

JWF1590

Whole-section Assembly Platform Ring Spinning Frame



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Some of the data in the product manual are theoretical values. Due to comprehensive factors such as environment, raw materials, and processes, the above data is for reference only.

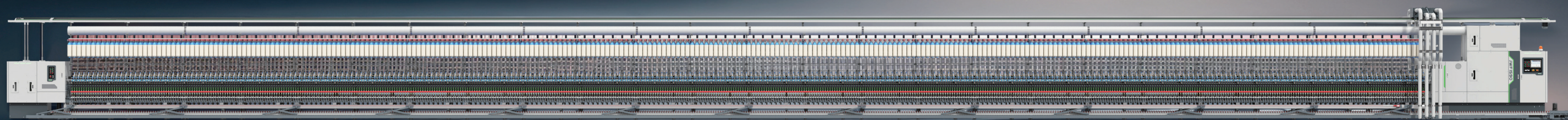
Jingwei Intelligent
Product Brochure

JWF1590

Whole-section assembly platform
ring spinning frame

JWF1590 ring spinning frame is a new generation of whole-section assembly platform ring spinning frame launched by Jingwei Intelligent based on customers' needs and the development trend of ring spinning technology.

The whole machine adopts a modular design concept, with new platform technology features such as whole-section assembly, fully electronic drafting, ring rail screw lifting, individual nozzle suction, double-sided process suction, and steel belt auto-doffing, which can meet customers' high-end, intelligent, and energy saving requirements.



JWF1590A
Chemical fiber whole-section
assembly ring spinning frame



JWF1590

Target

New differentiated fibers
Modal, Lyocell, etc.

Realize

Large drafting/Large weight/
Siro-compact spinning

Resolve

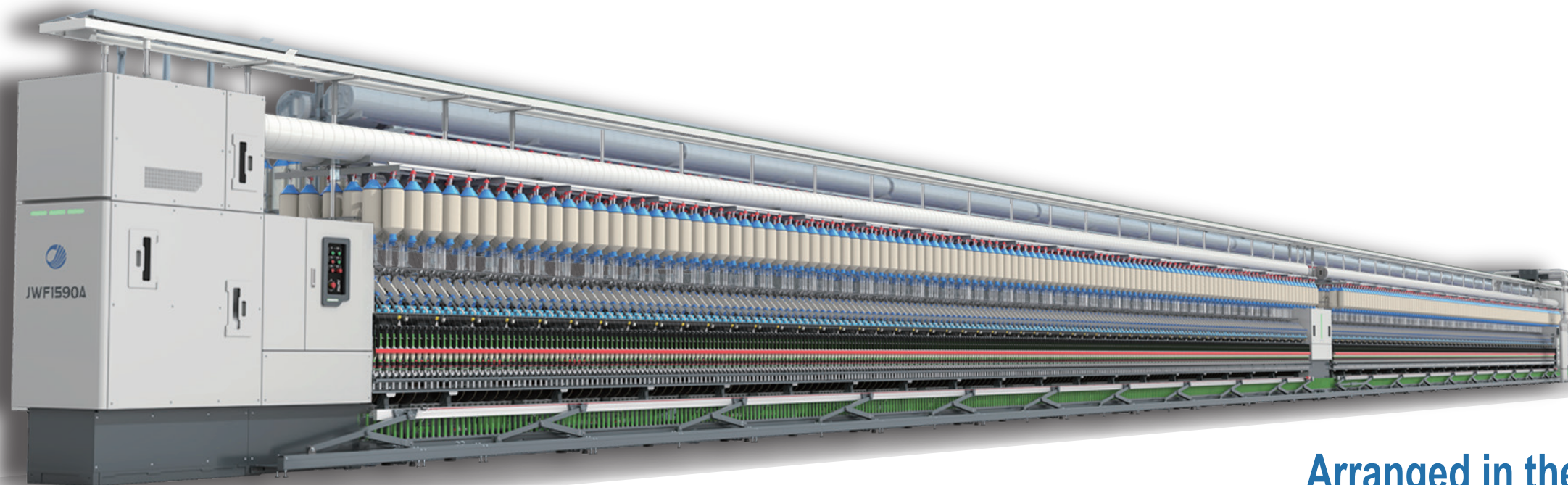
Roller torsional vibration

Technology

New drafting section

≤ 480 Max. Section
spindles
For new differentiated fibers

2496 Max. Spindles
For cotton fibers



Improved the yarn quality

Arranged in the center
Doffing lifting system
Screw electronic lifting system

Improved system stability

Technical highlights

(I) High speed

Mechanical spindle speed 25000rpm
Super JWD68 series high speed spindles

Radial run-out **0.02_{mm}**
High precision main shaft

Keyless connection, with a radial run-out less than 0.05mm after connection, more suitable for high-speed running

Radial run-out **0.05_{mm}**
High precision carbon tin pulley

Lightweight, small moment of inertia, for high-speed spinning and better energy-saving

Mechanical spindle speed 30000rpm
Super JWD58 series high speed spindles

(II) High efficiency

01 Modular whole-section assembly

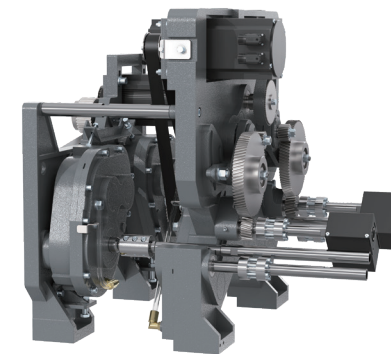
Adopt a fully modular whole-section assembly structure, it is positioned and combined by special tools, with **high precision**, and **good consistency**, suitable for long-term high-speed stable operation.

Installation efficiency increased by **30%**

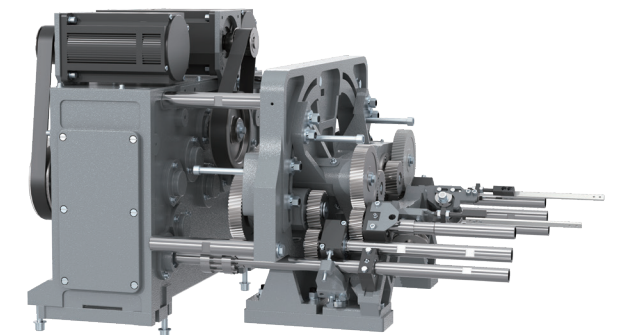


02 Modularized electronic drafting and fully electronic drafting are optional

- ✓ Easy screen setting of process parameters, no need to manually change process gears
- ✓ Suitable for **multi-variety**, **less-labor** requirements
- ✓ Suitable for **normal yarn**, **slub yarn** etc.
- ✓ Reasonably select and **adjust investment costs** based on production needs



Fully electronic drafting system

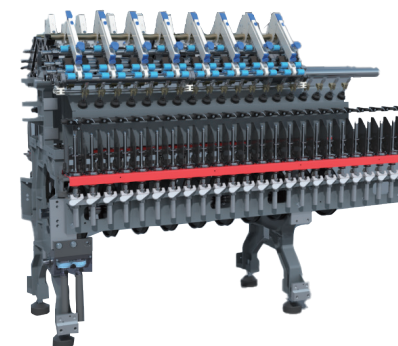


Electronic drafting system

03 High cleanliness

Simple frame, clear channel, smooth surface,
Reduced flyings

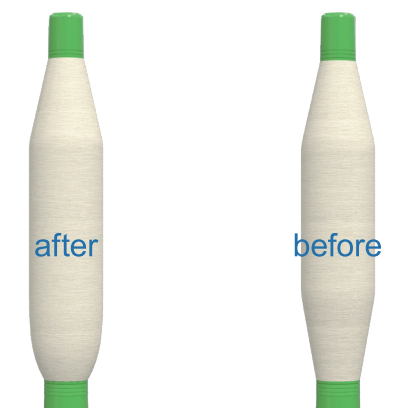
The whole machine castings use powder spraying technology, **improved the surface cleanliness**



04 High packaging capacity

"U" type spinning forming system

6% Increase the packaging capacity more than



05 Intelligent high speed doffing and bobbin delivering

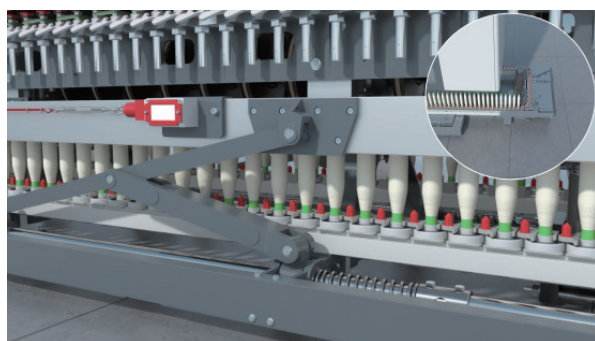
Steel belt auto-doffing

60 Bobbin conveying speed
pcs/min

Intelligent speed control system

2 Single doffing
minutes

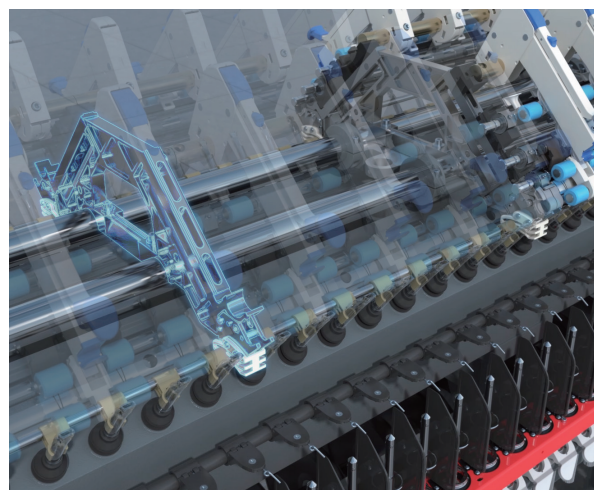
Adjust the running speed in real-time according to the return efficiency of the coner, adapt to the spinning time of coarse yarn, and ensure fast and stable operation of the doffing system.



06 Fast changing varieties

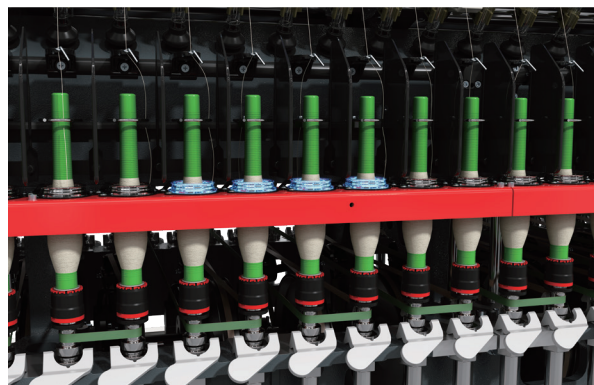
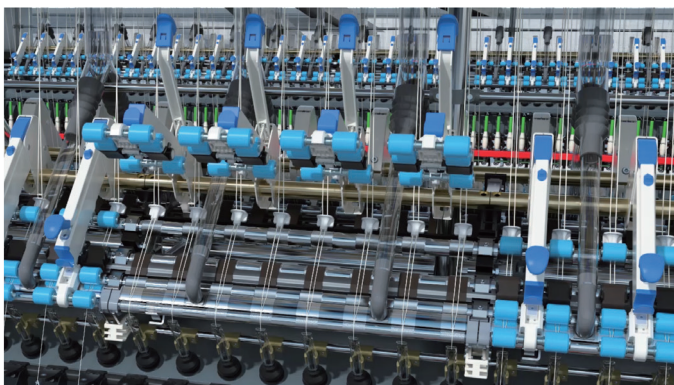
Ring spinning/Compact spinning integrated roller stand

Changing varieties is more convenient



(III) High quality

High precision non mechanical wave roller (with a non mechanical wave rate of 99.8%), high precision flat / conical bearing steel ring cup, YJ200A/YJ210A series pendulum arm with semi-release pressure function, can achieve long-term high-speed stable spinning.



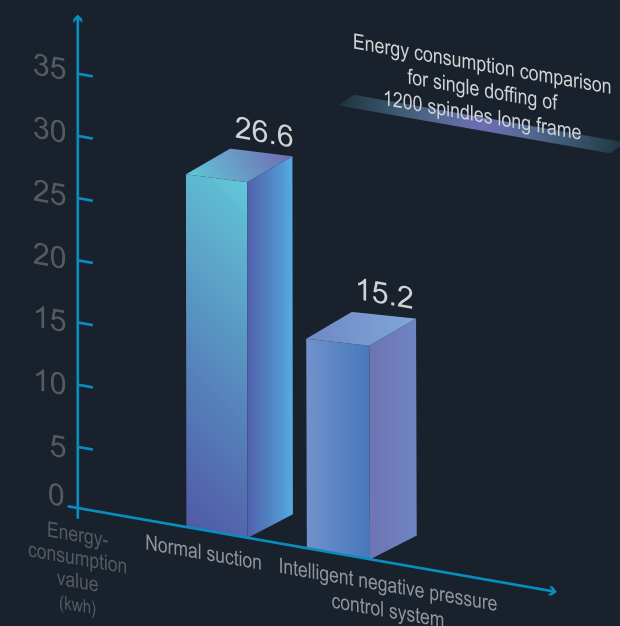
(IV) Energy saving

1. Oil bath main drive and new brake system, the variable frequency motor above IE3 is standard.

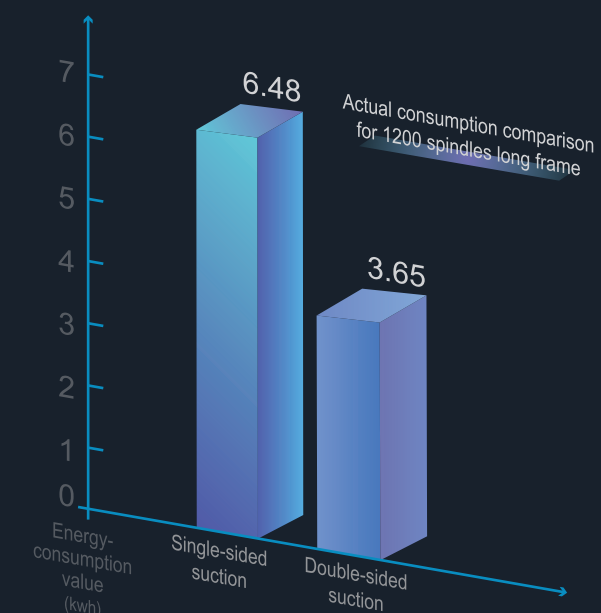
*It can **saving energy 3%~5%** with the motors above IE4.



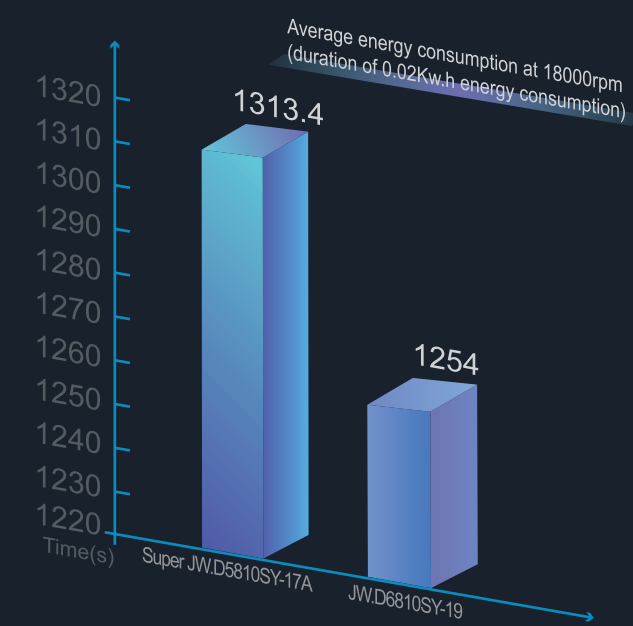
3. *Equipped with an intelligent negative pressure control system, real-time monitoring of spinning status, automatic adjustment of negative pressure, and **saving energy about 35%** on the basis of double-sided suction system.



2. Adopt the double-sided suction technology, **the consumption of 1200 spindles long frame has been reduced by about 30%.**



4. Super JWD58 series spindles can **saving energy about 5%** as same speed.



(V) Intelligent spinning

01 Single machine multi axis operation control system



High quality motion controller

- Top-level processing capabilities
- Compact design
- Highly flexible expansion capability

Multi axis servo system

75% Save installation space
80% Response speed increased
Compare with single axis

02 Intelligent spinning expert system

03 Friendly operation interface

04 Fault prompt visualization

报警描述

日期	时间	报警描述
2024/07/02	14:42:49	叶子板未落下

1、检查叶子板是否落下到位

2、检查叶子板落下开关是否损坏或安装位置是否准确

3、检查叶子板落下开关所接PLC输入点是否损坏；

报警弹窗

报警说明

↑

↓

↺

防退绕报警消除

伺服报警代码

捻牵差报警消除

C5伺服复位

05 *An intelligent single spindle detection system can be optionally equipped to accurately detect the spindle speed, breakage, twist, etc. of each spindle, achieving statistical functions such as defective spindles, breakage at 1000 spindles/h, and breakage analysis, improving the management and efficiency of the spinning frame.



基本	左側断纱根数	0	右側断纱根数	0	基本
历史	左側弱捻根数	0	右側弱捻根数	0	监控
排序	左側不良根数	0	右側不良根数	0	长车左检测条
千锭时	左側空置根数	0	右側空置根数	0	长车右检测条
图头率	总断纱根数	0	总弱捻根数	0	短车检测条
设置	总不良根数	0	总空置根数	0	粗纱通讯
	千锭时断头	0	根		温湿度
					电量

06 *It is optional for MES management system for ring spinning workshop and IEYE (intelligent eye) remote operation and maintenance system.

(VI) Optional configuration

01 *Flexible spinning forms

Flexible production of core spun yarn, slub yarn, compact spinning, and Siro-compact spinning and so on.

02 *Roving-Ring Link

Internal circulation or external circulation Roving-Ring Link.

03 *Centralized suction system

No need for manual cotton picking, top or bottom suction.

04 *Ring-Ring Link / Ring-Coner Link



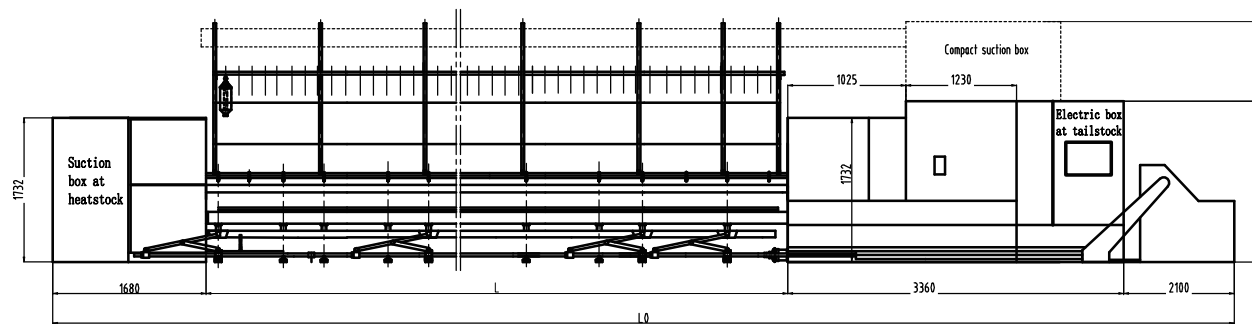
All coners can be connected clockwise or anticlockwise with one ring spinning frame, or several ring spinning frames can be connected to one coner.

Optional underground type Ring-Ring Link / Ring-Coner Link, retaining aisle, saving space, and reducing investment costs.

JWFF1590

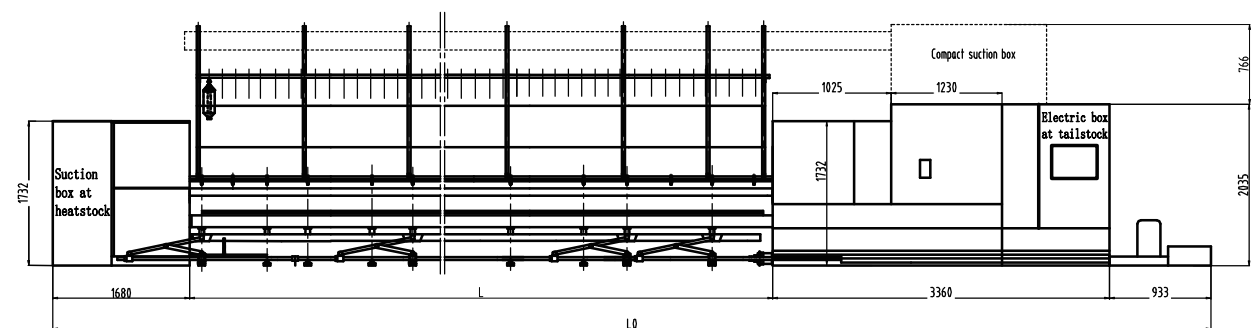
Whole-section assembly platform ring spinning frame

Ring spinning frame: Automatic bobbin arranging unit (disordered bobbin)



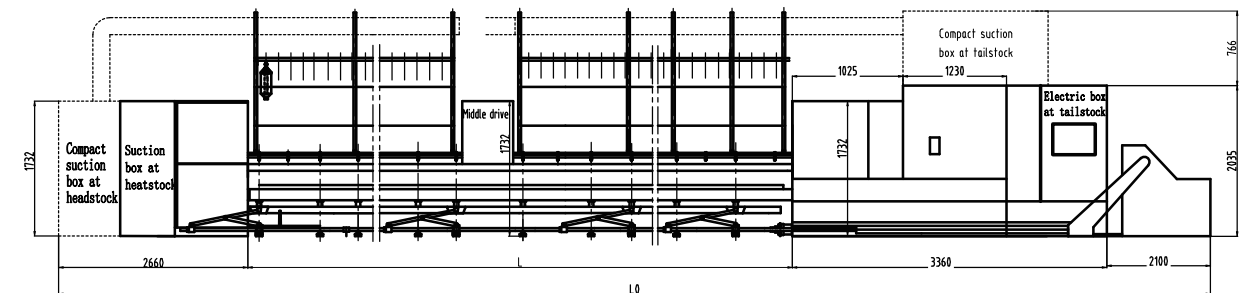
No. of spindle	768	816	864	912	960	1008	1056	1104	1152	1200
L	27210	28890	30570	32250	33930	35610	37290	38970	40650	42330
L0	34350	36030	37710	39390	41070	42750	44430	46110	47790	49470

Ring spinning frame: Ring-coner link



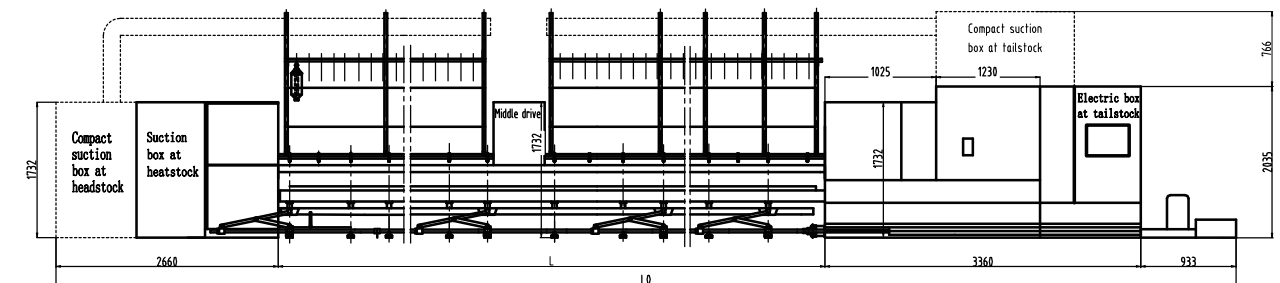
No. of spindle	768	816	864	912	960	1008	1056	1104	1152	1200
L	27210	28890	30570	32850	27930	35610	37290	38970	40650	42330
L0	33183	34863	36543	38223	39903	41583	43263	44943	46623	48303

Extra-long ring spinning frame: Automatic bobbin arranging unit (disordered bobbin)



No. of spindle	1248	1296	1344	1392	1440	1488	1536	1584	1632	1680	1728	1776	1824
L	45130	46810	48490	50170	51850	53530	55210	56890	58570	60250	61930	63610	65290
L0	53250	54930	56610	58290	59970	61650	63330	65010	66690	68370	70050	71730	73410

Extra-long ring spinning frame: Ring-coner link

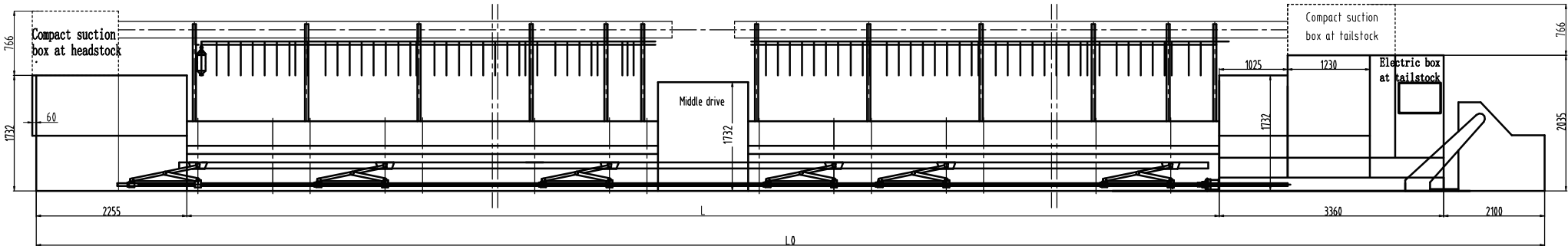


No. of spindle	1248	1296	1344	1392	1440	1488	1536	1584	1632	1680	1728	1776	1824
L	45130	46810	48490	50170	51850	53530	55210	56890	58570	60250	61930	63610	65290
L0	52083	53763	55443	57123	58803	60483	62163	63843	65523	67203	68883	70563	72243

JWFF1590A

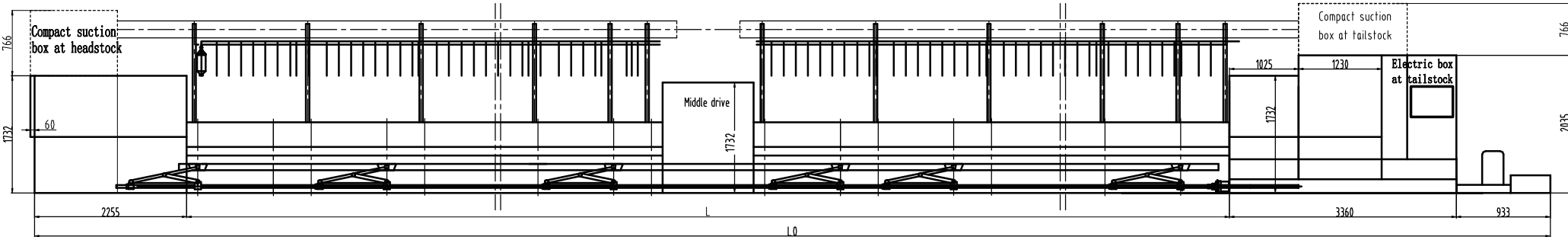
Chemical fiber whole-section
assembly ring spinning frame

■ Extra-long ring spinning frame:
Automatic bobbin arranging unit
(disordered bobbin)



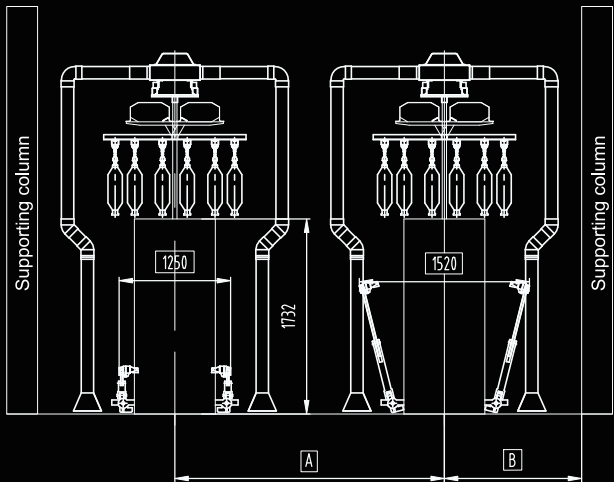
No. of spindle	1440	1488	1536	1584	1632	1680	1728	1776	1824	1872	1920
L	52410	54090	55770	57450	59130	60810	62490	64170	65850	67530	69210
L0	60125	61805	63485	65165	66845	68525	70205	71885	73565	75245	76925

■ Extra-long ring spinning frame:
Ring-coner link



No. of spindle	1440	1488	1536	1584	1632	1680	1728	1776	1824	1872	1920
L	52410	54090	55770	57450	59130	60810	62490	64170	65850	67530	69210
L0	58958	60638	62318	63998	65678	67358	69038	70718	72398	74078	75758

Sectional diagram of JWFF1590/JWF1590A



Notes:

A : Distance between the centers of the two ring spinning machines

B: The minimum distance from the center of ring spinning machine to the supporting column

Main Specifications of JWFF1590/JWF1590A

Spindle Gauge(mm)	70	Spindle Speed (r/min)	12000 ~ 25000 (Mechanical Speed, controlled by inverter)
No.of Spindles	768~1824 (Please refer to the spindle series table for details)	Spindle Driving	Tin pulley driving, 4-spindle/pulley
Diameter of Bottom Roller(mm)	Ø27XØ27XØ27 / Ø27XØ30XØ27 (8 spindle pos./piece)	Drafting type	3-line rollers, short & long aprons equipped with weighting arms
Bobbin length(mm)	180~220	Drafting Driving	Fully Electronic drafting/Semi-electronic drafting
Diameter of Ring Cup(mm)	36~45	Lifting type	Electronic(Screw type)
Fiber Length(mm)	≤60	Suction system	Double-side(Individual nozzle/flute)
Yarn Density(Tex(Ne))	4.92~59 (120~10 ⁵)	Doffing type	Steelbelt Auto-doffer/Convex disc auto-doffer
Twist(T/m)	230~3000 (φ19 Wharve diameter)	Cops extracting rate	100%
Twist Direction	Single tension pulleyZ / Double tension pulley Z/S	Bobbin inserting rate	100%
Total Draft Rate	10~120	Yarn retention rate	≥98%
		Doffing time(min)	2.5