



CSSC

PRIMARY PROCESSING LINE

KUNMING SHIPBUILDING EQUIPMENT CO.,LTD.

昆明船舶设备集团有限公司
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COMPANY PROFILE

Kunming Shipbuilding Equipment Co., Ltd. (KSEC) as a subsidiary of China State Shipbuilding Corporation Limited, was established in 1986 committing to the automated machinery development and manufacturing industry. As a state-owned enterprise group in China, KSEC has over 4,000 employees in total and more than 50% are technical and professional staffs. With head office in Kunming city, Yunnan province of P.R. China, KSEC has a manufacturing premise with area of 80 hectares equipped with over 3,000 sets state of art machining equipment. 4 branches in China and 1 representative office in Thailand, KSEC is expanding the ability to provide instant service to customer.

With over 4 decades of expertise, know-how and application experience accumulated, KSEC has successfully implemented over 1,000 projects (for PMD and GLT) and delivered various tobacco machineries to 300+ customers globally. From a sketch of green land or existing line, KSEC works closely with clients to find out the best solution to guarantee the investment through careful system plan, premium quality equipment and after sale service at the most reasonable price.

The automatic logistics system effectively connects all critical production sections through just in time material handling, high-density storage, optimized scheduling, data driven management so as to achieve much higher efficiency and significantly less human error. Since 1995, KSEC introduced the automated logistics technology to tobacco industry in China and has revolutionarily changed the production organization mode of tobacco industry.

As a leading company for providing total solution on primary processing line, green leaf threshing & redrying, automatic logistics system for tobacco industry, KSEC always takes client's need as its core, commits to providing the most advanced and cutting edge technology to the industry and is going to be a global player and willing to provide all the best service to client's best benefit. Together with client for a bright future through intelligent technology.



CARTON BOX OPENING SYSTEM

Application

The carton box opening system is used in primary processing line to automatically unpack the lamina bale from its package, to fold and stack the separated carton box.

Features and specifications

- Modular designed system with flexible key equipment combination of strap cutter, carton box opener, carton box folder and stacker, paper liner remover, wrapping film cutter, flipping machine and wrapping film remover.
- Twin grippers with three-axis linkage control and right-angle coordinate robot technology.
- Vacuum gripper for reliable carton box detaching.
- Intelligent visual recognition system can detect the existence of wrapping film on lamina bale for automatic change of processing method.
- Simple operation and convenient maintenance.
- Full safety precaution with safety switches and safety fences.
- Rated capacity: ≥32 boxes/h
- Carton box breakage rate: ≤1%



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MECHANICAL TIPPER

Application

The mechanical tipper is used in tobacco primary processing line or threshing and redrying line for automatically tipping material contained in boxes to its processing line.

Features and specifications

- Gear motor drive for tobacco box overturning and tipping.
- Flexible lid opening system makes less material degradation, fewer flying dust and low noise during tobacco box overturning and tipping.
- Discharge hopper with inclined angle structure to avoid material hanging.
- Free of hydraulic device to avoid contamination on tobaccos.
- Compact system design for less requirement on maintenance.
- Rated capacity: Up to 40 Boxes/h
- Overturning angle: 160°
- Overturning weight: 100 ~ 1,000kg



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VERTICAL LAMINA FORK SLICER

Application

This vertical lamina fork slicer is used in lamina vacuum conditioning sub-line of tobacco primary processing line for slicing lamina bale as tier into several blocks and with some distance between them in the packing box. As the result, the core of lamina block is easy to be conditioned sufficiently in vacuum conditioning plant.



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Features and specifications

- With unique slicing method inside the packing box, not only meeting the processing requirement of vacuum conditioning plant but also resulting in less degradation.
- Vertical tiered slicing along the layer of lamina bale, with less move-down resistance and less wearing-out of knife so as to prolong the service life of knife.
- Knife being single-slice shape, four knives as one group, easy removal and convenient maintenance.
- Two groups of knife cutting down simultaneously to increase efficiency.
- Gear motor for driving knife move down, with good synchronism. Gear motor with braking to prevent knife from dropping in case of power-off. Move-down speed of knife is adjustable through frequency inverter. Braking resistance with over-heat protection.
- Slicing knives are driven by air cylinder, featuring simple and reliable action and compact structure.
- Two lamina bales packed in one iron box for slicing, so as to meet the requirement of large-flow primary processing line.
- Rated capacity: 9600~16000kg/h, with two lamina bale in one box
- Effective width of roller conveyor: 1450mm
- Feeding height of roller conveyor: 600mm
- Knife width: 100mm
- Quantity of knife: 8~13pcs

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ON-LINE VACUUM CONDITIONING SYSTEM

Application

Combining the material handling equipment and vacuum conditioning plant, the on-line vacuum conditioning system can achieve continuous and automatic lamina vacuum conditioning process. Two or more vacuum chambers are arrayed parallel to each other and alternatively work to realize continuous lamina vacuum conditioning process. Automatic conveying machines are set at the front, rear and inside of the vacuum chamber for full automatic conveyance and recycle.



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Features and specifications

- Three fluid vacuum pumping technology, using water, atmosphere, and steam as the vacuum pumping medium.
- 60 to 80% less steam consumption comparing to steam jet vacuum system for similar process requirement.
- Continuous water discharge during vacuum process, without risk of condensate return to vacuum chamber.
- Free of vapor exhaust to outdoor.
- Rated capacity: 1200~9600 kg/h
- Maximum vacuum degree: ≤266 Pa (Macleod gauge)
- Working vacuum degree: ≤666 Pa (Macleod gauge)
- Moisture content increased: ≥2%
- Conditioning sufficiency: ≥95%
- Temperature after conditioning: 55~75℃ (allowance±5)



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LAMINA BALE SLICER (PNEUMATIC DRIVE)

Application

The lamina bale slicer is used in the pre-treatment section of primary processing line to automatically slice the unpacked lamina bale into several blocks for convenient loosening and conditioning process.

Features and specifications

- Lamina bale moved forward by a pushing trolley that controlled by a barcode addressing system to achieve precisely slicing.
- Sliced lamina block discharged by an overturning device and gently led to downstream equipment with less shock impact.
- Compact structure with elegant appearance.
- Rated capacity: 9000 kg/h (Calculated on base of 3 cuts and 4 pieces)



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LAMINA BALE SLICER (ELECTRIC DRIVE)

Application

The lamina bale slicer is used in the pre-treatment section of primary processing line to automatically slice the unpacked lamina bale into several blocks for convenient loosening and conditioning process.

Features and specifications

- Slice blade driven by motor with bigger and stable slice force.
- Barcode positioning and encoder control the slicing thickness.
- Full safety precautions: Intelligent recognition system to prohibit unauthorized entrance to machine. Self-lock device attached to blade. Pulling string safety switch set inside. Safety switches set on all entrance door.
- Precisely slicing with stable and reliable running.
- Rated capacity: 9600 kg/h (inclined belt), 6400 kg/h (horizontal belt)



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LAMINA CONDITIONING CYLINDER

Application

The lamina conditioning cylinder is used in pre-processing sub-line for loosening and conditioning of the lamina bale after slicing.

Features and specifications

- Multiple cylinder drive modes available: wheel friction drive (for cylinder diameter φ800~φ1250), gear ring drive (for cylinder diameter φ1450~φ2750) and 4 support wheel direct drive.
- Lighting lamp and glass observation window set at the rear chamber for convenient maintenance
- Rakes and paddles are well arranged along the length of cylinder for high material loosen rate.
- Reliable performance and convenient operation.
- Rated capacity: 640~9600 kg/h (Calculation based on MC at 12%)
- Lamina complete loosened rate:≥99%
- Discharge moisture content: 17~21%
- Discharge temperature: 45 ~ 70℃ (Allowance: ±3℃)



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LAMINA CONDITIONING & CASING CYLINDER

Application

The lamina conditioning & casing cylinder is used in the slicing and conditioning sub-line of tobacco primary processing line for loosening, conditioning and casing of sliced lamina to improve the endurance and taste of lamina.



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Features and specifications

- Friction drive for small size cylinder while gear ring drive for large size cylinder.
- Variable frequency drive cylinder.
- Rotary mesh drum with brush roller and hot water cleaning device to effectively catch the matters mixed in circulating hot-air flow.
- Hot air circulating system to increase the temperature of tobacco in cylinder which is helpful for water and casing liquid absorbing and improving the looseness and casing evenness of lamina.
- Centralized monitor and control on the running status and parameters of equipment like casing flow rate, water flow rate, hot-air temperature, cylinder running speed.
- Full safety precaution with safety switches set at all accessible points.
- Cylinder jacking-up device available for protecting the cylinder support roller in long idle period.
- Rated capacity: 640~9600 kg/h (Calculation based on MC at 12%)
- Discharge temperature: 60 ~ 75℃
- Maximum moisture content increased: 10%
- Lamina loosening rate: ≥98%
- Casing ratio: 1.25 ~ 5% (Customizable)

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CASING CYLINDER

Application

The casing cylinder is used in lamina processing sub-line, Burley tobacco processing sub-line and stem processing sub-line for casing application, increasing temperature and moisture content, which can improve taste of cigarette and physical property of tobacco material, so as to meet the technological requirement of tobacco primary processing.



CSSC Primary Processing Line

Features and specifications

- Friction drive for small size cylinder while gear ring drive for large size cylinder.
- Variable frequency drive cylinder.
- Hot air circulating system to increase the temperature of tobacco in cylinder which is helpful for casing liquid absorbing and improving the taste of tobacco.
- Rotary mesh drum with brush roller and hot water cleaning device to effectively catch the matters mixed in circulating hot-air flow.
- Centralized monitor and control on the running status and parameters of equipment like casing flow rate, hot-air temperature, cylinder running speed.
- Cylinder jacking-up device available for protecting the cylinder support roller in long idle period.
- Rated capacity: 800～9600 kg/h (Calculation based on MC at 12%)
- Casing ratio: 1.25～5% (for Virginia lamina, customizable)
- Casing tank volume: 30～1000L (Customizable)
- Discharge temperature: 40～65℃ (Allowance: ±3.0)

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TOBACCO CUTTER

Application

The tobacco cutter is used in primary processing line for cutting laminas or stems to required width.



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Features and specifications

- High performance AC spindle motor driven knife drum and servomotor drive conveyor bands. Closed-loop vector, AC servo and bus control technology realizes the precise and quick control on the speed ratio between the knife drum and conveyor band with features of low inertia, quick response, high stability and accuracy.
- Pneumatic cylinder drives the lifting of upper mouthpiece and conveyor bands with features of compact structure, stable run and low noise level.
- Mouthpiece pressure precisely adjusted by proportional pressure reducing valve.
- The gap between the upper mouthpiece and the blade is kept constant via a crank chute swing mechanism driving the lift of upper mouthpiece and conveyor band.
- Overload protection device set on the drive sprockets for upper and lower conveyor bands. A safety pin will be cut off in case of overload to stop and protect the machine.
- Worm gear and rod drives the blade advancement with adjustable step.
- Knife grinding period and grinding stone advancement are proportional to the rotating speed of knife drum.
- User friendly HMI set on a hung control box for convenient operation.
- Rated capacity: 2000~9000 kg/h (for lamina cutting)

  750~2000 kg/h (for stem cutting)

  Remarks: the capacity is calculated when cutting width being 0.8mm for lamina cutting and 0.15mm for stem cutting.

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INTELLIGENT TOBACCO CUTTER

Application

The intelligent tobacco cutter is used in the primary processing line for cutting laminas or stems to required width.





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Features and specifications

- Sliding cut mode: straight blade incline mounted for less cut force required.
- Large knife drum: near to vertical cut with big rotational inertia for smoothly cutting and less shock impact.
- Direct drive knife drum: direct drive by large torque servo motor with precise control.
- Separated drive on the advancement of each blade and grinding stone.
- Tobacco holding mechanism set on the right top of mouthpiece: Evenly holding force along the width of mouthpiece. Real time display the holding force via the press sensor and holding force control via the proportional pressure reducing valve enable convenient and quick response to the status of feeding tobaccos for less fluctuation on the mouthpiece openness.
- Separated drive on upper and lower conveyor band.
- HMI with 3D view window to real time display the running status and parameters with convenient parameter setting and operation functions.
- Recipe and parameter library stored the historic processing parameters with best practice.
- Rated capacity: 3000~9000 kg/h (for lamina cutting)
  750~2000 kg/h (for stem cutting)
- Cutting width: 0.1~1.5 mm (Adjustable),allowance: ±0.1 mm

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STEM WASHING TROUGH PLANT

Application

The stem washing trough plant is used in the stem processing line to clean the surface of stems, remove the foreign matters like stones and metals that mixed in stems as well as increase the moisture content and temperature of stems.

Features and specifications

- Patented design on the washing trough with turbo shape in the front for stem cleaning and corrugated shape in the rear for rejecting the metal and stone like matters.
- Turbo water flow makes stems washed and conditioned effectively.
- Single washing trough with compact design for convenient maintenance.
- Corrosion resistant conveying mesh with long service life.
- Fast water temperature soar via jetting steam with automatic control on water temperature and level.
- Compressed air purge on the surface of washed stems to remove excessive surface water.
- Rated capacity: 500~4000 kg/h (Calculation based on MC at 12%)
- Moisture increased: ~17% (adjustable)
- Water temperature: Ambient temperature to 60℃ (adjustable)



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STEM CONDITIONING CYLINDER

Application

The stem conditioning cylinder is used in the stem processing line for increasing the temperature and moisture content of stems to meet the subsequent process requirements.

Features and specifications

- Hot air circulating system to increase the temperature of stems that helps surface water on stems to penetrate to the core.
- Rotary mesh drum with brush roller and hot water cleaning device to effectively catch the matters mixed in circulating hot-air flow.
- Centralized monitor and control on the running status and parameters of equipment like water flow rate, hot-air temperature, cylinder running speed.
- Full safety precaution with safety switches set at all maintenance access points.
- Rated capacity: 750~3000 kg/h
- Discharge temperature: 40 ~ 65℃
- Moisture content increased: 8 ~ 10%



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STEM FLATTENER (MECHANICAL TYPE)

Application

The stem flattener is mainly used in the stem processing sub-line and placed before stem cutting procedure for flattening steamed stem to meet technological requirements of stem cutting.



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Features and specifications

- Consists of flattening device, roller grinding device, vibratory feeder and electric control system.
- Compact mechanical flattening structure, free of oil leak to contaminate stems.
- Optimized design on vibratory feeder and stem distributing device for stable and regular stem feeding.
- Flattening roller preloaded by disk spring with adjustable press.
- Convenient to adjust the parallelism of roller for better stem flattening quality.
- Automatic roller redrawing to hard matters to effectively protect the roller surface.
- 25 to 30 mm thick wearing layer on the roller surface of roller body with hardness of HRC 50 for much longer service life.
- Nozzles well arranged to wet the flattening rollers for less material adhered.
- Self-cleaning device to roller.
- Gap between rollers adjustable and visible with control error within ±0.1mm.
- Rated capacity: 750~2000 kg/h

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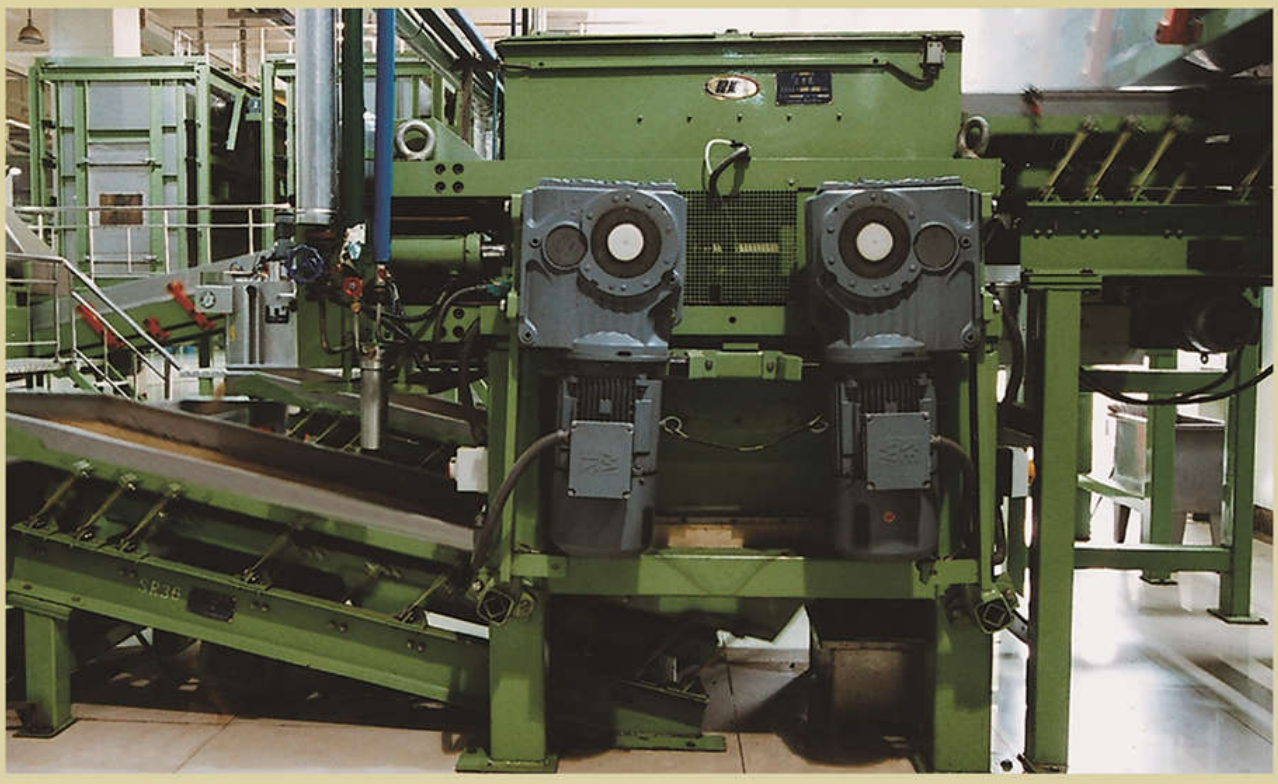
STEM FLATTENER (HYDRAULIC TYPE)

Application

The stem flattener is mainly used in the stem processing sub-line and placed before stem cutting procedure for flattening steamed stem to meet technological requirements of stem cutting.

Features and specifications

- Flattening roller made of alloy cast iron and with hard surface and long service life.
- Equipped with a small hydraulic pump station to provide the press for the flattening rollers and automatic control over abnormal working condition.
- Photocell detecting system to avoid overload.
- Compact designed structure.
- Rated capacity: 750kg/h, 1250kg/h, 2000 kg/h



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CONDITIONING TUNNEL PLANT

Application

The conditioning tunnel plant is used in tobacco processing line for increasing temperature and moisture content of lamina, cut-lamina, stem and cut-stem.

Features and specifications

- Three types of structure in terms of steam spraying for option: single face spraying, double face spraying and single face spraying with insulated cover.
- Service cubic is optional for pipeline system.
- Full safety precautions applied to equipment.
- Evenly conditioning and temperature increasing with less degradation.
- Rated capacity: 300~6400 kg/h (Calculation based on MC at 12%)
- Discharge temperature: 70-90℃(for cut-lamina)
  60~90℃(for cut-stem)
  70~90℃(for stem)
  40~70℃(for lamina)
- Moisture content increased: 1~3% (for cut-lamina, cut-stem, lamina)
  2~6% (for stem)



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CUT-TOBACCO DRYING CYLINDER

Application

The cut-tobacco drying cylinder is used in tobacco primary processing line to quickly dry the cut-lamina or cut-stems at high temperature. It can remove the greenish odor and free alkali substance, so as to make the taste of cut-tobacco mild and rich in aroma and flavor. The quick drying process makes the cut-lamina/cut-stems with good curl, looseness and higher filling power.



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Features and specifications

- Wide adjusting range of hot air temperature from room temperature up to 140℃.
- Triple options on hot air flow direction: concurrent, counter current, auto switchable to meet the customized process requirement.
- Two alternative control modes for different customized process application.

  a) Control over the temperature of thermal exchanging plate (regulating the inner wall temperature of cylinder to control the discharge moisture content and temperature of cut-tobaccos, while the hot air parameters is kept unchanged).

  b) Control over the parameters of hot air (regulating parameters of hot air to control the discharge moisture content and temperature of cut-tobaccos, while the inner wall temperature of cylinder is kept unchanged).
- Much less over-drying cut-tobaccos at stages of run in and run out. A self adaptive time-variable humidity field is created at the rear part of cylinder to significantly reduce the over-drying cut-tobaccos (less than 0.5% of each batch production volume).
- The inclination of the heat exchange plate can be changed to increase the heat dissipation surface area and reduce the height drop of the cut tobaccos, which is helpful for less degradation and higher drying strength.
- The steam flow route inside the thermal plate can be changed to improve the heat field distribution and thermal stress in the drying cylinder.
- Auto/Manual jacking-up device for drying cylinder (optional configuration).
- Rated capacity: 300 ~ 6400 kg/h (for cut-lamina drying)

  300 ~ 3000 kg/h (for cut-stem drying)
- Discharge moisture content: 11 ~ 14% (determined as process requirement), allowance: ±0.5%
- Discharge temperature: 50~ 65℃ (can be set as per process requirement for processing different tobacco grades)

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CUT-TOBACCO DRYING CYLINDER

Application

The cut-tobacco drying cylinder is used in the cut-lamina or cut-stem processing sub-line for drying and fixing the shape of cut-lamina (cut-stem) after being expanded. It adopts composite drying technology to dry the cut-lamina or cut-stem rapidly under high temperature through direct heat transfer, radiation and forced hot air heat transfer, so as to get the required discharge moisture content.



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Features and specifications

- Brand new upper frame structure and adjustable inclined angle of cylinder.
- Fan and heater set on the top of service cubic for convenient maintenance.
- Intelligent upgraded features of sensing, analysis, inference, decision-making and control to achieve accurate control on cut-tobacco drying process.
- Multiple control modes available for hot air control.
- One or two section structure drying cylinder are available for different drying process requirement.
- Optimized design and manufacturing technique on the thermal exchanger plate for higher reliability.
- Less over dried cut-tobaccos at run in and run out.
- Multiple dimension supervision and control on drying cylinder.
- Wide adjust range on inner wall temperature of cylinder, hot air temperature and humidity in cylinder.
- Rated capacity: 670 ~ 6400 kg/h (for cut-lamina)
  300 ~ 3000 kg/h (for cut-stem)
- Discharge moisture content: 11 ~ 14% (Adjustable), allowance: ±0.5
  Standard deviation: ≤0.17%
- Discharge temperature: 50 ~ 70℃ (Allowance: ±3)
- Filling power: ≥4.2 cm^3 /g (for cut-lamina)
  ≥6.5 cm^3 /g (for cut-stem)
- Over dried cut-tobacco at run in and run out: ≤0.6% of rated capacity

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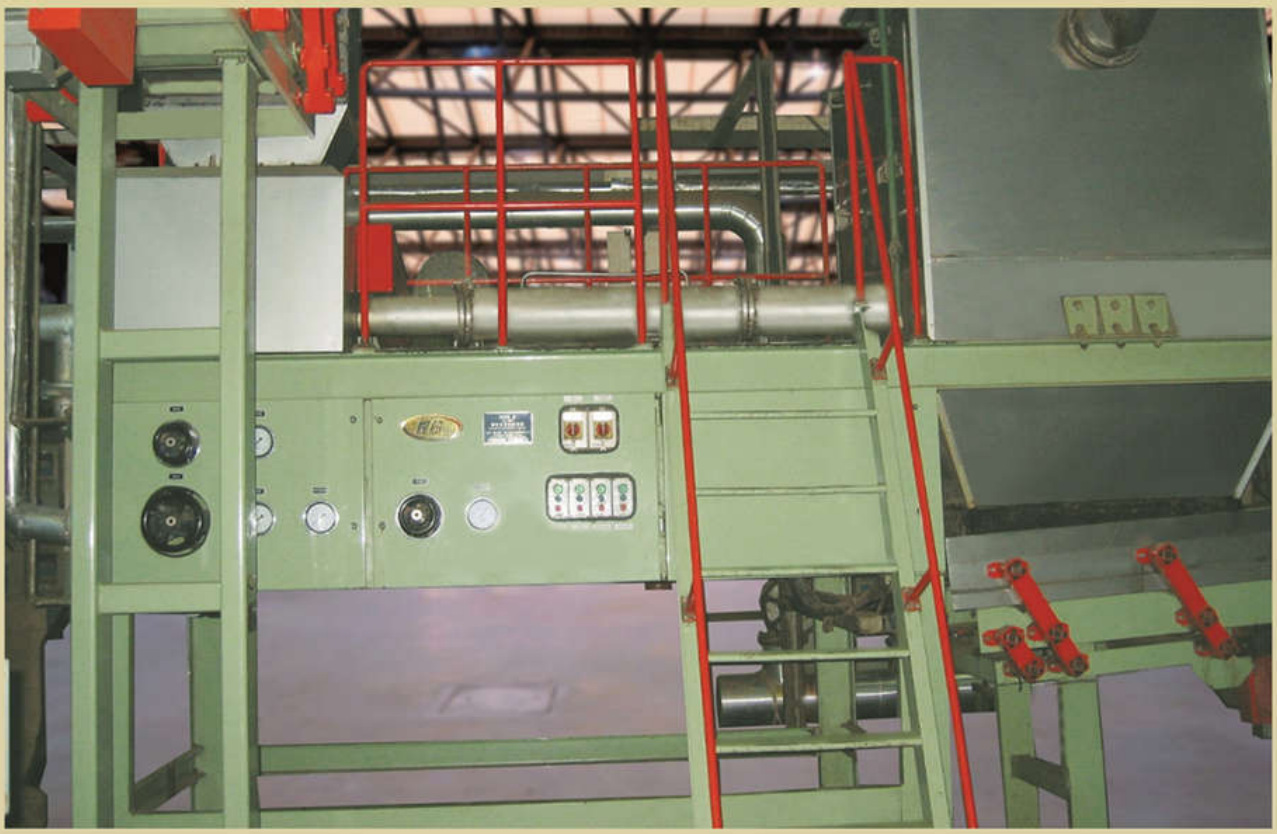
JET-TYPE CUT-STEM CONDITIONING PLANT

Application

The jet-type cut-stem conditioning plant is mainly used for increasing temperature and moisture of cut-stem to improve the quality and filling power.

Features and specifications

- Less area occupied and energy consumption.
- Compact structure designed with good cut-stem expansion effect.
- Feeding moisture content: 35~38%
- Rated capacity: 375~2000 kg/h
- Moisture content increased: 1~2%
- Discharge temperature:≥60℃



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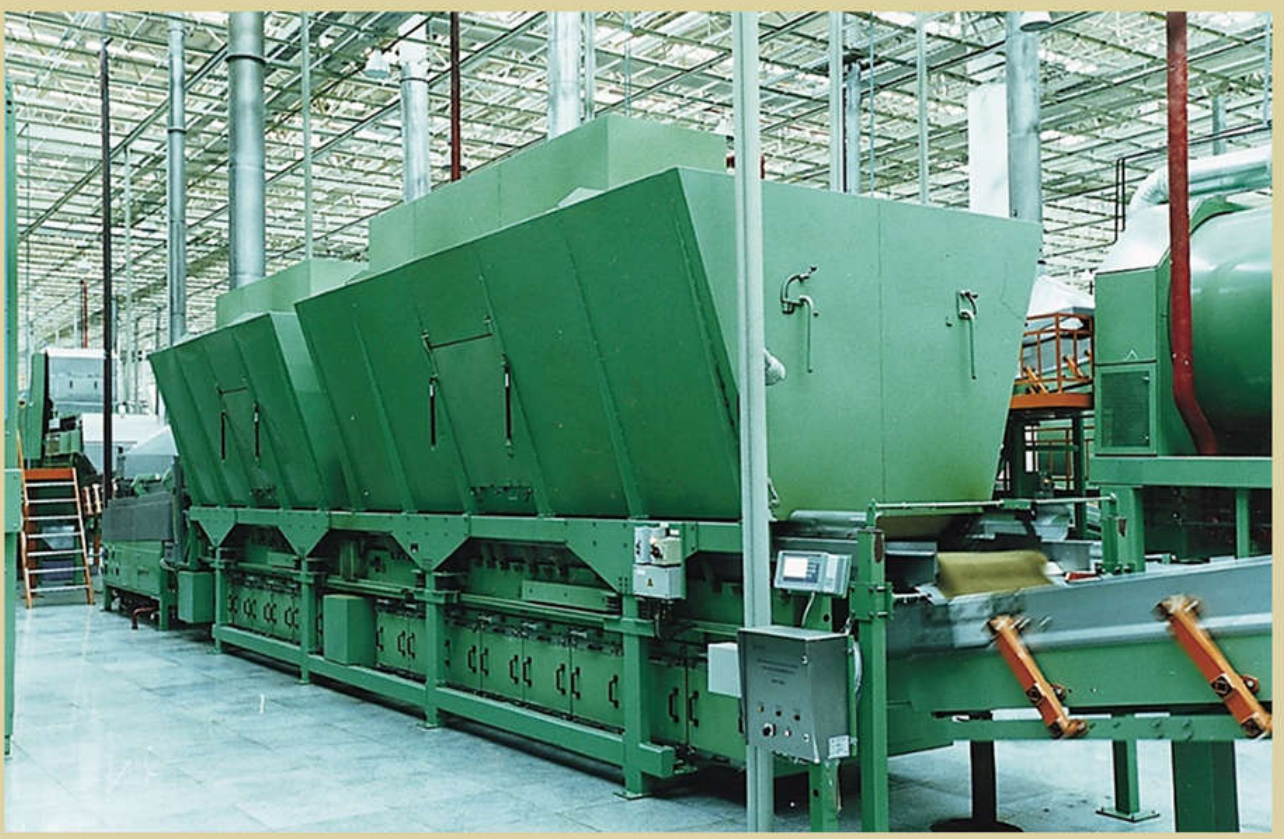
CUT-STEM FLUIDIZED BED DRIER

Application

The cut-stem fluidized bed drier is used in the cut-stem processing sub-line for purpose of achieving online expansion, drying and shape-forming of cut-stem.

Features and specifications

- Even moisture control with fluctuation less than 1% along the material flow direction.
- Optimized design on air even distributing device.
- Air recycle for less energy consumption.
- Rated capacity: 1500 ~ 2000 kg/h
- Filing power: ≥6.5 cm^3 /g (for premium cut-stem)



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CUT-TOBACCO FLUIDIZED BED COOLER

Application

The cut-tobacco fluidized bed cooler is used in cut-lamina processing sub-line or blended cut-tobacco processing sub-line for quick cooling, curling and shape forming of dried cut-lamina or blended cut-tobacco to increase the filling power.

Features and specifications

- Even cooling effect on cut-lamina or blended cut-tobaccos along both the material flow direction and its sectional direction.
- Improved filling power of cut-tobacco after cooling.
- Less degradation.
- Rated capacity: 800 ~ 6400 kg/h



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CUT-STEM CLASSIFIER

Application

The cut-stem classifier is used in the primary processing line for classifying the cut-stems after being dried. The cut-stems are evenly thrown into a classifying chamber via a thrower. Under air lift force, the qualified cut-stems will be separated from scraps, dust and uncut stems, and discharged from an airlock to downstream equipment.

Features and specifications

- Effective width of classifying chamber: 500~1200 mm
- Rated capacity: 750~2000 kg/h



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BURLEY TOASTER

Application

The Burley toaster is used to dry the cased Burley tobaccos and remove excessive moisture content through consecutive processes of drying, cooling and reordering. During the process, the greenish odor and ammonia are evaporated along with exhausted vapors and a series chemistry reactions taken place in Burley tobaccos under a certain environment of temperature and humidity, which improves the quality of tobacco.



CSSC Primary Processing Line

Features and specifications

- With proper structure, concise and nice appearance, low energy consumption, high degree of automation, safe and reliable control, and good drying effect.
- Suitable control on hot air temperature and ambient moisture during drying process improves the taste and cigarette quality.
- Adopt advanced manufacturing and control technology to ensure product quality.
- Rated capacity: 400~1500 kg/h
- Feeding height: 2190mm
- Discharge height: 1216mm
- Conveying mesh size: φ3mm
- Discharge MC: 14~18%
- Discharge temperature: 50~65℃

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FLAVORING CYLINDER

Application

The flavoring cylinder is used in Burley tobacco processing sub-line, stem processing sub-line and blended cut-tobacco processing sub-line for top flavoring of Burley tobacco lamina, cut-stem and blended cut-tobacco, which can improve taste and flavor of cigarette, so as to improve cigarette quality and thus meet the technological requirement of tobacco primary processing.



CSSC Primary Processing Line

Features and specifications

- Multiple cylinder drive modes available: wheel friction drive (for cylinder diameter φ800 ~ φ1250), gear ring drive (for cylinder diameter φ1450 ~ φ2750) and 4 support wheel direct drive.
- Cylinder jacking-up device available for protecting support roller in idle time.
- Three types of screen meshes available for rear chamber top circulating air filter: pan mesh, rotary mesh drum, circulating mesh apron.
- Lighting lamp and glass observation window set at the rear chamber for convenient maintenance.
- Service cube with clear indication of key valves, fluid direction and function.
- Flavoring device with accurate fluid flow detect and control components.
- Real time weighing on flavoring tank and flavoring rate amendment technology to realize precise control on the instant and accumulated flavoring accuracy.
- Evenly flavoring with high accuracy.
- Flavor verification system can effectively avoid error flavoring.
- Rated capacity: 800 ~ 16000 kg/h (Calculation based on MC at 12%)
- Flavoring ratio: 0.25% ~ 1%
- Total flavoring accuracy: ≤0.5%

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FOREIGN MATTER SORTER

Application

The foreign matter sorter is mainly used in primary processing line or tobacco threshing & redrying line to remove various foreign matters mixed in tobaccos such as jute strings, plastic film, plastics, feathers, papers, molded tobacco leaves, etc. to improve the purity of tobaccos.



CSSC Primary Processing Line

Features and specifications

- Image recognition technology to distinguish tobaccos and foreign matters.
- High-speed conveyor with automatic real-time belt off-track supervising and correcting function to ensure stable and reliable running.
- Embedded FPGA+DSP image processing system to ensure real-time response.
- Combination of window cleaning air and cyclone cleaning air to ensure cleaning of both the glass window and return conveyor belt.
- Twin air conditioner with separated cooling control to provide good environment for operation of optical and electronic devices.
- Stable and reliable high-bright LED with over 30000 stable working hours.
- Patented self-luminous background technology fully eliminates the image shadow.
- CCD linear array special camera to get the vivid and natural image with resolution to 0.36mm.
- Stable optical system for over one month image recipe unchanged.
- Image recipe intelligent learning function.
- Precisely foreign matter rejecting spot control within range of 10mm with error rejecting rate ≤0.5%. High-speed and large volume rejecting valve which can blow off big size foreign matters.
- Stable performance, high rejecting rate and convenient operation.
- Rated capacity: 3000~ 12000 kg/h
- Conveyor belt speed: 5~7 m/s
- Image resolution: 0.36 mm
- Comprehensive foreign matters rejecting rate:≥90%

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CASING KITCHEN

Application

The casing kitchen is used for preparing, storing, conveying and field applying the casing and flavoring liquid as per process requirement for processing the lamina, stem, Burley tobacco and blended cut-tobaccos.



CSSC Primary Processing Line

Features and specifications

- Automatically prepare, store, cook, stir and level check of various casing and flavoring liquid.
- Precisely control on the adding weight of each raw material as per recipe formula.
- Automatically conveying prepared casing and flavoring liquid to different field application point.
- Auto control on the raw material preparation check, scheduling, storing and conveying as per recipe formula.
- Casing liquid processing capacity:≥3000 kg/h
- Flavoring liquid processing capacity:≥1500 kg/h
- Raw materials blending error:≤1%
- Hot water temperature for preparation and cleaning: 40~100℃, allowance: ±3
- Liquid temperature of cooking tank: 40~100℃, allowance: ±5℃
- Liquid temperature of preparation tank: 40~100℃, allowance: ±5
- Storage volume of tank with heating: 300~1500L
- Storage volume of normal tank: 100~1500L

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SILO

Application

The silo is used in primary processing line or tobacco threshing and redrying line for storing and blending of various tobacco materials.





CSSC Primary Processing Line

Features and specifications

- Silos with multiple working modes such as single in single out, single in double out, double in double out as well as silos with different structures such as single or double deck, tail to tail, nose to nose, big span are available for different process applications. Ultra wide silos (width of silo can be up to 6000mm) are designed for big volume tobacco blending recipe applications.
- A movable door with safety switch at front end of silo for equipment maintenance and cleaning.
- The access door on the rear end of silo convenient to observe the material inside.
- Push and pull design on the protective cover of the doffer drive chain for convenient maintenance.
- Silos with automatic seal structure available to effectively keep the temperature and moisture content of tobaccos in case of long time storage required.
- Lubrication free bottom belt drive chain available.
- Individual drive on doffer achievable.
- Stable structure, full safety precaution and convenient to maintenance.
- Bulking width: 800～6000 mm
- Bulking height: 800~2000 mm

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FEEDER

Application

The feeder is used in tobacco processing line for feeding tobaccos to downstream equipment in stable mode. It can work with the weighing conveyor or metering chute to control the material conveying at an even and constant flow rate.



CSSC Primary Processing Line

Features and specifications

- Steep conveyor chain with side nylon guide roller to reduce running noise level.
- Frame of tobacco box is wholly welding structure, which features nice appearance and high stability.
- Fan shaped glass window for setting material level detect photocells with large adjustable range.
- Direct-coupling main drive gear motor with compact structure.
- On-ground drawer type dust collect pan convenient for cleaning.
- Horizontal conveying sections set on both the top and bottom part of steep conveyor to reduce the return adhesive material and leakage.
- Width of conveying belt: 600～3500 mm.
- Rated capacity: 300～18000 kg/h (Calculation based on MC at 12%).

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WEIGHING CONVEYOR

Application

The weighing conveyor is widely used in primary processing line and threshing & redrying line to acquire material weight in real time or to precisely control the material flow with high accuracy, good stability and convenient maintenance.



CSSC Primary Processing Line

Features and specifications

- Direct weighing with 4 load cells and dual support rollers to replace the lever converting mechanism for getting direct and reliable load signal.
- Cantilever belt support structure enables the belt be rapidly replaced within 15 minutes.
- An unique tension device to keep the belt tension force constant.
- Integrated monitoring on multiple weighing conveyors.
- Conveyor belt width can be up to 3,600mm for massive material flow scenario.
- Window set on the side wall for convenient dismantle and cleaning roller.
- Load cells set on both sides of machine frame for convenient sensor adjusting and replacing.
- Rated capacity, kg/h: 300 ~ 18000
- Accuracy: ≤0.5% (For control type weighing conveyor)
  ≤1% (For proportioning type weighing conveyor)

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VIBRATORY (SIEVING) CONVEYOR

Application

The vibratory (sieving) conveyor is widely used in primary processing line and threshing and redrying line for conveying (or sieving) various tobacco materials.

Features and specifications

- Multiple structures like rocking arm, spring board and self-oscillation available.
- Full safety precaution, stable running and lower noise level.
- Cone sleeve expansion connection for quick dismantle of the drive and passive pulley when necessary.
- Hang mounted drive unit convenient for maintenance and lubrication.
- Cleaning door set at the tail of vibratory trough for cleaning convenience.
- Shock absorbing spring set between the support leg and frame of bigger vibratory conveyor.
- Rated capacity: 100 ~ 12000 kg/h





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BELT CONVEYOR

Application

The belt conveyor is widely used in primary processing line and threshing and redrying line for conveying various materials. It can realize multiple types of conveying such as horizontal conveying, inclined conveying, curve conveying and reversible conveying.



CSSC Primary Processing Line

Features and specifications

- Optimized structure of edge band and baffle for less material leak.
- Quick-disassembling structure design on drive roller, passive roller, support roller and brush roller for less maintenance work required.
- Dust collect tray set at the bottom of conveyor.
- Exhaust duct interface set on the hood of discharge end to contain dust.
- Belting materials contacting tobaccos are of food grade.
- Multiple structure conveyors are available for options such as DPH, DUC, DUL, DPM.
- Less material leak, convenient maintenance and elegant appearance.
- Rated throughput capacity: Up to 16000 kg/h
- Incline angle of belt conveyor: 0°~25°
- Central distance between the drive roller and passive roller: 2~40 m
- Width of belt: 400～1600 mm

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LIFTER

Application

The lifter is used to lift the material up or down to a desired position for transferring the material to the upstream or downstream equipment.

Features and specifications

- Travel switches are set on the vertical mast to ensure the lifting carrier run in working range.
- The lifter drive motor with brake.
- Bumpers are set both at the top frame and bottom ground to catch the lifting carrier accidently running out of limit range.
- Lifting chain break detection device and over-speed brake function set for safety precaution.
- With a maintenance platform at the top.
- Maximum pay load: 500 kg
- Lifting speed: 24/30 m/min (full load/without load)

CSSC Primary Processing Line



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FILTER ROD PNEUMATIC CONVEYING AND DISTRIBUTING SYSTEM

Application

The filter rod pneumatic conveying and distributing system is used to automatically feed filter rods to cigarette makers of medium or high capacity.

Features and specifications

- The system consists of tray unloader, filter rod shooter, filter rod feeder, filter rod receiver, interface device, conveying pipeline, etc. It can work with filter rod reservoir system or just alone.
- Filter rod shooting pipe switch can quickly change the interface among the shooting and receiving pipes for flexible change of filter rod with different specifications.
- Modular design on filter rod shooter and receiver with compact structure and low energy consumption.
- Applicable to multiple types of filters with different sizes and materials.
- Auto detect and reject unqualified filter rods.
- Rated capacity of tray unloader: 4 trays/min
- Rated capacity of filter rod shooter: 700~1700 pcs/min/outlet
- Rated capacity of filter rod receiver: 700~1700 pcs/min/outlet





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CUT-TOBACCO PNEUMATIC FEEDER

Application

The cut-tobacco pneumatic feeder is used to evenly feed cut-tobaccos to cigarette makers via air lift force and conveying pipes. The cut-tobaccos separate with the dusty air at the airlock and enter the cigarette maker while the dusty air low filtered by a dust collector before being exhausted to outdoor.



CSSC Primary Processing Line

Features and specifications

- Gently conveying cut-tobaccos into the feeding chamber via belt conveyor.
- Free of mechanic stirring and rolling inside the feeding chamber for less degradation.
- Compact structure and stable running.
- Separating foreign matters via gravity force.
- Auto cut-tobacco feeding pipeline switch enables flexible production schedule.
- Separated parameter adjustment on each cut-tobacco outlet.

  a) Air lift velocity continuously adjustable within 10~22m/s.

  b) Cut-tobacco to air ratio adjustable to realize massive feeding at low air volume.

  c) Precise control on the air volume and air pressure in each feeding pipe line to get the best air lift velocity.
- User friendly HMI.
- Rated feeding capacity: ≥800 kg/h (for each outlet)
- Outlet quantity: 1~6 (Customizable)
- Cut-tobaccos degradation: ≤2.5% (for conveying distance less than 100m)
- Moisture loss: ≤0.5% (for conveying distance less than 100m)

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CUT-TOBACCO BOX FILLING SYSTEM

Application

The cut-tobacco box filling system is used to automatically fill the finished cut-tobaccos into carton box for convenient material handling subsequently.

Features and specifications

- The system mainly consists of a carton box unfolding machine, bag inserting machine, box filling machine, bag sealing machine, strapping machine, labeling machine, full box stacker, etc.
- Applicable to multiple types of carton boxes with different specifications.
- Easy to connect with automated material handling system.
- Box filling capacity: Customizable with the size of box and feeding material flow rate.
- Stacking capacity: Up to 50 boxes/h
- Palletizing/depalletizing capacity: 120 boxes/h





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PALLETIZER/DE-PALLETIZER

Application

The palletizer/de-palletizer is used to palletize finished cigarette cases on a pallet or dismantle a full cigarette case pallet into separated cases for different material handling purpose.

Features and specifications

- Precise pallet positioning device.
- Multiple palletizing patterns available like single column, double column, double layer, triple layer, etc.
- Applicable to carton boxed materials and pallets with different specifications.
- Full safety precautions.
- Maintenance platform set on the top of machine.
- Empty pallet stacking speed: 25~50 stacks/h
- De-palletizing speed: 120 pallets/h
- Palletizing speed: 120 pallets/h



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