及吸口, 预开松、除杂效果好; 第一落杂区长度可调, 工艺适应性强;
- 锡林中心抬高, 增加了前后固定盖板及棉网清洁器数量, 分梳面积加大, 分梳质量得到加强;
- 同步齿形带传动的铝合金活动盖板, 拆装方便。采用独立电机变频驱动, 可无级调速;
- 锡林采用变频驱动, 启动平稳, 调速便捷;
- 采用积极式多点连续吸落棉系统, 流线型结构设计, 气流稳定顺畅, 排杂效果好且降低风耗;
- 电气控制运用计算机通讯和数字同步技术, 大尺寸工业触摸屏显示;
- 独立的混合环自调匀整装置, 控制精确, 响应迅速, 生条重不匀指标好;
- 全机多处安全检测及自停控制, 保障设备及人员操作安全;
- 全新工业化设计的全封闭一体化罩门, 安全、美观。

RFCA10 Main Technical Feature

- The integrated design of the tuft feeder and the carding machine makes the structure compact;
- The main frame adopts an integral welded structure, which has good rigidity and ensures high running stability of the whole machine;
- Opening beater in tuft feeder with four spiral arrangement of spikes facilitates finer opening.
- Feed roller either in tuft feeder or in card adopt forward cotton feeding, elastically gripped layer with unidirectional feed;
- There is dust remove knife, pre-carding plate and suction hood installed in licker-in area, which has good effects of pre-opening and impurity removal; The first trash remove area length is adjustable which shows high adaptability for spinning process;
- Cylinder center up moved further, specified with more stationary flats and web cleaner, effective carding area increased brings better carding quality;
- Aluminum alloy revolving flats driven by synchronous toothed belt are controlled by individual motor with inverter, it's easy to install or take off, and the speed could be step-less adjusted;
- Cylinder is controlled by special variable frequency drive with stable startup and convenient speed regulation;
- Positive continuous multi-point suction system adopts streamlined structure design to make airflow stable and smooth as well as have good effect of waste removal;
- Electrical control system adopts computer communication synchronism with digital technology and large size industrial touch screen display;
- The high precise independent mixing-loop auto-leveller has rapid response and good indicators of sliver weight evenness;
- Several security detecting devices and automatic stop control are adopted to ensure the safety of equipment and maintenance staff;
- New industrial design of the fully-enclosed integrated cover doors are safety and aesthetic.

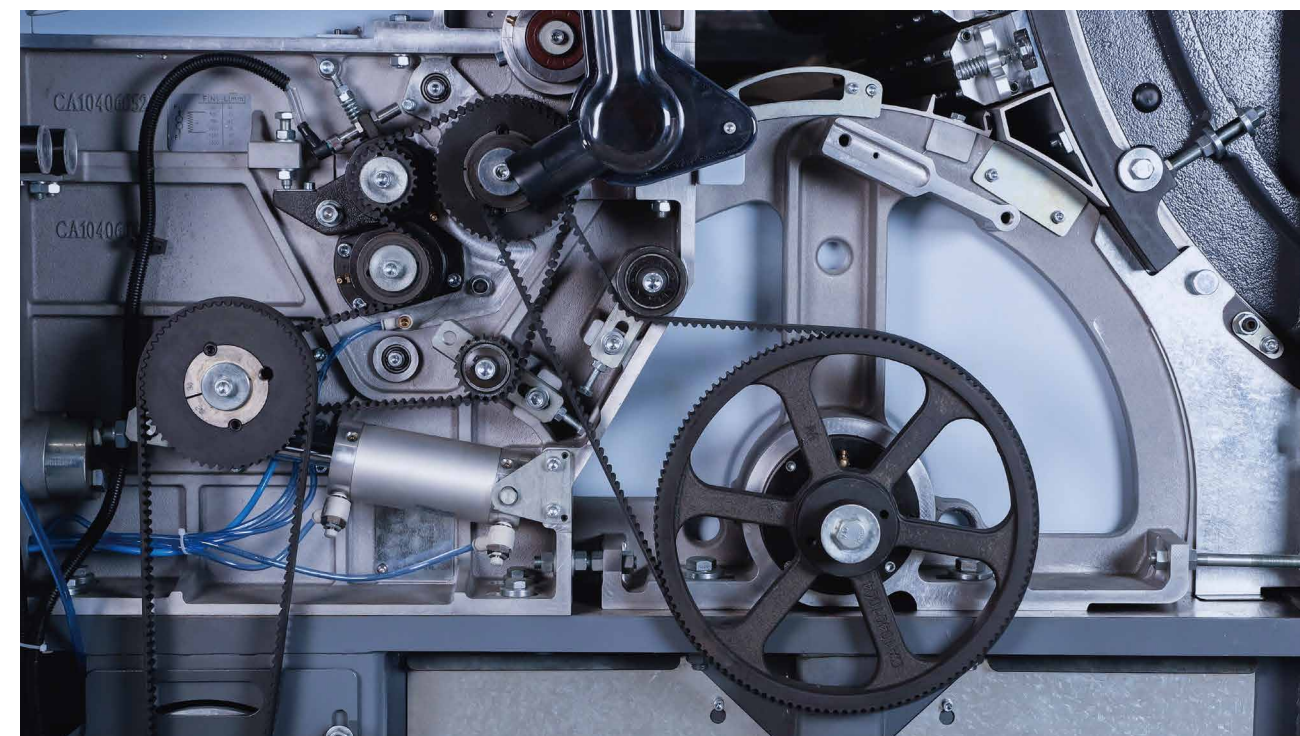


减少纤维损伤，使棉层更均匀稳定

- 梳棉机给棉罗拉与给棉板对棉层弹性握持，顺向喂入，分梳长度可调，能更好的保护纤维，减少对纤维的损伤。
- 棉箱采用顺向喂棉结构，4块喂棉板配合喂入罗拉对棉层弹性握持，可减少对纤维的损伤，且开松棉束更均匀。
- 棉箱喂棉罗拉变频控制，与循环风机吹风系统、下棉箱压力控制系统、梳棉机给棉罗拉控制协调统一，实现梳棉机棉层均匀稳定。

Reduce Fiber Damage And Make The Cotton Layer More Uniform And Stable

- The card feed roller and feed plate are elastically gripped cotton layers with over feeding structure, the carding length can be adjustable in order to better protect the fiber and reduce the fiber damage.
- The tuft feeder adopts a over feeding structure. Four pieces feeding plates cooperate with the feeding rollers to elastically grip the cotton layer, which can reduce the damage to the fibers and make the opened cotton bundles more even.
- The tuft feed roller controlled by inverter, coupled with recycle fan blowing system、lower chamber pressure control system and card feed roller to ensure uniform and stable cotton layer feeding into card.

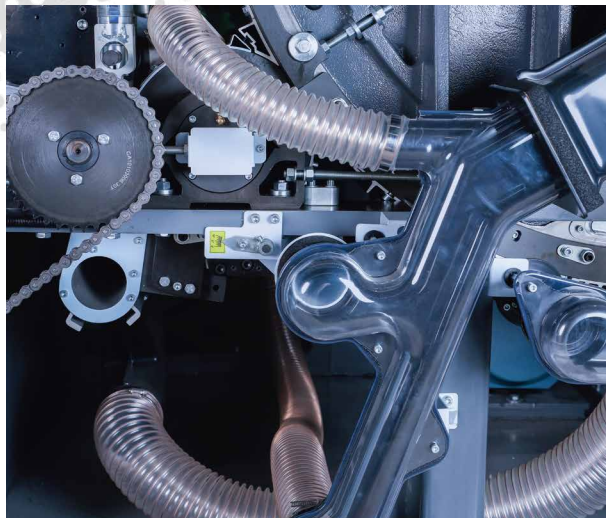


高精度、新技术保证生条质量

- 特殊组合的双联固定盖板，刚性好，渐增的密度配置，良好的针尖平整度，保证纤维的梳理更充分、细致；特殊设计的铝合金吸口，有效地去除尘杂、籽屑等杂质；铝合金活动盖板由同步齿形带传动，转向与锡林转向相反；锡林底部设吸口，利于气流平衡，棉网顺利转移。
- 倾斜式三罗拉剥棉装置，剥棉罗拉下方安装有一块光滑的铝合金弧形棉网托持护板以稳定气流、保护棉网、适应高速。下压碎辊位置向后倾斜固定，气缸根据生产情况自动操纵翻转式集棉器。

High Accuracy And New Technology Ensure Sliver Quality

- Special combined twin-linked stationary flats have good rigidity. Gradually increasing flats density configuration and good levelness of pin tip can ensure fiber carded more effective. Special designed aluminum alloy suction hoods can better remove impurities such as dust particles and seed coat fragments etc; Aluminum alloy revolving flats driven by synchronous toothed belt run in reverse direction to cylinder; Suction hoods under cylinder can better balancing air flow and beneficial to web transferring.
- In inclined tri-roller stripper, a smooth arc web supporting plate made of aluminum alloy is mounted under the stripper roller in favor of stable airflow, protect web and suitable high-speed. Lower squeezing roll is fixed back at slant, and air cylinder automatically controls turning sliver former according to production requirements.

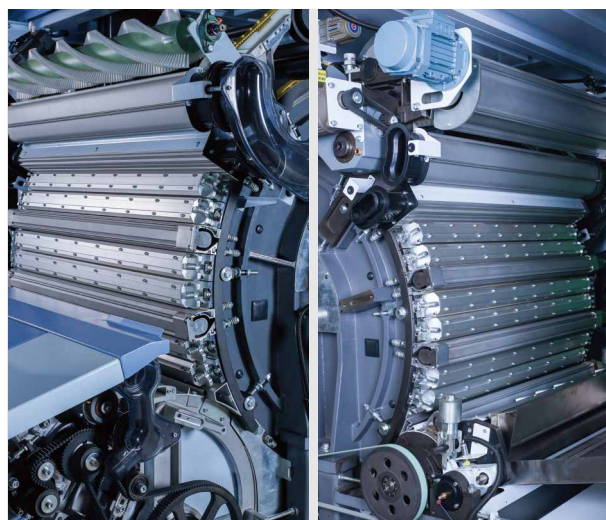


提高除杂效率

刺辊周围配有除尘刀与分梳板和连续吸口，其中刺辊第一吸口采用中间吸结构，确保主除杂吸口无堵塞挂花，较好地去除尘杂、籽屑等杂质，减轻锡林区梳理负担。各吸点处合理分配风量风压，更好的除去短绒、尘杂等。

High Waste Removal Efficiency

There are mote-knife, carding plate and permanent suction hood Around licker-in roller, among which the first suction hood adopts middle suction structure to make sure the main suction hood without clogging or sticking fiber, and better remove impurities such as trash particles and seed coat fragments which can reduce carding burden in cylinder area. The air volume and pressure are reasonable distributed at each suction point in order to better remove lint, dust, impurities etc.



通用性强

锡林中心抬高，标配前12根后12根固定盖板，前3后3棉网清洁器；仅是调整针布型号及密度即可纺各种原料及品种，通用性极强。

Widely Used

Cylinder is raised at center, equipped with 12 stationary flats in front and 12 at rear as standard, 3 web cleaners in front and 3 at rear. By simply adjusting the density of the stationary flats; It can be widely used for different raw materials spinning by adjusting wire density and specs.

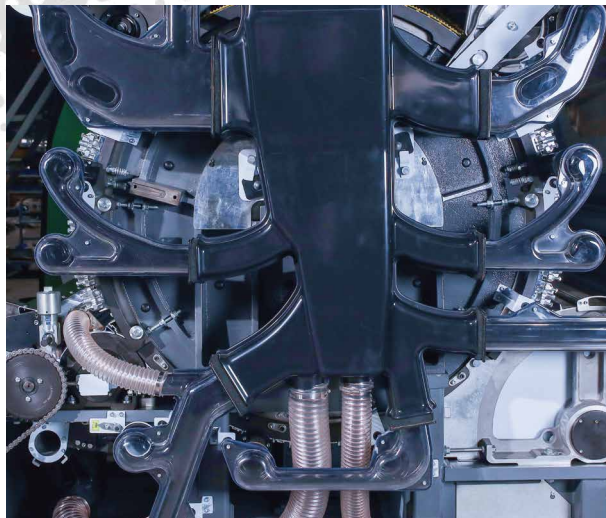


采用多重保护设置

锡林、刺辊、盖板及大毛刷清洁辊测速；道夫、大压辊启动与锡林速度连锁；系统压力异常保护；棉层金属异物进入保护；棉层、棉网超厚保护；牵伸超限保护；主传动处安全罩门电磁锁保护；断条光电保护；条桶定长报警等。

Adopt Multiple Safety Devices

Such as speedometer for cylinder, taker-in, revolving flat and large brush roller; doffer and larger pressure roller startup interlock with cylinder speed; abnormal system pressure protection; metal particles detector; over-thick layer and web protection; overrun draft protection; safety hood electromagnetic lock protection at main drive; sliver-broken photocell protection; sliver-can length alarm and so on.

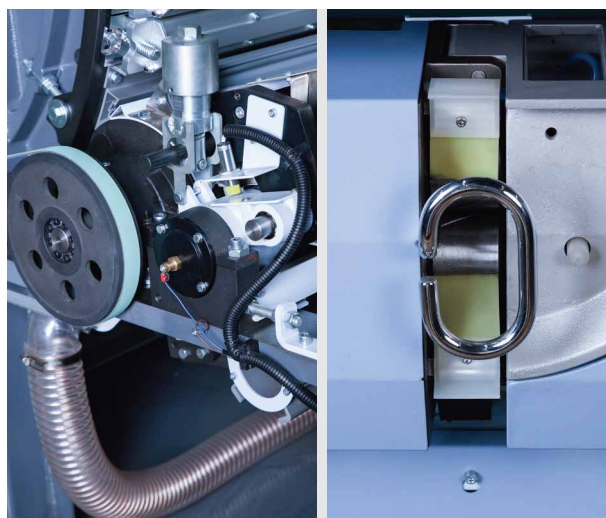


完美的吸风系统

该梳棉机对应除尘位置都有吸口相连，借助于滤尘系统的连续抽吸，确保尘杂不堆积。吸风系统由不易损坏的增强工程塑料注塑成型，外覆有机玻璃，能方便地观察各点落棉情况。各吸风罩内腔光滑，截面呈弧面形状，更加符合气流运动轨迹，减少风阻，节能降耗。

Perfect Suction System

All dedusting points in the Card are connected with suction hoods sucked by the aid of filter system to prevent waste accumulation. The suction system made of reinforced plastic by injection molding and wrapped with organic glass at surface, which is easy to observe waste situation at each point. The suction cover is smooth, curved section shape, more in line with the airflow movement trajectory, which can reduce wind resistance and reduce power consumption.

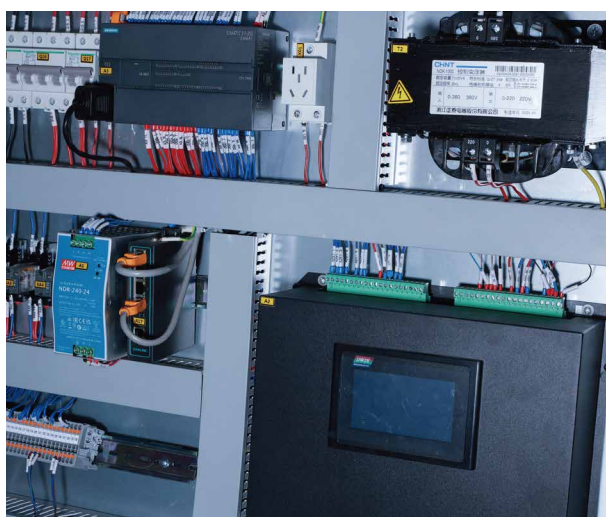


混合环自调匀整控制系统

长短片段自调匀整系统及智能化闭环控制技术是基于对棉条、棉层、棉箱压力检测及在线历史数据，通过优化的多变量控制模型，调节给棉罗拉转速，实现更加复杂的精细控制，极大地提高生条均匀度。

Mixing-Loop Auto-Leveller System

The long and short section auto-leveller system and intelligent closed-loop control technology are based on the detection of the sliver, cotton layer and tuft feeder pressure as well as the online historical data, adjust the speed of feed roller by means of optimized multivariate control model, realize complex precision control and greatly improve the evenness of sliver.



电气控制系统

- 电气控制系统采用工业级的人机界面、可编程控制器与自调匀整相结合的控制方式，完成各种动作精确控制。
- 棉箱喂棉变频调速，保证下棉箱压力稳定，梳棉机给棉、道夫、大压辊采用变频电机传动，同步性好，有利于高速高产。

Electrical Control System

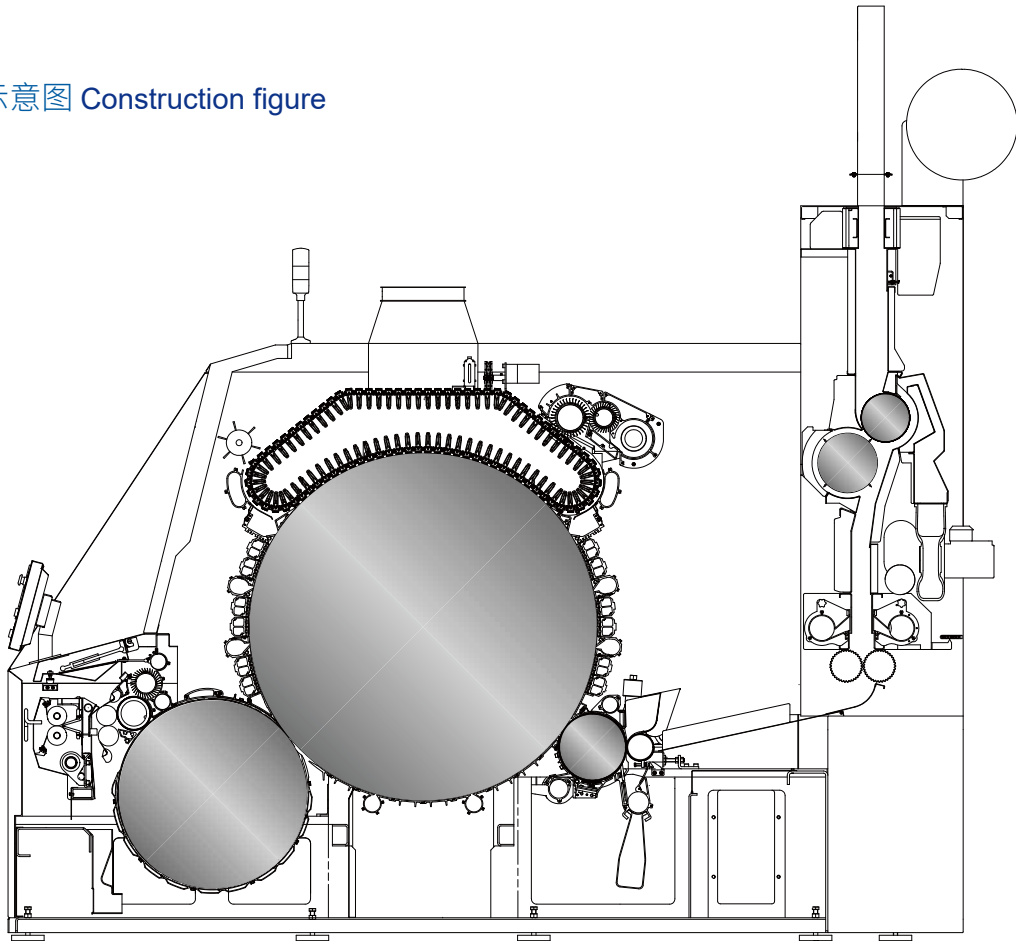
- Electrical control system adopts control methods of combination with industrial man-computer interface, PLC and auto-leveller in order to complete all kinds of precise control actions.
- Tuft feed roller is adjusted by inverter to ensure stable pressure in lower material chamber. Feed roller、doffer and large pressure roller are driven synchronously by inverter motor in favor of high speed and high production.

技术规格和尺寸图

SPECIFICATION&DIMENSIONS

机型 Type	RFCA10
适用范围 Application range	22~76 mm 的棉及化纤(cotton and synthetic fiber)
输出生条定量(g/m) Sliver weight (g/m)	3.5~10
最高出条速度(m/min) Max. sliver delivery speed (m/min)	400
理论最高产量(kg/h) Max. theoretical production (kg/h)	175
刺辊工作直径(mm) Licker-in working dia.(mm)	Φ250
锡林工作直径(mm) Cylinder working dia. (mm)	Φ1290
锡林宽度(mm) Cylinder width (mm)	1020
道夫工作直径(mm) Doffer working dia. (mm)	Φ700
棉箱打手工作直径(mm) Working dia. of beater in tuft feeder (mm)	Φ250
给棉罗拉工作直径(mm) Working dia. of feed roller (mm)	Φ100
回转盖板总根数 Total number of revolving flats	84
工作盖板根数 Number of working flats	30
回转盖板速度(mm/min) Speed of revolving flats (mm/min)	100~400
固定盖板根数 Number of stationary flats	前12 后12 (Front12 Rear12)
棉网清洁器 Web cleaner	前3 后3 (Front3 Rear3)
连续吸落棉风量(m³/h) Permanent suction air capacity (m³/h)	3800
连续吸落棉负压(pa) Permanent suction negative pressure (pa)	-750 ~ -900
压缩空气耗气量(NL/h) Compressed air consume (NL/h)	50
压缩空气压力(Mpa) Compressed air pressure (Mpa)	0.7
装机功率(含棉箱) (kW) Installed power (Including tuft feeder) (kW)	13.9
外形尺寸(含棉箱)(长x宽x高) (mm) Overall dimension (Including tuft feeder) (LxWxH) (mm)	3570x2030x2685
重量(含棉箱) (kg) Weight(Including tuft feeder) (kg)	约 6000

结构示意图 Construction figure



外形尺寸图 Dimensions

