打造装备旗舰　引领纺织发展

CREATING A FLAGSHIP IN MANUFACTURING,
LEADING THE DEVELOPMENT OF TEXTILE INDUSTRY


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2023.09


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

## JWF1211A /JWF1213A 梳棉机
CARDING MACHINE

高产 高质
High production High quality

可靠 稳定
Reliability Stability

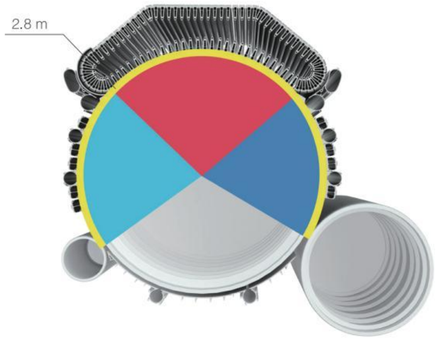
高效 节能
High efficiency Energy-saving

# 质量与产能的完美平衡

*THE PERFECT BALANCE BETWEEN QUALITY AND PRODUCTION CAPACITY*

JWF1211A /JWF1213A 梳棉机
CARDING MACHINE

# 高产高效的分梳系统
## CARDING SYSTEM WITH HIGH PRODUCTION AND EFFICIENCY





前固定盖板区
Front stationery flat area

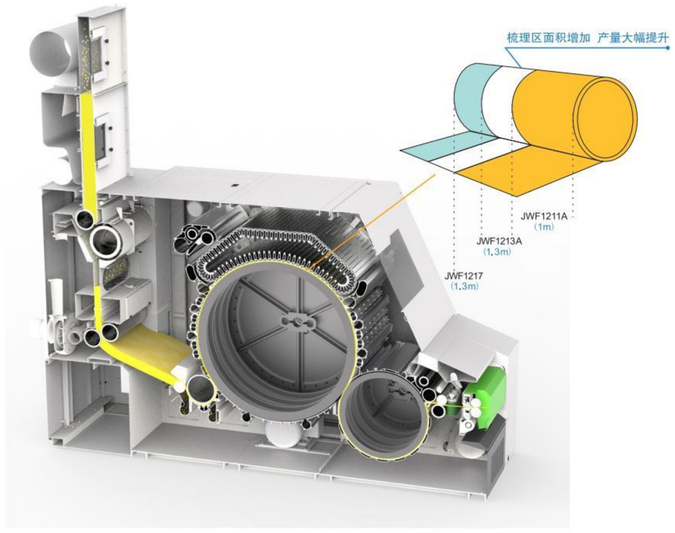
回转盖板区
Rotary flat area

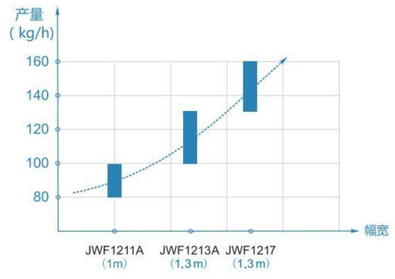
后固定盖板区
Rear stationery flat area

整个梳理区弧长
Arc length of whole carding area

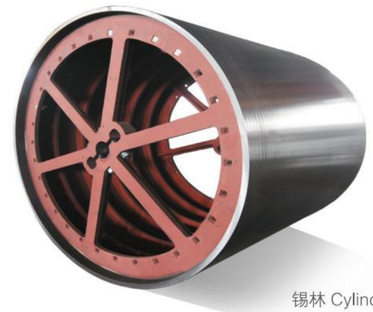
梳理弧长决定品质。2.8米梳理弧长，保证质量。

The carding arc decides the quality. Longest carding arc length of 2.8 meters ensures quality.



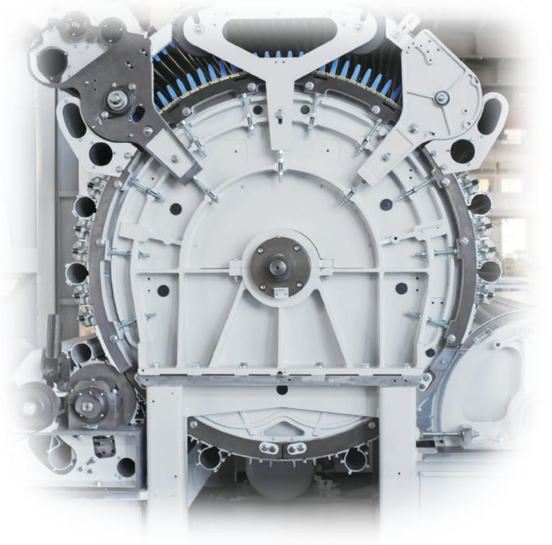

道夫 Doffer



锡林 Cylinder

整体铸造锡林，道夫及圆墙板，稳定性好，热膨胀系数小，确保高速高产主要分梳工艺隔距稳定。

Mono-block casting iron cylinder, doffer and side wall ensures good stability and low thermal expansion coefficient. The carding technical gauge is stable even when machine runs at high speed, ensuring the high production.



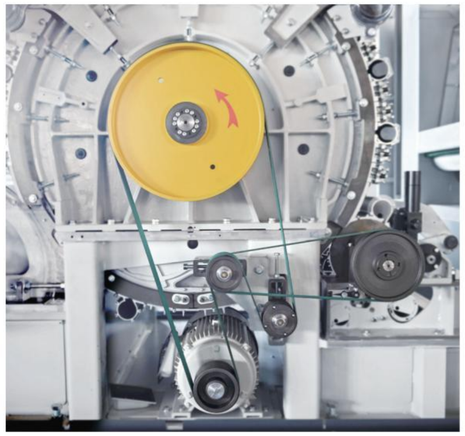
圆墙板 Side wall

阶梯式的钢板焊接整体机架，简洁的机械结构，特殊的加工工艺，保证了整机主要部件和隔距的稳定性、一致性。

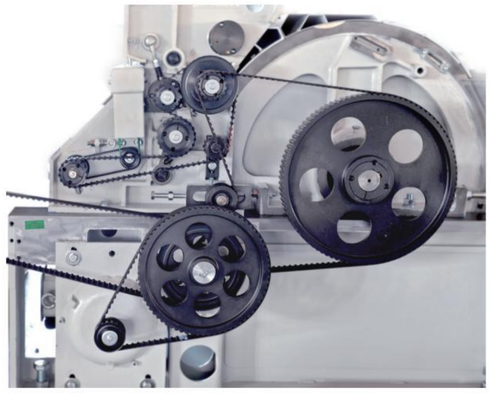
The stepped entity frame welded by steel plate is characterized by its flexible mechanism and its special processing technology, ensuring the major gauge stable and uniform.

# 可靠稳定的质量保证
# STABLE AND RELIABLE QUALITY GUARANTEE

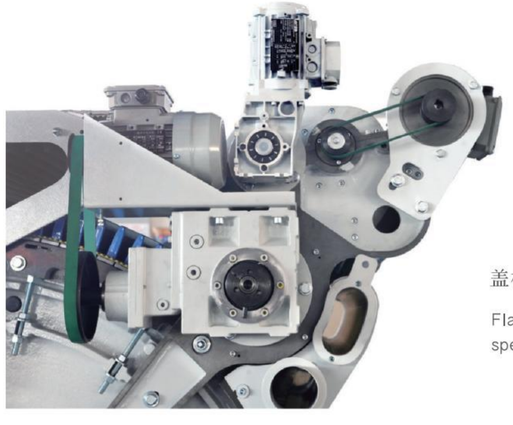
## 新型的传动形式 New type of driving method



锡林刺辊采用大扭矩电机，启动平稳、运行可靠。
Cylinder and licker-in adopt high torque motor, featured by stable start and reliable rotary.

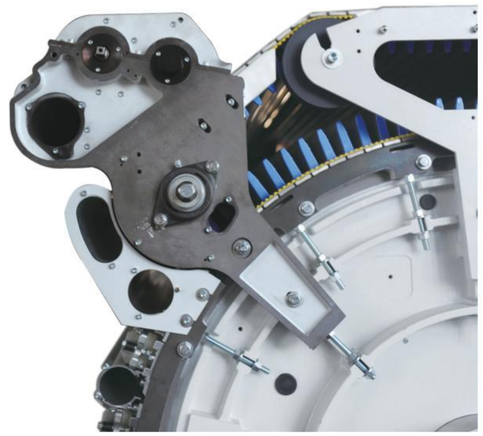


道夫采用变频电机传动，确保低速、高速及转换时的稳定。
Doffer is driven by inverter motor to ensure stability in low speed, high speed and speed conversion.



盖板单独变频电机传动，工艺速度调整方便（选配）。
Flat is driven by independent inverter motor for convenient speed adjustment (Optional).

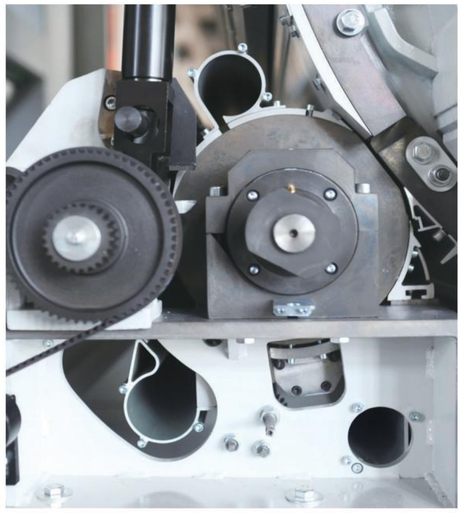
## 高效的盖板清洁单元 Cleaning unit with high efficiency



☆ 刷辊与回转盖板采用可调式隔距设计，实现回转盖板的深度清洁。
☆ 刷辊和清洁辊相对位置及隔距的完美设计，确保盖板花及时转移。
☆ 新型铝合金清洁吸罩与流体力学的完美结合，降低风阻，盖板花吸除顺畅。

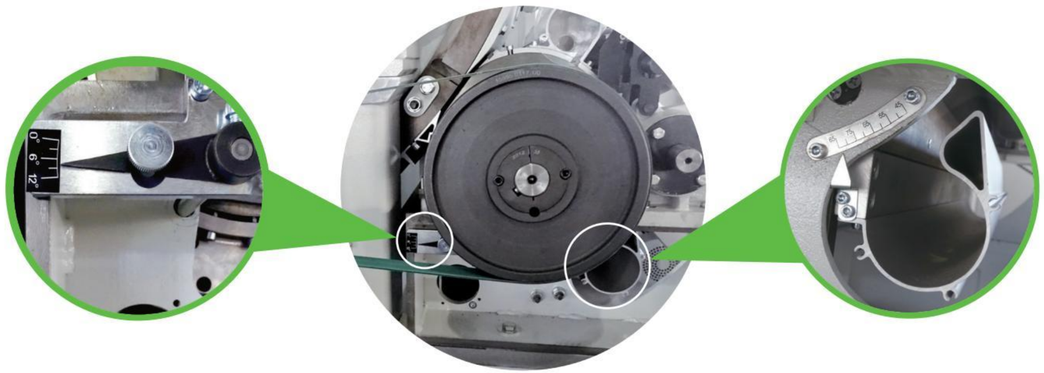
☆ The gauge adjustable design of the brush roller and the revolving flats ensures the deep cleaning of the revolving flats.
☆ The optimized relative position and gauges between the brush roller and cleaning roller ensures the timely removed of the flat cotton fly.
☆ The new type of aluminum suction hood with perfect fluid mechanics can reduce the drag and suck flat fly smoothly.

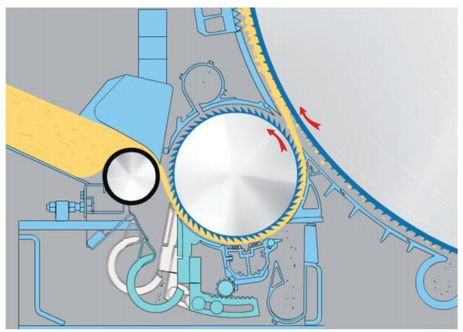
# 新型刺辊分梳系统
## NEW TYPE OF LICKER–IN CARDING SYSTEM



☆ 刺辊设有两个落杂区，落杂区长度机外可调。
☆ 设两把除尘刀、预分梳板，高效去除杂质和短绒。

☆ Licker-in is designed with two noil area whose length is adjustable outside of machine.
☆ It is designed with two sets of mote knife, pre-carding segment for efficiently removal of trash and staple.





根据纺纱的不同原料、品种、品质要求，灵活调整落杂区长度。
☆ 第一落杂区弧长绕刺辊中心自由调整。
☆ 第二落杂区根据需求适当调整舌板角度。

Noil area length is adjusted flexibly according to quality, type of material.
☆ Arc length of the first noil area is adjusted freely around licker-in center.
☆ Angle of tongue plate in the second noil area is adjusted according to requirement.



# 滤尘系统
## DUST FILTERING SYSTEM

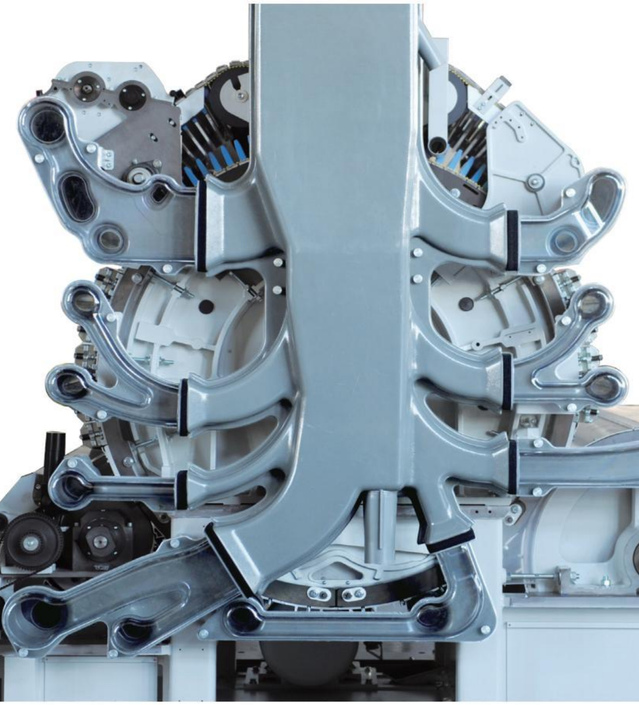
### 稳定的吸风和气流是优质梳理质量的保障
### Stable air suction and airflow gurantee the carding qualtly

新型滤尘系统采用流线型结构设计，更加符合气流运动学规律，减少风阻，节能降耗。

The new dust-filtering system adopts the streamline structure and is more in line with the flow kinematics, which can reduce wind resistance as well as save energy and reduce cost.

铝合金封闭式大漏底，拆装方便，对气流控制更好，外形美观。

Aluminum–alloy enclosed undercase, easy dismantling, better controlling of air flow, beautiful profile.



可视的滤尘管道，光滑流畅，维修方便，多点连续吸，压力连续监测，吸尘杂效果好。

The visible filtering pipes, sleek and smooth, are easy for maintenance. The multi-point continuous suction and continuous pressure testing contribute to the good filtering effects.

# 模块化设计–操作方便 维护快捷
## MODULAR DESIGN–EASY OPERATION AND MAINTENANCE

☆ 特殊材料的铝合金回转盖板骨，平整度好，重量轻，运行稳定。

☆ 通过两条齿形带连续引导，不需其他紧固件，拆卸、安装便捷，维护方便。

☆ 双联固定盖板、棉网清洁器和罩板采用铝合金型材，良好的针尖平整度，隔距调整方便，保证纤维的梳理更加充分、细致。

☆ 模块化设计，可根据纺纱品种、工艺要求进行灵活配置。

☆ Aluminum alloy rotary flat bar is made by special material, with the characteristics of good flatness, light weight, stable operation.

☆ It is guided by two tooth belts without need of other fasten parts, so it is easy for mantle, dismantle and maintenance.

☆ Duplex stationery flats, web cleaners and cover plates adopt aluminum alloy material. The fine needle flatness and easily adjustable gauge guarantee the fine and intensive material carding.

☆ Modular design realizes flexible replacement to meet different technical requirements based on various material and guarantees excellent product.



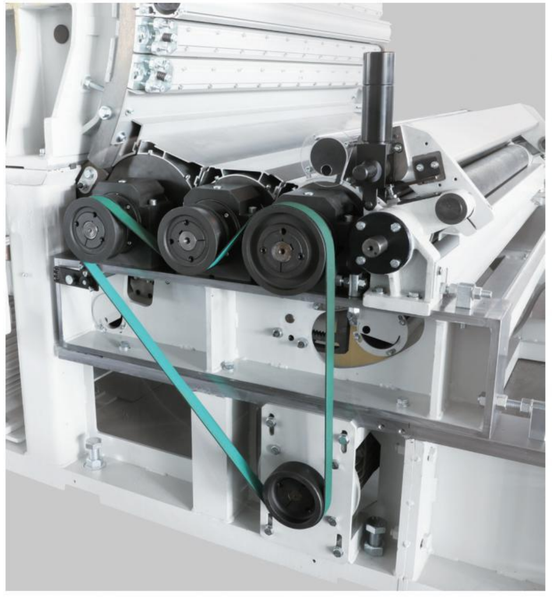
固定盖板模块 Modular of stationery flats

给棉模块 Modular of feed unit

罩板模块 Modular of al–alloy sheet

棉网清洁器模块 Modular of web cleaner

# 三刺辊结构（选配）
## TRIPLE LICKER-IN(OPTIONAL)



☆ 单刺辊、三刺辊结构采用模块化设计，双落杂区配置，落杂区长度机外可调；

☆ 三刺辊结构两小一大，“一”字排列，不同速比配置，转移顺畅，开松效果好；

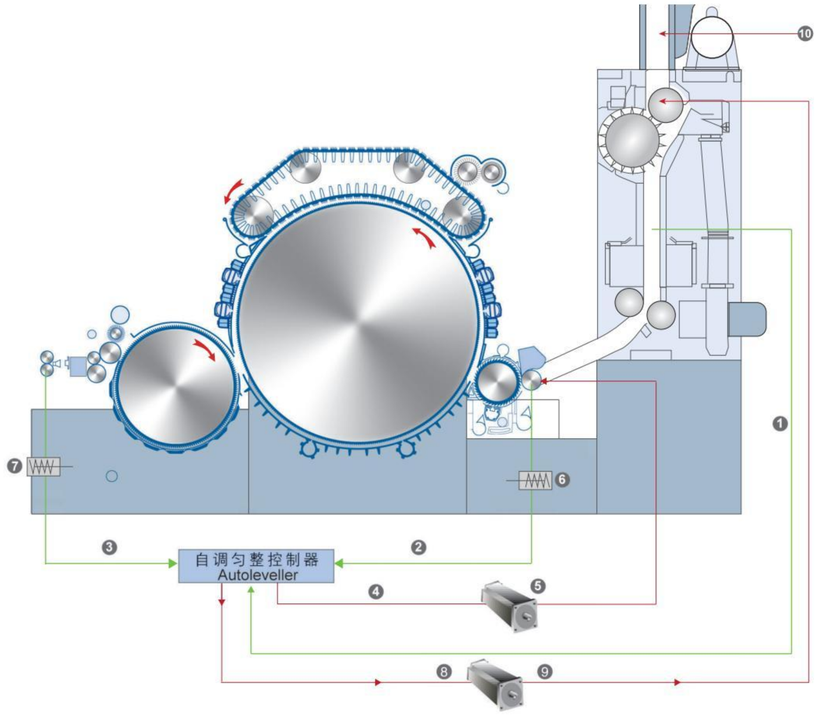
☆ 三刺辊结构是梳棉机进一步增加开松、提高产量的有效技术措施。

☆ The construction of single and triple licker-in is designed with Modularization design and, double noil area.The length of noil area can be adjusted out of the machine.

☆ The in-line construction of triple licker-in is with two smaller and one larger licker-in. Different speed ratio configurations leads to smooth transference and good opening effect.

☆ The construction of triple licker-in is the effective technical measure of Carding machine to get further increase opening effect and production.

# 新型混合环自调匀整系统
## NEW TYPE MIXED LOOP AUTO–LEVELLER SYSTEM




1. 棉箱压力监测
2. 检测喂入棉层检
3. 检测输出棉条
4. 调整喂棉罗拉
5. 喂棉罗拉驱动器
6. 短片段控制传感器
7. 长片段控制传感器
8. 调整棉箱喂棉罗拉
9. 喂棉罗拉驱动器
10. 清花供棉压力PID控制

1. Detect chute pressure
2. Detect feed batt
3. Detect sliver delivery
4. Adjust feed roller
5. Feed roller driver
6. Short term control sensor
7. Long term control sensor
8. Adjust feed roller
9. Feed roller driver
10. PID control to cotton supply pressure in blowroom

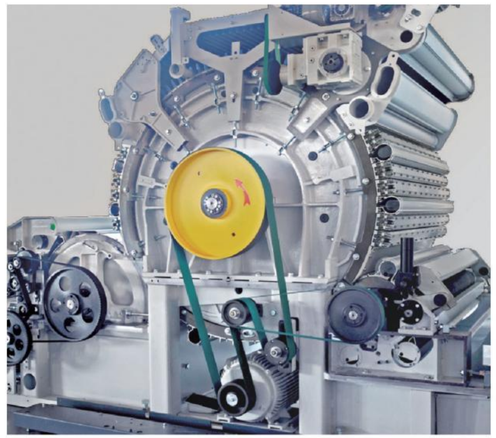
长短片段自调匀整器 Long-short term autoleveller

新型混合环自调匀整系统，专用于顺向喂棉结构，通过高精度涡流式非接触型传感器检测筵棉层厚度的变化，实现短片段控制，通过新型生条重量检测装置实现长片段控制，棉箱压力PID控制，组成四位一体的混合环控制方式。配合变频电机传动系统，提高传动精度，确保稳定的面条CV值。

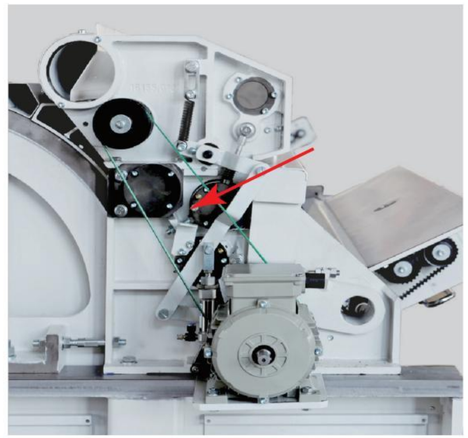
The new mixed loop auto–levelling system, specially used for the directional feeding structure, can detect the batt thickness variation by use of precise vertex non–contact sensor to control fiber in short term, realize the control of fiber in long term through new type of sliver weight detecting device, realize the control of chute pressure through PID, make up mixed loop control in quaternity. Fit vector motor driving system enhances drive precision and ensure stable sliver CV value.



# 新型检测及保护系统
## NEW TYPE DETECTING AND PROTECTING SYSTEM

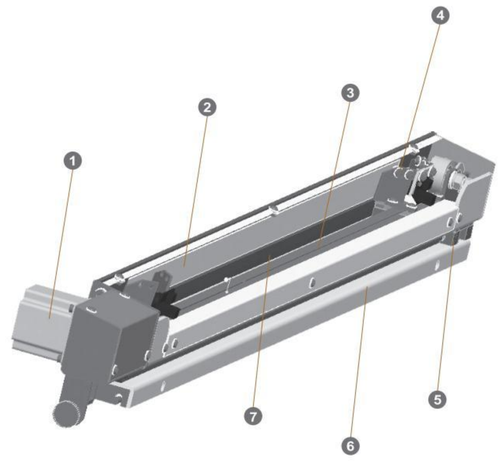


给棉金属检测的应用，确保无金属异物喂入。
Metal detecting device to deduct metal during cotton feeding.



上下轧辊防缠检测机构，有效保护传动系统。
Anti-winding detecting mechanism of the upper and lower roller effectively protects the driving system.

# 棉结在线检测装置（选配）
## NEP ONLINE-MONITORING (Option)



棉结在线检测装置，对棉结进行实时检测及统计。
Neps on-line detecting device makes real-time monitoring and statistics to neps.

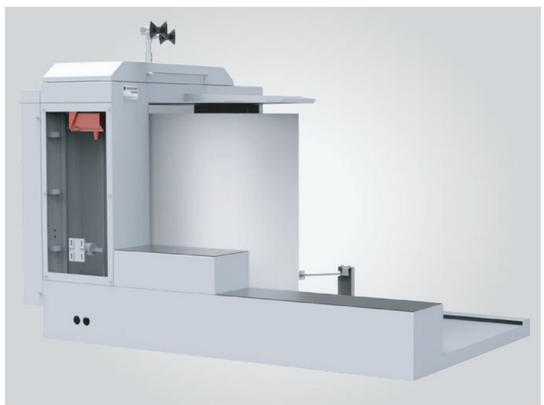
本装置是用于梳棉机在线检测棉网中棉结杂质的传感系统，通过左右往复运动的照相机对道夫棉网进行拍照，对图像进行精确的分析与处理，及时反映生条中棉结杂质数量，并将检测结果显示在梳棉机显示屏上。

The nep online-monitoring device, a sensing system used on the carding machine, can take photos of the doffer cotton web via the process the image accurately, and reflect timely detecting of the neps quantity of the sliver, thus the results are shown on the touch screen of the carding machine.

1. 步进电机
2. 透明玻璃
3. 往复滑块、导轨及传动带
4. 照相机及闪光灯
5. 推拉滑块和导轨
6. 固定横梁
7. 底座箱体

1. Stepping motor
2. Transparent glass plate
3. Reciprocating slider, Rail and Driving
4. Came & Flash
5. Push-and -pull slider & Rail
6. Fixed beam
7. Base cabinet

# 机外高速切条
## SLIVER CUTTING WITHOUT SPEED DOWN



☆ 高速机外切条，换筒时道夫不降速，换筒过程中生条重量平稳。

☆ 相比回转式自动换筒，结构简洁易维护，占地面积节约33%。

☆ 采用伺服电机单独传动，出条更稳定。

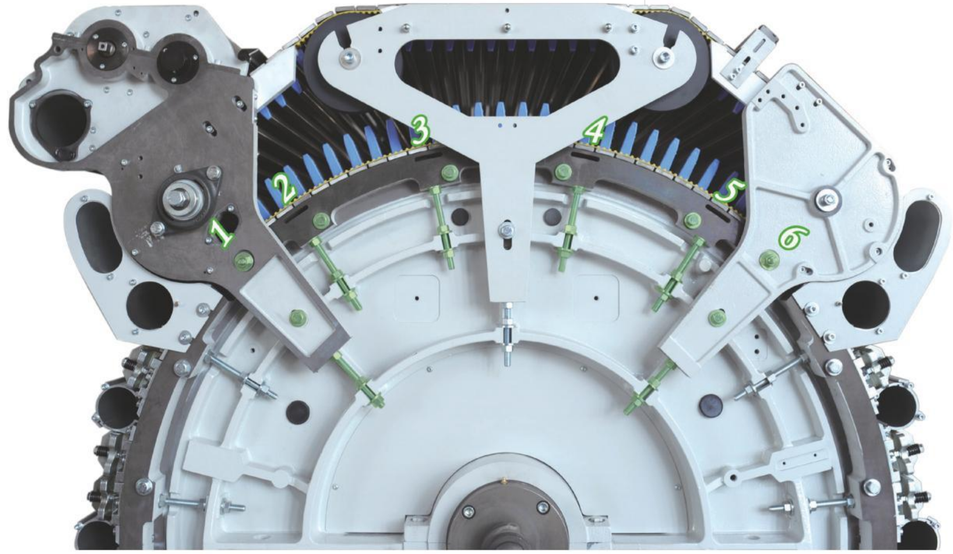
☆ Doffer speed needs not decrease when cutting sliver and changing can and sliver weight is stable during can–changing.

☆ The linear automatic can-changer coiler is easy to maintain and saves space by 33% compared with rotary type.

☆ Adopting servo motor drives alone,the sliver delivery is more stable.



# 特有的盖板六点隔距方式
## DISTINCTIVE 6–POINTS GAUGE

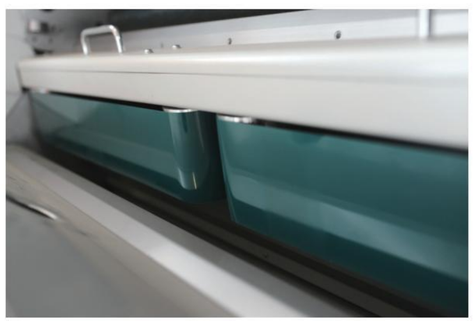



☆ 锡林和回转盖板梳理隔距的精准度和稳定性是梳理效果的决定因素，特有的6点隔距调整方式，确保回转盖板隔距精准稳定。

☆ Precision and stability of gauge between cylinder and rotary flat is the decisive factor for carding efficiency. Specially designed gauge adjusting method in 6 points ensures precise and stable gauge of rotary flats.

# 新型的皮圈导棉及大压辊结构
## NEW TYPE OF CROSS APRON

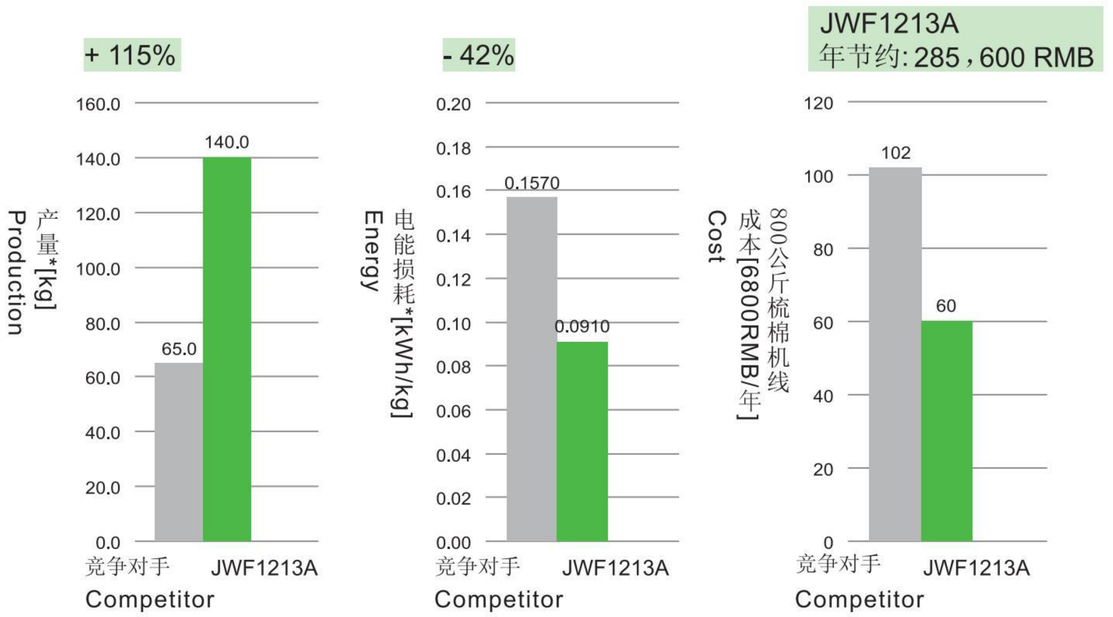

☆ 新型一体式轴承大压辊及皮圈导棉装置，采用平皮带传动，结构紧凑，保证棉条可以高速稳定输出。



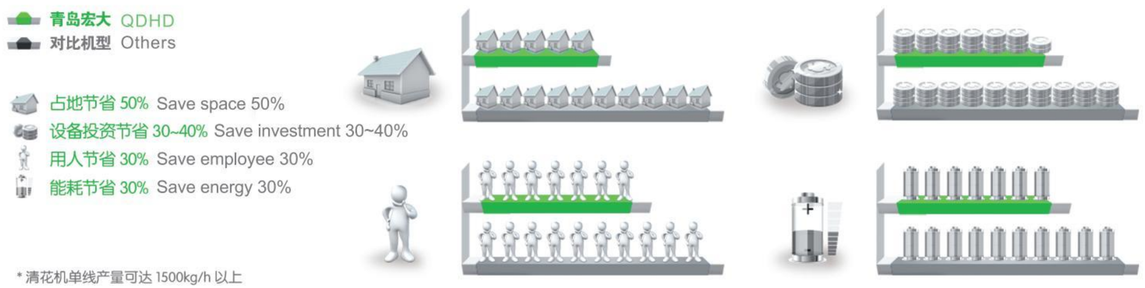
☆ New integrated bearing big calendar roller and type of cross apron adopts flat belt for drive with compact structure,to ensure stable sliver output in high speed.

# 工艺先进性
## ADVANCED MANUFACTURABILITY

高效–节能(与传统的1米梳棉机相比,每年可节省约285,600RMB)
High efficiency Save energy



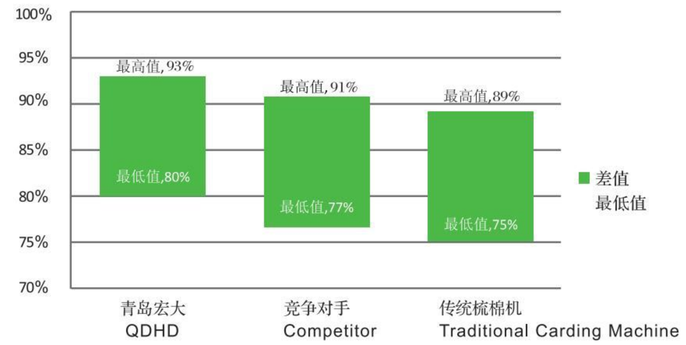

*同等梳理质量前提下,不包括压缩空气和排风



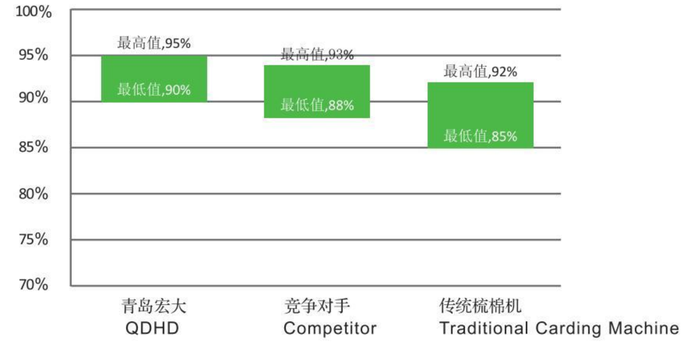

* 清花机单线产量可达 1500kg/h 以上
梳棉机单产可达 130kg/h 以上
(图示以 5 万锭为例)



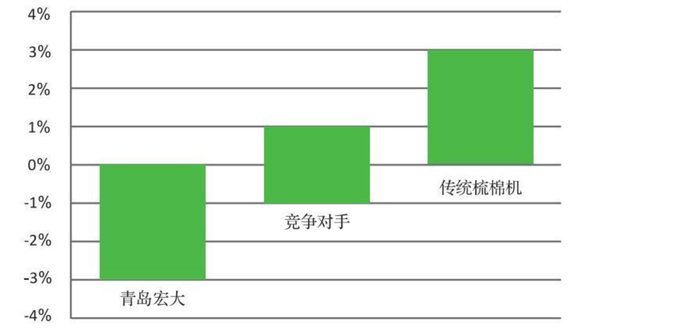
### 棉结去除率 Nep Removal Rate




### 杂质去除率 Impurity Removal Rate




### 短绒增长率 Short Fiber Growth Rate




☆ 本数据来源于客户正常生产中的信息，质量指标与竞争对手的相比较，从中可以看出JWF1211A、JWF1213A去除棉结的能力，除杂效率及短绒增长率等各项指标都优于市场上同等水平的梳棉机。

☆ All data come from user during production. Compared with our competitors, our quality index such as neps removal ability and dust removal efficiency and short staple growth rate of JWF1211A, JWF1213A are better than that of the same level of carding machine on the market.

# 结构示意图
# STRUCTION FIGURE

## 主机部分 CARDING SECTION

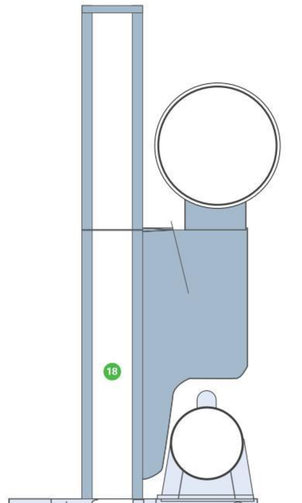
01 刺辊第一除尘刀 Licker-in 1st mote knife
02 刺辊第二除尘刀 Licker-in 2nd mote knife
03 刺辊分梳板 Licker-in segment
04 刺辊 Licker-in
05 后固定盖板 Back stationery flat
06 锡林封闭漏底 Cylinder enclosed undercase
07 锡林 Cylinder
08 铝合金回转盖板 Al-alloy rotary flat
09 前固定盖板 Front stationery flat
10 道夫封闭漏底 Doffer enclosed undercase
11 道夫 Doffer
12 三罗拉清洁辊 Three roller clearer
13 三罗拉 Three roller
14 大压辊 Big calender
15 皮圈导棉装置 Cross apron
16 生条重量检测部件 Sliver weight detecting unit
17 棉层厚度检测部件 Batt thickness detecting unit

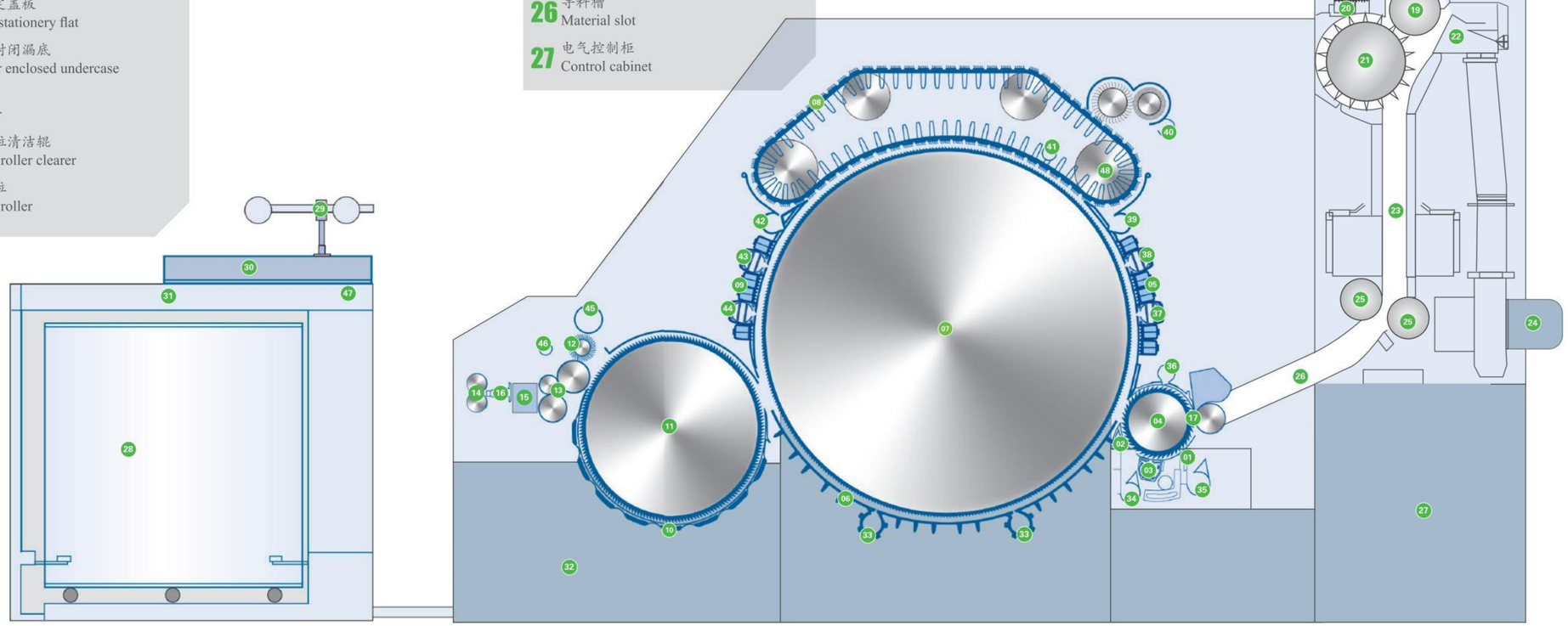
## 棉箱部分 CHUTE FEEDER SECTION

18 上棉箱 Upper chute feeder
19 给棉罗拉 Feed roller
20 给棉板 Feed plate
21 开松辊 Open roller
22 静压箱 Statistic pressure case
23 下棉箱 Lower chute feeder
24 循环风机 Circling fan
25 棉箱输出罗拉 Chute output roller
26 导料槽 Material slot
27 电气控制柜 Control cabinet

## 圈条器部分 COLIER SECTION

28 条筒 Can
29 导条架 Cradle
30 圈条部件 Coiling unit
31 机外切条部件 Sliver cutting unit outside of machine




## 滤尘部分 DUST FILTERING SECTION

32 前车肚吸点 Front undercard suction point
33 锡林漏底吸点 Cylinder undercase suction point
34 刺辊第二落杂区吸点 Licker-in 2nd noil suction point
35 刺辊第一落杂区吸点 Licker-in 1st noil suction point
36 刺辊放气罩吸点 Licker-air bleet suction point
37 后下棉网清洁器吸点 Rear /lower web cleaner suction point
38 后上棉网清洁器吸点 Rear /upper web cleaner suction point
39 后盖板杂质吸点 Rear flat trash suction point
40 盖板花吸点 Flat fly suction point
41 盖板飞花吸点 Flat trash suction point
42 前盖板杂质吸点 Front flat trash suction point
43 前上棉网清洁器吸点 Front/upper web cleaner suction point
44 前下棉网清洁器吸点 Front/lower web cleaner suction point
45 三罗拉清洁吸点 3-rollers suction point
46 喇叭口吸点 Horn mouth suction point
47 圈条器吸点 Coiler suction point
48 盖板传动吸点 Suction points for flat drive

# 新型一体化棉箱
## TYPE OF CHUTE FEEDER

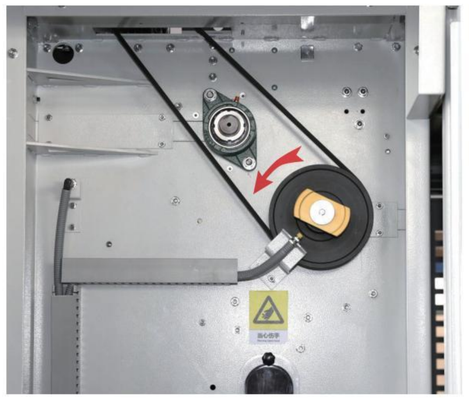
## 主要规格 specifications

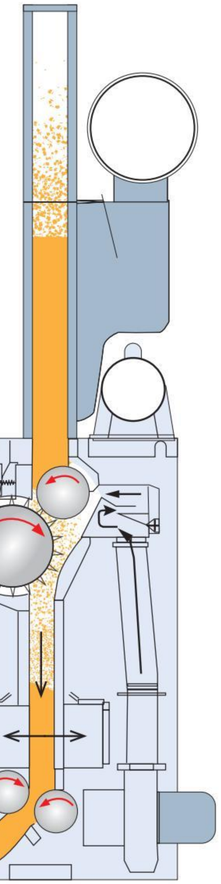
| 喂棉箱 | JWF1173B |
|---|---|
| 棉箱宽度（毫米） | 950 |
| 给棉罗拉直径（毫米） | Φ172 |
| 开松辊直径（毫米） | Φ292 |
| 开松辊转速(r/min) | 700/1150 |
| 输出罗拉直径（毫米） | Φ156 |
| 装机功率（千瓦） | 2.45 |
| 外形尺寸（长x宽x高）（毫米） | 700x1980x2800 |
| 机器净重（公斤） | 约750 |
| | |
| Working width (mm) | 950 |
| Feeding roller dia. (mm) | Φ172 |
| Opening roller dia.(mm) | Φ292 |
| Opening roller speed (r/min) | 700/1150 |
| Output roller dia. (mm) | Φ156 |
| Installed power（kW） | 2.45 |
| Boundary dimension(LxWxH)(mm) | 700x1980x2800 |
| Net weigh (kg) | About 750 |

| 喂棉箱 | JWF1177B |
|---|---|
| 棉箱宽度（毫米） | 1210 |
| 给棉罗拉直径（毫米） | Φ172 |
| 开松辊直径（毫米） | Φ292 |
| 开松辊转速(r/min) | 700/1150 |
| 输出罗拉直径（毫米） | Φ156 |
| 装机功率（千瓦） | 2.45 |
| 外形尺寸（长x宽x高）（毫米） | 700x2240x2800 |
| 机器净重（公斤） | 约810 |
| | |
| Working width (mm) | 1210 |
| Feeding roller dia. (mm) | Φ172 |
| Opening roller dia.(mm) | Φ292 |
| Opening roller speed (r/min) | 700/1150 |
| Output roller dia. (mm) | Φ156 |
| Installed power（kW） | 2.45 |
| Boundary dimension(LxWxH)(mm) | 700x2240x2800 |
| Net weigh (kg) | About 810 |

☆ 新型棉箱储棉容量大，供棉稳定，有效改善条干均匀度及重量不匀率。配棉头采用开启式视窗，便于维护。
☆ 棉箱采用机内循环风，筵棉更均匀稳定。
☆ 给棉罗拉端面采用新型密封结构，有效防止塞花。
☆ 给棉板采用弹簧加压，弹性握持纤维，与给棉罗拉之间的距离可根据棉层的厚度自动调节。
☆ 下棉箱采用双面梳针排风，确保输出筵绵均匀度，落棉更均匀。
☆ 给棉罗拉、开松辊罩板均方便打开，便于维护和保养。

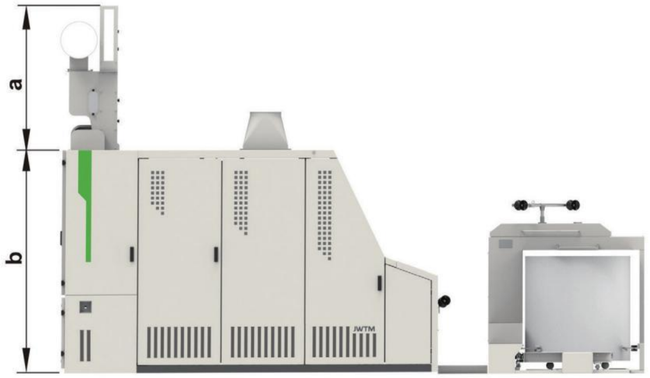
☆ New type of chute feeder, with big capacity, supply cotton stably and improves sliver evenness and weight regularity efficiently. The topchute feeder is equipped with the open-type view-window and easy to maintain.
☆ Air is circling inside the chute feeder, make batt more even and stable.
☆ New sealing structure is adopted on the end face of feeding roller to effectively prevent cotton blocking.
☆ Feeding plate is pressurized by spring so fiber is hold elastically. Distance between feeding plate and feeding roller is automatically adjusted according to batt thickness.
☆ Double-sided combing needle is adopted by the lower chute feeder for air discharge to ensure the uniformity of output and more even noil.
☆ Feed rollers and opening rollers cover are easy to open for convenient maintenance.

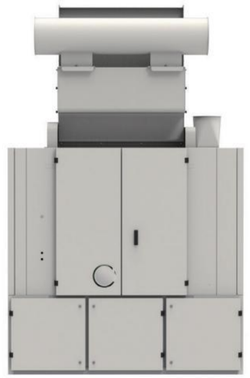


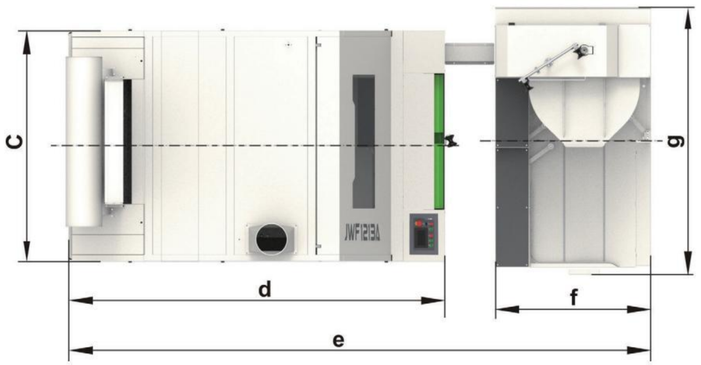


结构示意图 Construction figure

# 主要规格
## SPECIFICATIONS






| 机型 / Type | a | b | c | d |
|---|---|---|---|---|
| JWF1211A | 1395 | 2160 | 1980 | 3620 |
| JWF1213A | 1395 | 2160 | 2240 | 3620 |

| 机型 / Type | e | f | g |
|---|---|---|---|
| Φ600 自动 | 5250 | 1130 | 1552 |
| Φ1000 自动 | 5825 | 1751 | 2480 |

| 机型 | Type | JWF 1211A | JWF 1213A |
|---|---|---|---|
| 适用范围 | Application | 本机适用于纤维长度22～76毫米的纯棉、化纤及其混纺 Application applicable to chemical fiber,pure cotton in length from 22~76mm and other blended material | |
| 最高产量（公斤/小时） | Max. Actual output (kg/h) | 100 | 160 |
| 最高出条速度（米/分） | Max. Sliver delivery speed (meter/min) | 300 | 320 |
| 棉条定量（克/米） | Sliver count(g/m) | 3～7 | 3.5～10 |
| 喂棉重量（克/米） | Feed weight(gram/meter) | 400～1000 | 400～1300 |
| 工作幅宽（毫米） | Working width(mm) | 1000 | 1280 |
| 总牵伸倍数 | Total draft folds | 60～300 | 38～370 |
| 刺辊工作直径（毫米） | Licker-in working diameter(mm) | Φ250 | |
| 道夫工作直径（毫米） | Doffer working diameter(mm) | Φ706 | |
| 道夫工作速度（转/分） | Doffer working speed(rpm) | 4.3～84 | |
| 锡林工作直径（毫米） | Cylinder working diameter(mm) | Φ1288 | |
| 锡林工作速度（转/分） | Cylinder working speed(rpm) | 347～477 | |
| 回转盖板根数 (工作盖板/盖板总数) | Pieces of rotary (working flat/total flats) | 30/84 | |
| 盖板速度(毫米/分) | Flat speed (mm/min) | 70～408 | |
| 附加梳理件 刺辊分梳板 | Attached carding segments Licker-in carding segment | 2 根（Pieces） | |
| 附加梳理件 前固定盖板 | Front stationery flats | 8 根（Pieces） | |
| 附加梳理件 后固定盖板 | Back stationery flats | 10 根（Pieces） | |
| 棉网清洁器 前3后3 | Web cleaner Front 3, Back 3 | 纺 棉（Cotton） | |
| 棉网清洁器 前2后2 | Front 2, Back 2 | 纺化纤 (Chemical fiber) | |
| 连续吸尘风量（米³/小时） | Continuous air suction volume($m^3$/hour) | 4000 | 4500 |
| 出口静压（帕） | Statistic pressure at exit(pa) | −800 | |
| 压缩空气压力（公斤/厘米²） | Compressed air pressure ($kg/cm^2$) | 6~7 | |
| 空气消耗（米³/小时） | Compressed air consumption($m^3$/h) | 0.5 | |
| 总装机功率（千瓦） | Total power installation(KW) | 11.24 | 13.9 |
| 安全罩形式 | Safety cover type | 全封闭 Totally enclosed | |
| 占地面积（长x宽x高）（毫米） | Land occupation (L x W x H)(mm) | 5825X2480x3555 (Φ1000) | 5825X2480x3555 (Φ1000) |
| 机器净重（公斤） | Machine net weight(kg) | (About) 约 7200 | (About) 约 8000 |
| 配套棉箱型号 | Corollary chute feeder model | JWF1173B | JWF1177B |