



CARD LC363 / LC361



Quality at its Best

“LC363/361 Card with Highest Active Carding Area”

“Well carded is half spun” Carding is a machine which shapes up the final quality level of the yarn to be produced. LC363 / 361 is a machine with 1mtrs working width and meets the demand of the modern spinners.





SALIENT FEATURES OF CARD LC363 / LC361

Chute LA7/6

- Pressure regulated chute for uniform feeding
- Optimized spring load arrangement for chute feed control plate to maintain uniform tuft size.
- Feed weight control through closed loop levelling system.

Feed & Licker-In zone

- Multi level plate with measuring arrangement
- Unidirectional feed / conventional feed arrangement.
- Triple / Single Licker-in arrangement.
- Special profiled arcual combing segment with waste extraction metal knife.





Cylinder & Flat zone

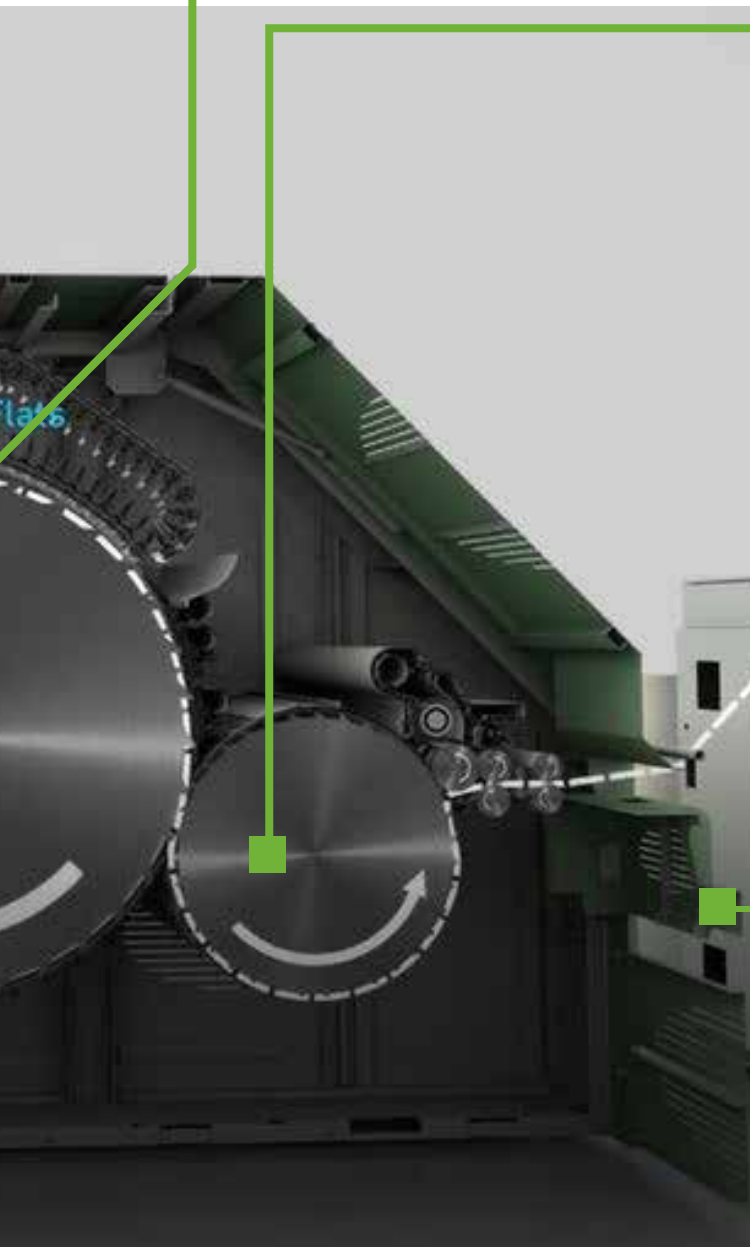
- Highest Active Carding Area - REAL Carding action only through movable flats
- Aluminium alloy flats with highest no.of working flats (36 nos.)
- Optimal air extraction arrangement in Pre & Post carding area with modular construction
- Replacable type polymer end connector
- Inverter controlled drive for cylinder
- Inbuilt monitoring of flat movement
- Single side suction arrangement for synthetic application

Doffer & Delivery zone

- Flow metal web doffing for cotton process
- High speed take up conveyor web doffing arrangement for OE & Synthetic process
- Linear 24" & 40" x 48" coiler with high speed can changer
Options
- CDS (Card with drafting system)
- Bigger can size of 48" x 48" with Fix Fil can changer

Quality

- Online Quality Monitoring System (QMS)
- Feed weight control - Automatic
- Thick spot monitoring with alarm
- Multiple sensing at feed zone to regulate short term levelling





CHUTE LA 7/6

- Optimized spring loaded arrangement for chute feed control plate to maintain uniform tuft size
- Spiral pin type beater ensures better opening.
- Diaphragm less pressure transducer facilitates better batt compacting at the bottom chamber
- Integrated ventilator ensures air circulation which increases the material compactness
- Feed weight control through closed loop auto levelling system
- Chute is designed to achieve higher production by increasing the working width to 1200mm
- Split type perforated / plain sheet to control the material flow at top chamber
- Pressure regulated chute ensures active compression on the fibre material resulting in optimal matt structure and lesser feed variation
- The saw tooth profiled inverter controlled feed roller with unidirectional feeding arrangement ensures better grip of the feed material
- In the event of any mishap, provision has been given in the display to reverse the direction of the feed roller to drain the material from the bottom chamber
- For fine and super fine counts minimum feed weight of 300 gms/mtrs can be achieved



Auto Leveller Arrangement

The pre-levelling of material is done in chute through pressure transducer by altering the chute feed roller speed.

- The feed thickness is measured by sensor and accordingly adjusts the material feed roller speed through regulating arrangement to maintain uniformity
- Delivery sensor measures the variation in the output sliver and suitable correction will be given to the system for necessary auto adjustment in the feed roller speed.



Feed Thickness Measuring System



Five Level Sensor Arrangement



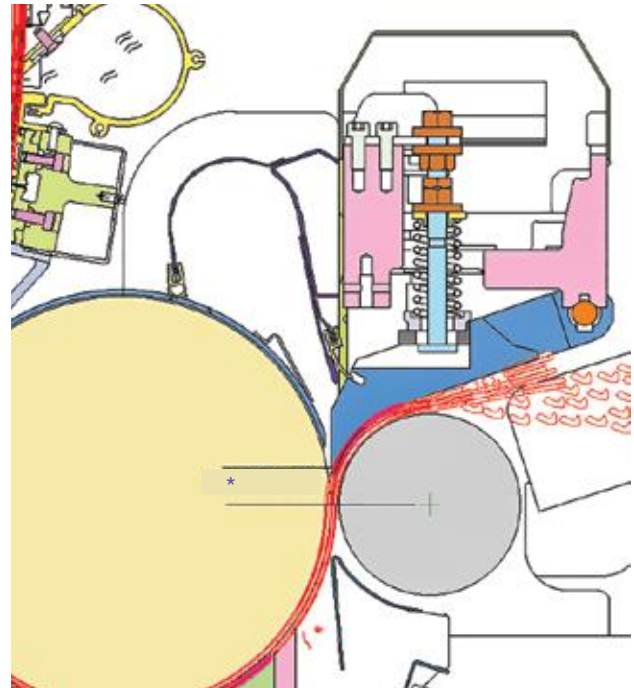
Feed Thickness Measuring System

Feed Zone

The material feeding from feed roller to licker-in is through Unidirectional feeding system which is vital to avoid fibre rupture. The feed plate is fixed over feed roller and the material is sensed at five places to sense the variation across the width.

Variable Nipping Distance

Fibre handling in licker-in zone decides the gentle fibre opening. In order to optimize, the nipping distance can be adjusted depending on the raw material fibre length for better opening.



*Unidirectional feed with flexible nipping distance

Conventional feed for Fine and Super fine process

- Multiple feed plate arrangement to measure variations across the width to regulate feed material
- Feed plate is fixed below the feed control roller
- The separate gripper feed roller with feed plate arrangement helps for better gripping of the material by lickerin
- Long nose feed plate to handle longer fibres for gentle opening



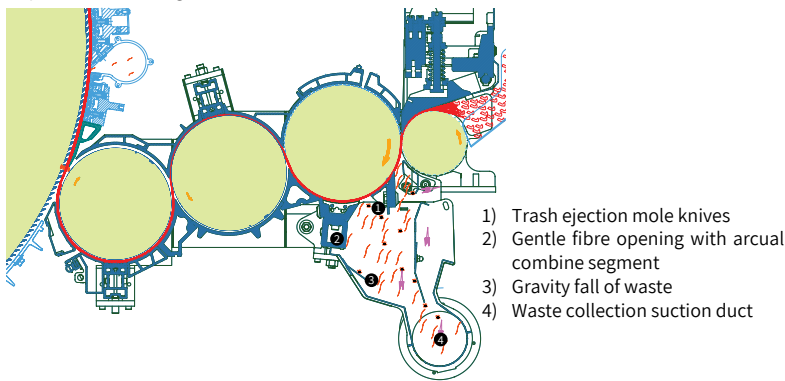


Lesser Lint Ratio

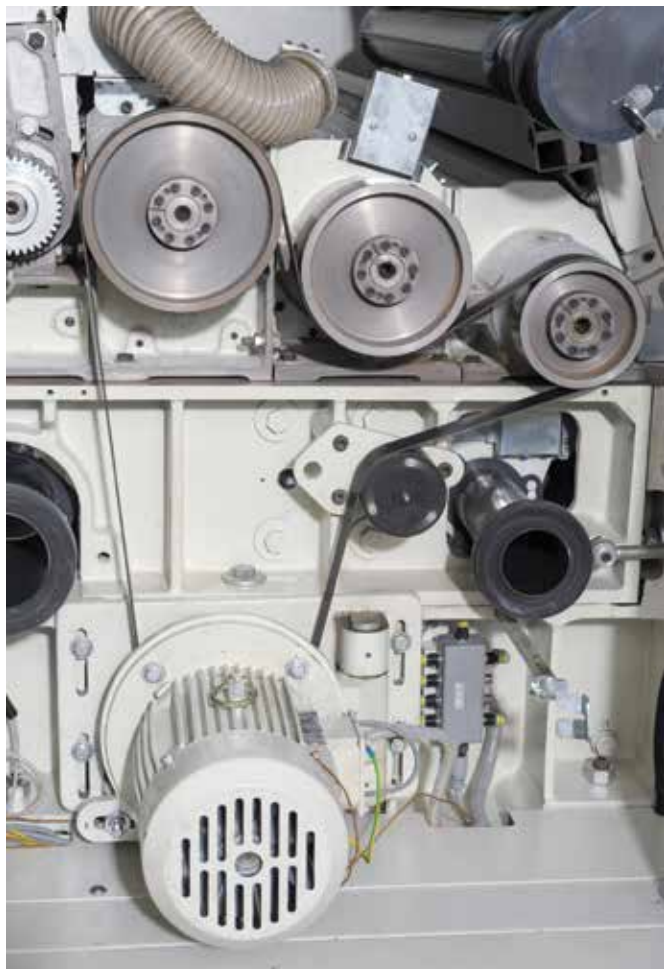
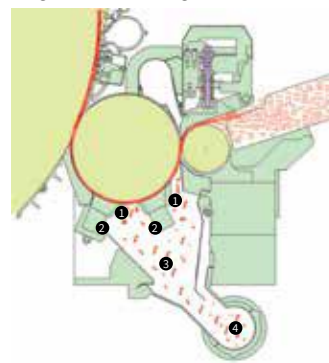
- Trash ejection knives positioned below lickerin for effective removal of waste
- The quality of waste is high and the Lint loss is very less due to gravity fall & gentle opening of the fibre in the lickerin zone.
- The quality of waste can be adjusted and the trash percentage can be varied depending on the raw material used.
- The suction duct is positioned below the lickerin to collect the waste which falls by gravity.

Higher yarn realization-Raw material saving upto 4.5 lakhs/year
 Upto 1% lint loss saving
 * Assuming production rate of 55kg/hr at raw material cost of Rs.105/kg

Triple Lickerin Arrangement



Single Lickerin Arrangement



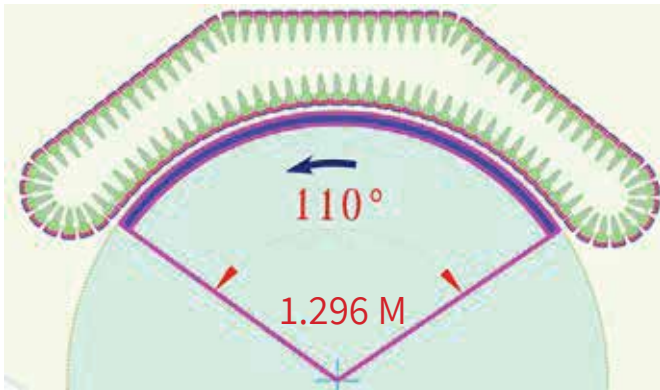
Licker-In Zone

- The licker-in configuration of LC363/361 helps in gentle opening and also prevents fibre rupture by effective clamping of fibre batt for better opening and reduction in tuft size which ensures minimum load to the main carding zone.
- Card LC363/361 comes with the option of triple licker-in and Single licker-in arrangement
- In triple licker-in the 1st licker-in has double knife and one Arcual combing segment for intensive cleaning and pre opening. 2nd and 3rd Licker-in has a replaceable combing strip for further gentle opening.
- The triple licker-in system has saw toothed wire profile with gradual increase of PPSI from 1st to 3rd licker-in. A separate motor drives the Licker-in rollers and different change pulleys combinations are provided to optimize the surface speed of the rollers, based on the process requirement.
- In single licker-in arrangement, two unique specially profiled arcual combing segments are positioned below licker-in where the wire points are aligned towards the line of the Licker-in wire



The REAL Carding Area - ACTIVE FLAT INDEX (AFI)

The Active flat index is a measure of actual carding area in the machine. The real carding action takes place between cylinder clothing and revolving flats. In Card LC363/ LC361, 110 degrees of cylinder surface is occupied by the revolving flats (36 working flats out of 97 total flats) which in linear terms works out to 1.296 mtrs over the carding width of 1 mtr. This helps to achieve better sliver quality



Flats with Replaceable Polymer End Connector

The machine has the unique feature of Replaceable Polymer end connector to get accurate level of heel & toe. Provision is given for end milling in Replaceable Polymer End Connector to get precise cylinder to flats setting.



Flat Construction

The flats is mounted on a light weight aluminium alloy profile and ensured with minimum variation throughout the length of the flats negating the impact of thermal expansion. Inbuilt online monitoring of flat movement to ensure the alignment of flats with cylinder axis



Pre & Post Carding Zone

The stationary flats and suction module are independent with modular construction for achieving an accurate setting throughout the width of the card.

Maximum of 10 Flats in the pre carding zone and 6 Flats in the post carding zone can be accommodated depending on the raw material processed.

Settings for these elements can be varied by replacing the shims of different thickness.

Additionally, 2 knife arrangement option is also available in pre and post carding zone for the application where feed material with harder trash particles

SFL Options - 6F + 3K / 8F + 2K

SFD Options - 4F + 2K / 6F + 1K



Flats Cleaning Arrangement

The flats to be presented clean for every cycle which is done by a unique aluminium extruded oscillating stripper with stationary comb arrangement. Additional proven Philipson brush arrangement in the front ensure effective cleaning of flats.

Linear Can Changer -- Quality Ensured with Perfect Coiling

Linear can changer enhances the machine efficiency by 1% through high speed can changer mechanism with positive sliver cutter arrangement. This eliminates sliver variation occur due to reduction in delivery speed during can change in other conventional can changes and contributes to the increase in production at the same run time of the machine

Production increase of 4500 kg/year*
*Assuming 22.5 hrs run time with production rate of 55kg/hr





On-line Quality Monitoring System (QMS)

QMS is developed to monitor instant sliver quality with machine stop control. Trend charts are available to study the consistency level in continuous process. Maximum allowed quality levels & stop control ON/OFF can be set in the display. Correction factor can be given to match ONLINE & OFFLINE values. The parameters measured and monitored are:

- Number of Thick Places & U% value
- 1M, 5M, 10M & 100M CV Values
- Chute operating pressure
- Graphical representation
- Maximum allowed set limit can be specified for CV%, Thick & U% values



Delivery Zone

Effective web transfer is ensured by saw tooth take-off roller and a pair of smooth web detaching delivery rollers. The web is collected by a pair of crush rollers and the condensed web will pass through a pair of scanning rollers. Advanced timing belt drive ensures the machine's quiet running even at higher delivery speed. Clearer brush located above the redirecting roller strips the fiber from the redirecting roller during initial web piecing. For Synthetic, blends & open end applications the web collection is through Conveyor Belt Arrangement.





Waste Collection System

- The WCS is designed with specially profiled FRP duct (Fibre Reinforced Plastic) for continuous collection of waste
- The main purpose is to avoid fiber accumulation in the ducts as it may affect the suction pressure. All the individual points are routed to the central ducts ensuring user friendliness and cleanliness of the card.
- Licker-in waste and Flats Waste can be collected either separately or can be combined with the central duct.
- The card can be provided with different Waste collection systems combinations like
- All together Upward.
- Licker-in separate & others together-Upward
- Flats separate & others together-Upwards
- All together Downwards.
- Licker-in separate & others together-Downwards Flats separate & others together-Downwards
- Manual Waste Collection is also possible through Filter Box arrangement



Energy Saving Electrical System

The card LC363/361 has been designed and developed for lesser energy consumption. The dynamically balanced carding elements and Energy efficient drives help in achieving lesser power.

ELECTRICAL PANEL WITH TOUCH SCREEN DISPLAY

- The user friendly electrical panel with touch screen display can be accessed easily. Since the coiler is driven separately, Sliver draft can be set in Display itself. The pressure in the chute chamber is displayed in the panel and can be varied to meet the requirement.
- Simple to access. All the control, monitoring and service elements are housed inside the panel. The display system provides necessary information for user to run the machine and additional facilities like programmable individual double lap, Fault history etc., are available.



Card with Flexible options for MMF Process

The card is equipped with stainless steel ducts for material transport and in chute top and bottom chamber for free flow of material. The following flexibility is also available to suit Man made fibre process

- Variable nipping distance for gentle fibre opening
- Interchangeable and addition of Pre & Post carding elements and Knife positions
- Specially coated coiler
- Unique wire profiles for effective carding action
- High speed take up Conveyor web doffing arrangement
- Single side suction arrangement

Continuous Feeding System

Based on card production rate material feed ventilator speed regulated to maintain consistent and uniform feed which results in better card working performance in terms of efficiency and CV% Based on regulation of feed ventilator speed single card can be run in the line with better working performance.



TECHNICAL DATA

Application range	: Cotton , Man-made and blends
Sliver Count Range	: 0.06 – 0.18 Ne
Total Draft	: 60 – 300
Feed Weight	: 300-800 g/m
Working Width	: 1000 mm
Can Size and Changer	: 40” x 48” / 24” x 48” Linear Can Changer
Waste Removal	: Automatic & Manual with Filter Box Waste Evacuation System
Auto levelling	: Both long term and short term as standard equipment
Total Flats	: 97
No. of working flats (REAL Carding)	: 36
Pre-Carding	: SFL 6F+3K
Post-Carding	: SFD 4F+2K
Compressed air requirement	: 0.7 Nm ³ / hr
Exhaust Air Requirement	: 1.1 m ³ / sec (All together) 1.2 m ³ / sec (Separate)
Total Installed Power	: 18.69 Kw (Triple Licker-in) 16.89 Kw (Single Licker-in)



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