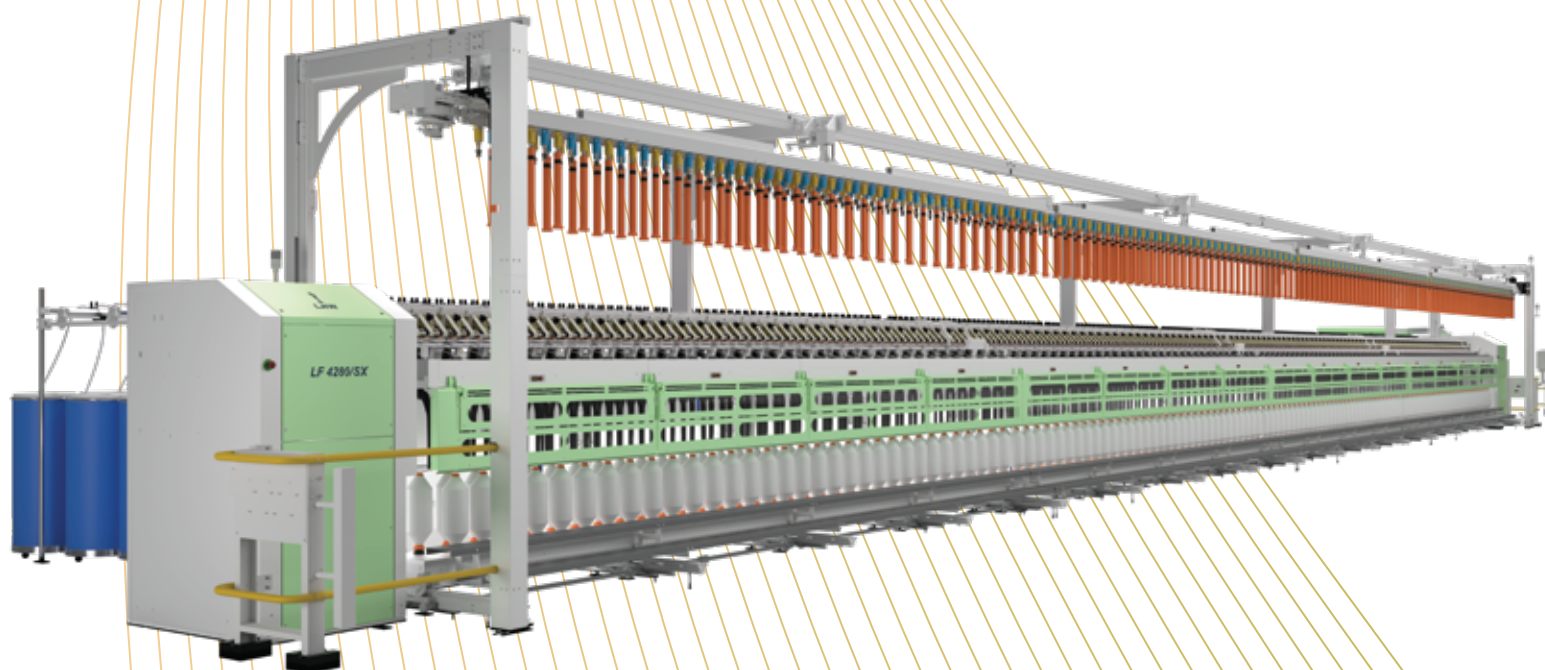


4S SUSTAINABLE
SMART SOLUTIONS FOR
SPINNING
SUCCESS



SPEED FRAME LF4280 SERIES



Versatile



LMW Speed Frame LF4280 Series with 280 spindles is incorporated with cutting edge technologies for high production and with automation of auto doffer and provision for Roving Transportation System (RTS).



**Highly
Efficient**

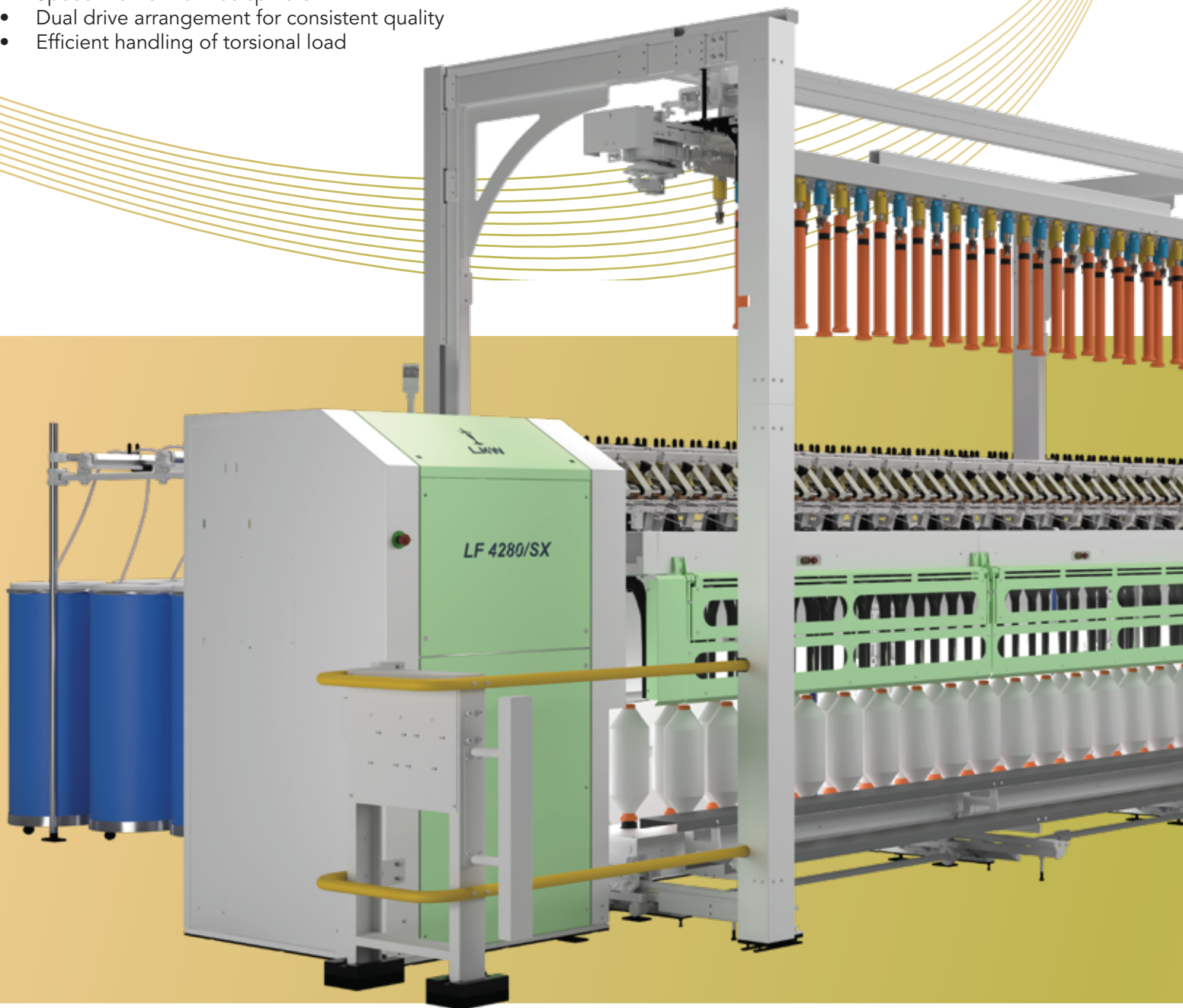
Specific Features

Smart Speed Frame with Complete Electronic Drives

- Four segment drive system
- Two Servo drive for drafting
- No change gears for draft & twist

Advanced Speed Frame

- Speed Frame with 280 spindle
- Dual drive arrangement for consistent quality
- Efficient handling of torsional load



Consistent Quality

- Automatic Roving Tension Controller (ATC)
- Minimum roving stretch
- Equal exhaust of sliver in cans

User Friendliness

- Bobbin tilting arrangement
- Detachable flyer arrangement
- Option of 4/5/6/8 row creel arrangement

Efficient Cleaning

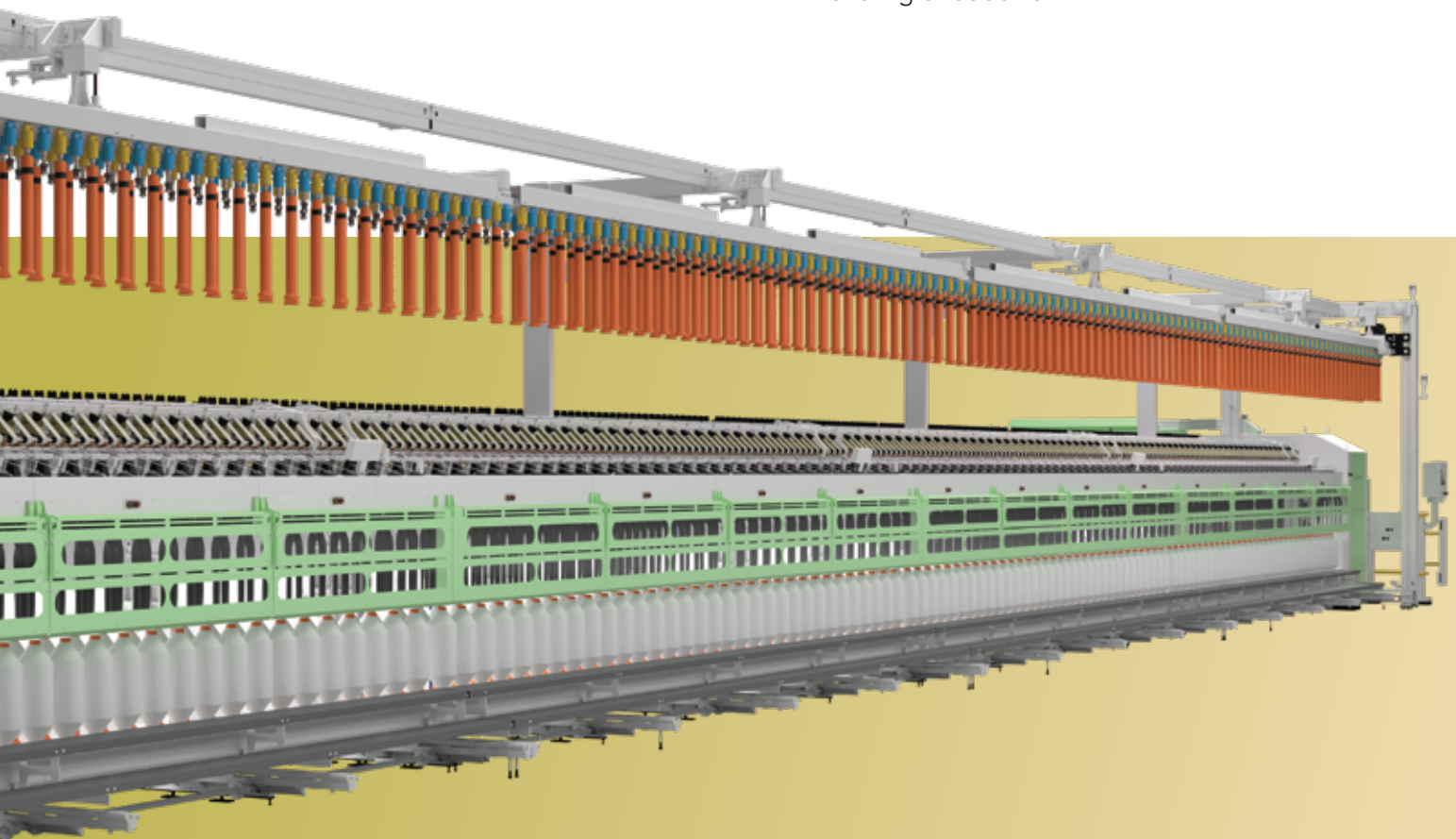
- "CQ" Constant air discharge duct for effective & uniform suction

Power Savings

- Without suction option to reduce pneumafil power

Automation

- Provision for Roving Transportation System (RTS)
- 50% Manpower saving
- Enhanced roving quality due to elimination of manual handling of bobbins.



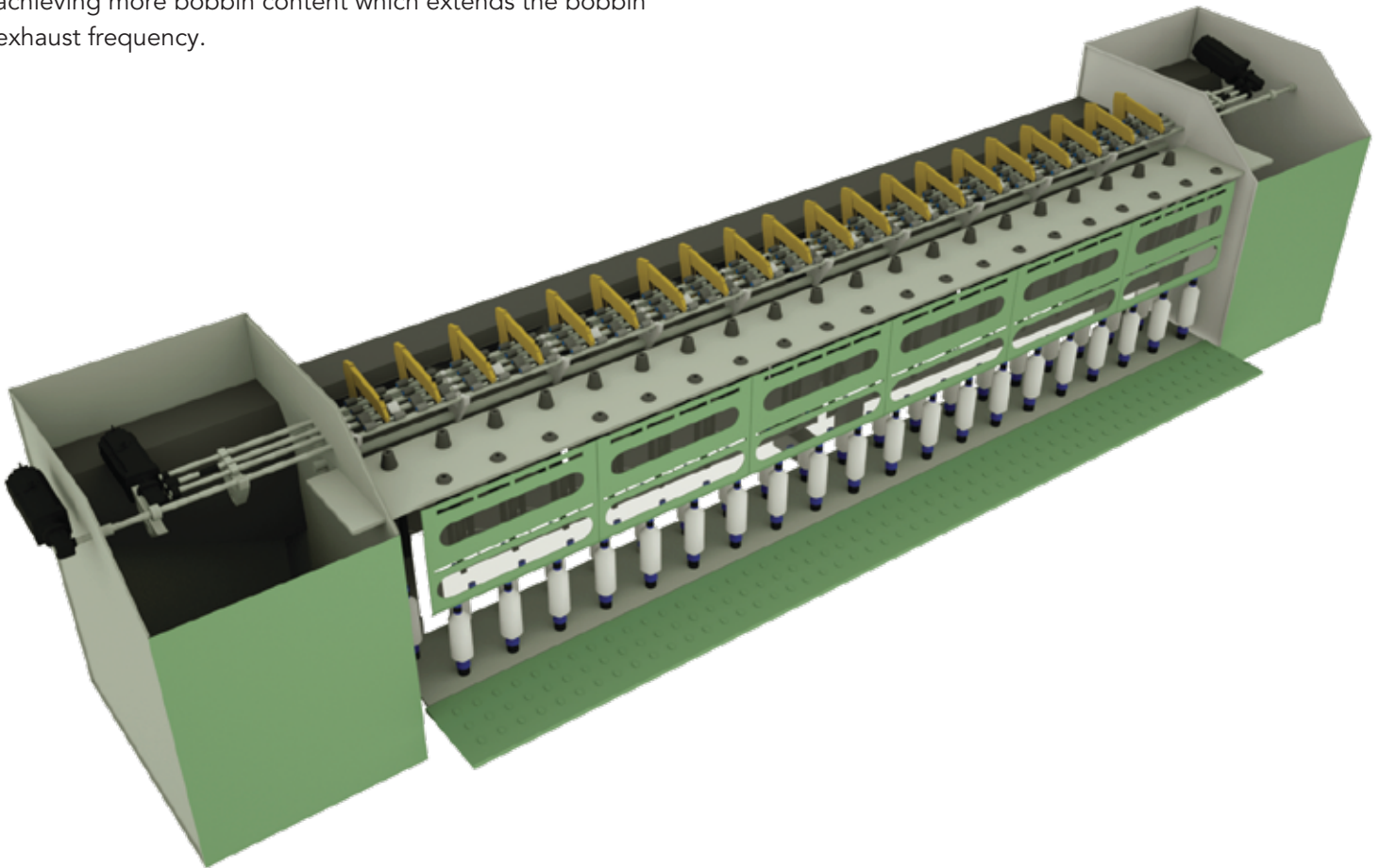
280 Spindles with Dual Drive Mechanism

A unique dual-drive mechanism enables all the 280 spindles to maintain uniform and consistent quality by eliminating the torsional effect on drafting rollers.

280 spindles eliminate the requirement of more number of machines in the mills, which reduces the capital investment on machines and H-Plant. Thus the operation cost will be competitively lower.

48mm dia bobbin and unique 224mm pitch helps in achieving more bobbin content which extends the bobbin exhaust frequency.

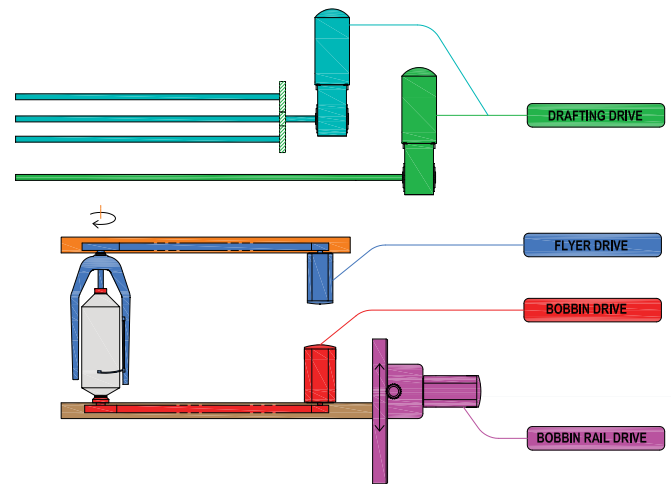
280 Spindles helps in less manpower, lower maintenance time and also helps in bringing down the operating costs considerably.



Premium Quality
Roving Delivered Consistently

Four Segment Drive System

- Drafting is driven by two servo motors
- Bobbin, bobbin rail and flyer are driven by inverter controlled induction motors
- All the drives of bobbin, bobbin rail, flyer and drafting are well synchronized to enhance machine functionality.
- Option available to switch off the last section in power saving mode
- Common drive architecture for bobbin and flyer motors simplifies maintenance and reduces spare inventory.



Flyer Drive

- Driven by inverter controlled motor
- A set of 40 flyers are driven by one motor through timing belt
- Precise control of speed throughout the bobbin build through adjustable speed curve
- Easy adjustment of timing belt tension – Maintenance Free
- Fully sealed top covers to prevent fluff entry



LF4280/A

Bobbin Drive

- Driven by inverter controlled motor
- A set of 40 bobbins are driven by one motor through timing belt
- Precise adjustment of speed with respect to bobbin building
- Simple drive with less number of components
- Easy adjustment of timing belt tension – Maintenance Free
- Totally enclosed drive system



LF4280/SX

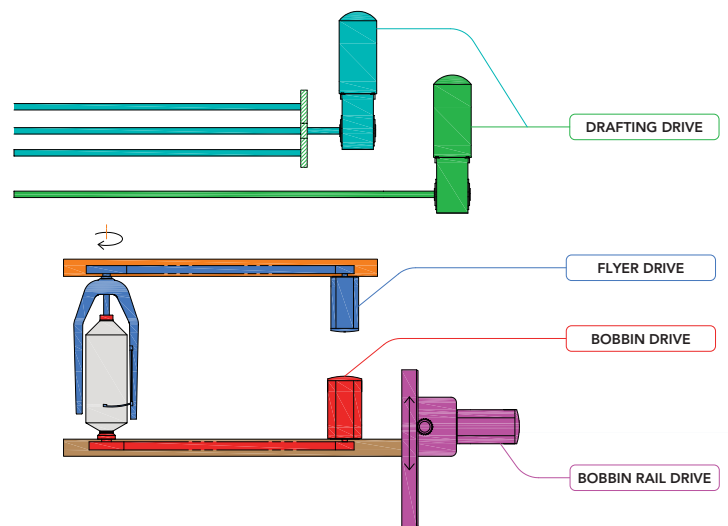
Bobbin Rail Drive

- The bobbin rail is driven by an inverter controlled motor with gear box through a rack and pinion arrangement
- Precise winding of bobbin ensures better package
- Smooth motion is ensured by guided bearing
- Adjustment of all bobbin building parameters through display – Bobbin angle, lift, coils per inch, etc.,

Drafting Drive

Well established and proven 3 over 3 or 4 over 4 double apron drafting system with servo drive ensures reliable drafting.

The drafting system is designed to process various types of fibers like Cotton, MMF, Blends, Linen Cotton blends, Modal, Lyocell, Acrylic etc, And ensures uniform nipping and better sliver guidance. Cradles are short, medium and long available to suit different fiber lengths.



The drive to drafting is totally electronic with

- One servo driving the front roller
- Second servo driving the rest of the fluted rollers, creel and positive cleaning device.

Main draft and twist change through display with no change gears except for break draft.

Bobbin / Flyer Safety System

Ensures machine stoppage if a bobbin is not properly seated in its position



Creel Arrangement

The machine is equipped with hexagonal rollers which will assist in gentle handling of sliver

- Optimal creel height and sliver path
- No sliver stretch and sliver wastage
- Optimal can layout with two creel sensors for improved operator efficiency due to lesser creel breakage attending time
- Easy creeling
- Improved machine efficiency
- Versatile creel options 4/5/6/8 creel rollers



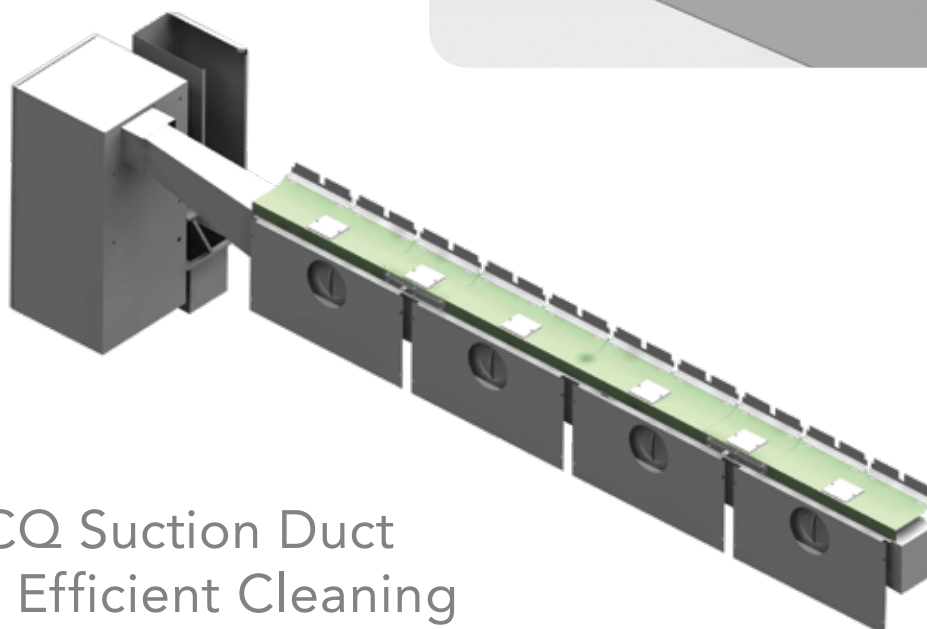
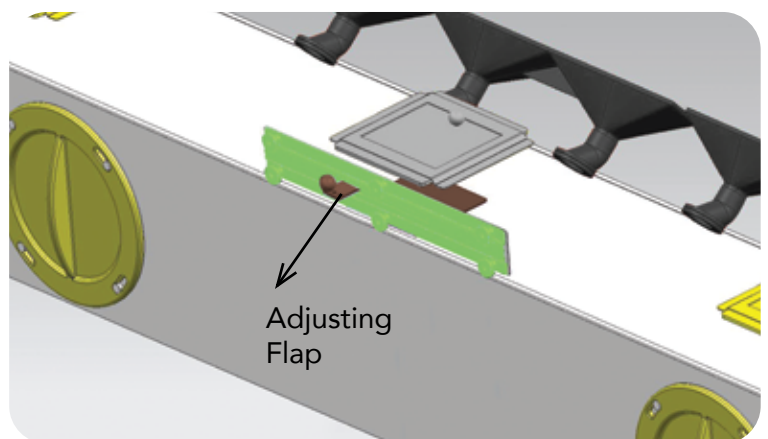
Benefits

- Easy removal and fixing of cans facilitate ease of operation for operators
- Sliver travelling distance is shorter which ensures gentle handling of slivers
- Sliver slugging or stretching are lesser which further reduces the generation of thin materials and enhances the betterment of fabric appearance after dyeing.

"CQ" Constant Air Discharge Duct

This innovative duct is for maintaining uniform and effective suction throughout the machine.

Intermediate flaps between bottom and top duct to adjust the required suction - to ensure uniform suction for nearest and farthest spindle



Patented CQ Suction Duct System for Efficient Cleaning

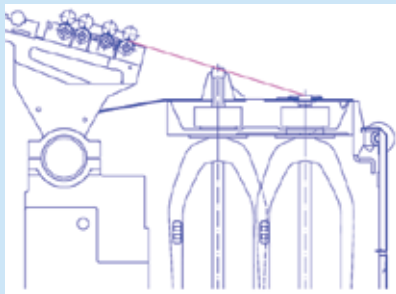
Automatic Roving Tension Controller (ATC)

Roving tension is maintained at an optimal level by means of automatic roving tension controllers operated on CCD principle and through the individual inverter controlled motors.

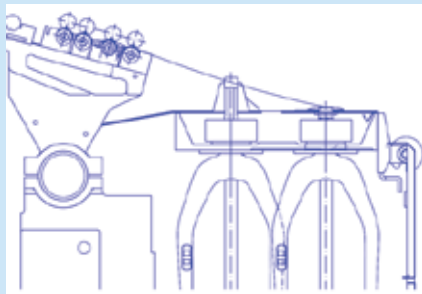
CCD Principle

Whenever the roving tension changes from set tension, the sensor senses and corrects the roving tension.

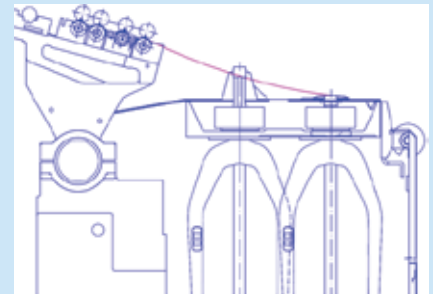
- Constant roving tension
- Length of roving in each bobbin between doffs is uniform (Less roving waste in Ring frame)
- Equal exhaust of sliver in cans (Less sliver waste)
- Roving stretch 0.3 % to 0.5 % (Better fabric appearance)



Tight Tension



Set Tension



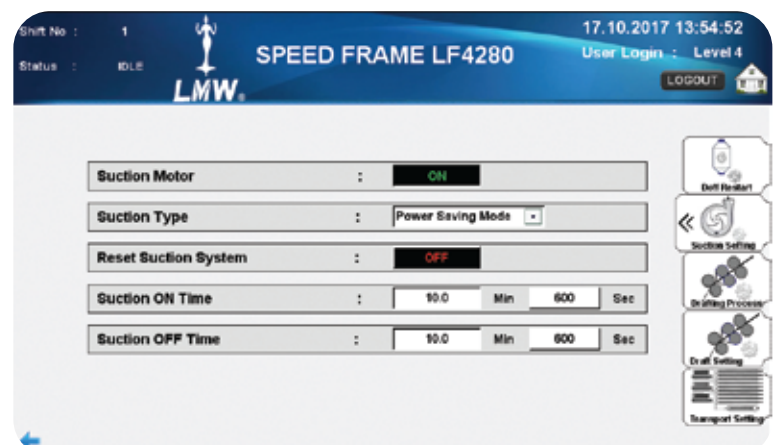
Loose Tension

Power Saving Suction System

The suction motor can be run in two modes:

- Continuous running mode
- Power saving mode

This helps the user to run suction motor continuously only when there is a requirement, i.e. while running carded material or any coarse count process the fly generation will be more where as while running combed finer counts or synthetic materials, there will be lesser fibre generations. In such cases we can run power saving mode by fixing regular interval timings for ON/OFF of the suction motor. Without suction option also available to save the pneumafil power.



Saving of approx. 4 to 5%



Semi Automatic Doffing System - Bobbin Tilting Mechanism

The machine is equipped with a simple individual bobbin tilting mechanism. When the rail moves down after doffing, a lifting mechanism makes individual bobbins to tilt forward. This tilting enables operator to take out the full bobbins easily.

Simple mechanism for easy doffing and provision of empty bobbin storage leads to lesser downtime during manual doffing



Detachable Flyer

To remove individual bobbins, either for sample testing or due to bobbin breakage

- The flyer center spindle can be removed individually
- After removing the bobbin the spindle can be refitted

Avoids fluff liberation, damage to bobbin, and yarn faults



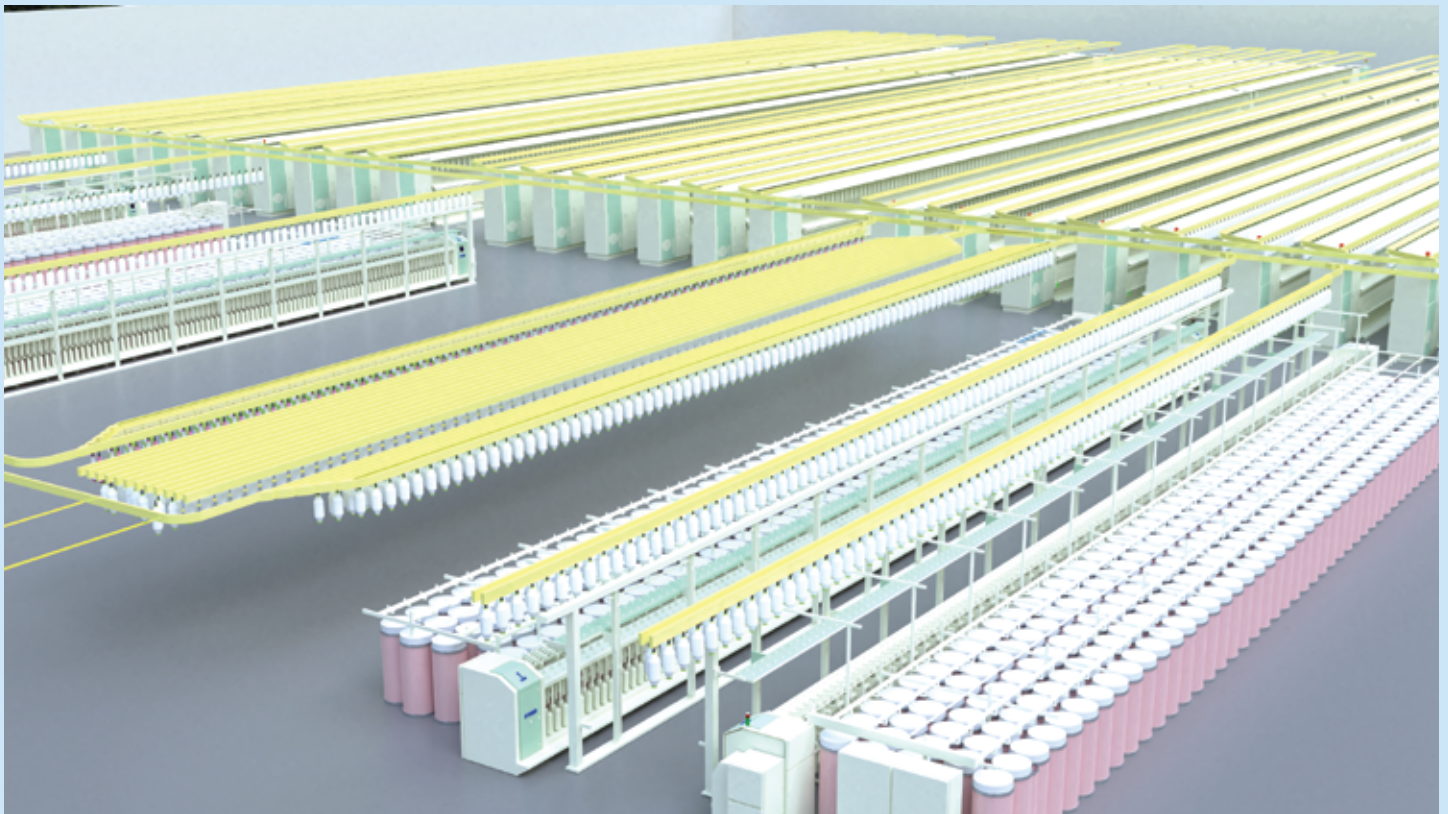
Autodoffer

- Doffing time ≤ 2.5 minutes (including bobbin preparation time)
- Restarting breaks $\leq 2\%$
- Savings in labour
- Enhanced yarn quality due to elimination of manual handling of bobbins.
- Top bunching of roving
- Automatic roving cutting for all materials
- No movement of heavy parts & wear out
- Simple & compact doffing system with provision for RTS

Roving Transportation System (RTS)

- Automatic movement of Speed Frame bobbins to Ring Frame through overhead rails enabling full and empty bobbin transfer without human interference
- Any Speed Frame bobbin can be transferred to any Ring Frame by a push of the button or trains can be assigned to specific Ring Frame
- Manual handling of bobbins are eliminated
- Reduction in manpower

Saves manpower up to 50%”





Stripper Arrangement

- The remnant in bobbin from Ring Frame will be cleaned automatically
- Bobbins are checked for the presence of remnant roving using sensor
- Stripping is done for the bobbins with remnant roving
- Velcro is cleaned in all bobbins

Effective Cleaning

Exchanger Arrangement

- Accuracy in positioning of bobbin
- Compact design
- Dual exchanger option is also available for longer machines



Spinconnect 2.0

Digital Automation our Passion

Speed Frame LF4280 Series can be integrated with Spinconnect 2.0, a web based monitoring and control application. The HMI details are transferred through Wi-Fi / LAN connection and all the parameters can be viewed and controlled from a centralized computer.

Editing of process parameters from a central location for better process control and lot changes across machines.

Remote viewing of machine PLC status from any location for trouble shooting and for software upgradation.

User defined reports and charts for analysing the Speed Frame performance can be generated for further improvement.

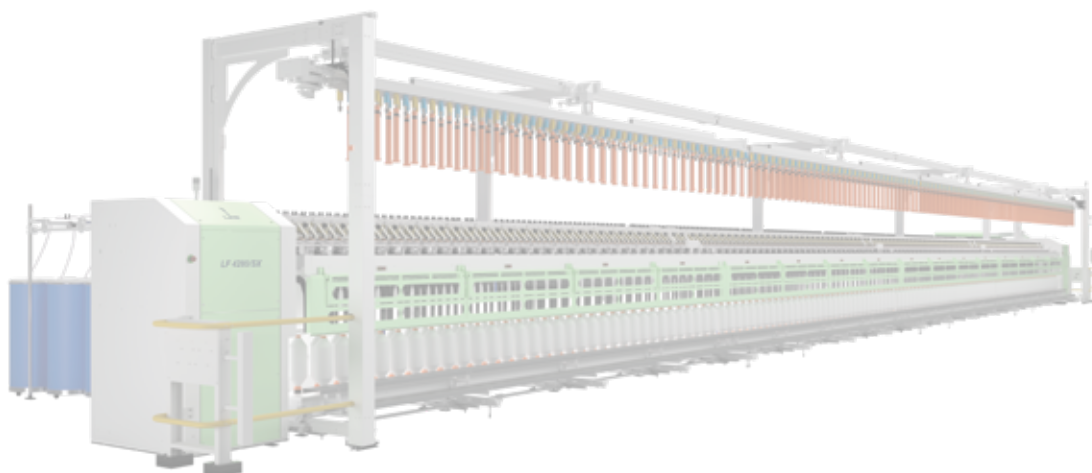
Predefined shift-wise, daily, weekly, monthly reports can be sent through mail to respective users.



Technical Data

Material	:	Cotton, Man-Made Fibers and Blends
Fiber length (mm)	:	Short staple up to 60
No. of spindles	:	80, 120, 140, 160, 180, 200, 220, 240, 260, 280
Cage	:	Short / Medium / Long
Drafting	:	3/3 and 4/4 PK 1500 (Spring Loaded), PK 1550 & PK 1580
Creel	:	4/5/6/8 row
Spindle Gauge (mm)	:	224
Packing size (mm)	:	400 X 152
Flyer speed (mech)	:	1,500 rpm (max)
Roving count range (ne)	:	0.5 – 3.0
Break draft	:	1.08 – 1.54
Total draft	:	3 – 40
Max. delivery rate (mpm)	:	50
Compressed air requirement	:	0.07 Nm ³ doff @ 6 bar (280 spindles doffer)
Air exhaust from suction system	:	1.25m ³ /s

LF4280 SERIES





LF4280 SERIES



Perianaickenpalayam, Coimbatore - 641 020 INDIA.
Phone : +91 422 7192255
Email : info@lmwtmd.com
www.lmwtmd.com



Issue No 8 , Jan 2026