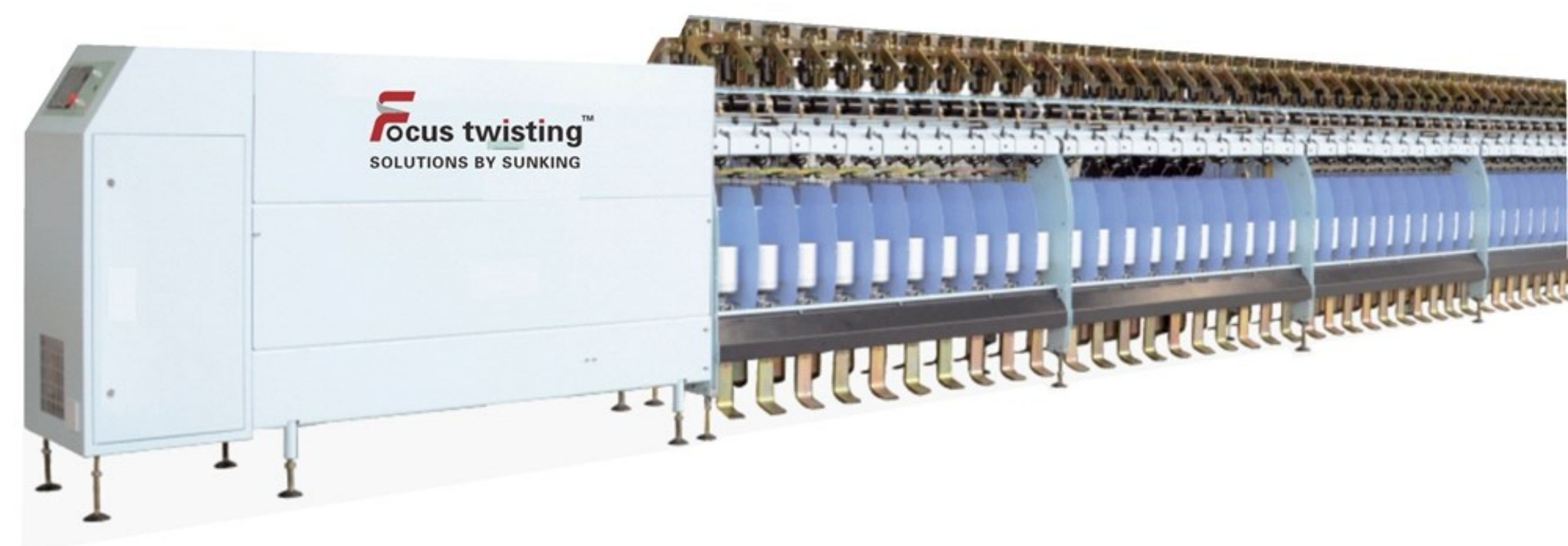


Focus short fiber Twister



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The spindles

1.

- High quality of yarn thanks to high quality of spindle
- ▲ The surface of all the parts in direct contact with yarn is special surface treated to give the yarn the max. effective protection
- ▲ Minimized vibration thanks to damped spindle pot mountings on rotary parts
- ▲ Life lubricated pot bearings with special dustproof protection.
- ▲ Pneumatic threading system for quick threading with self-cleaning yarn path.
- ▲ Convenient adjustment of tension device suitable for all kinds of yarn
- ▲ Twisting area is separated with drive area.
- ▲ e-save spindle series

2.

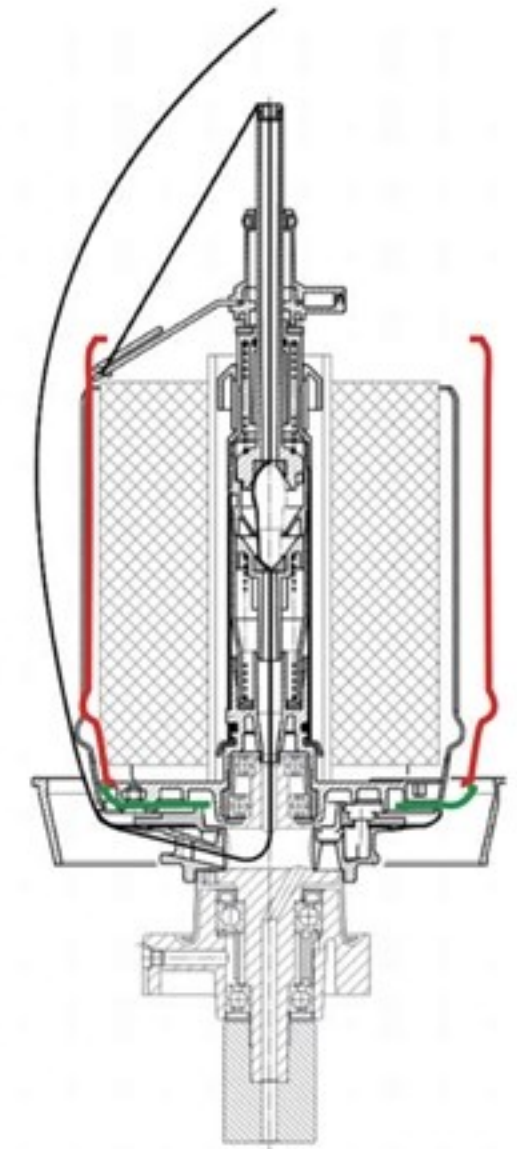
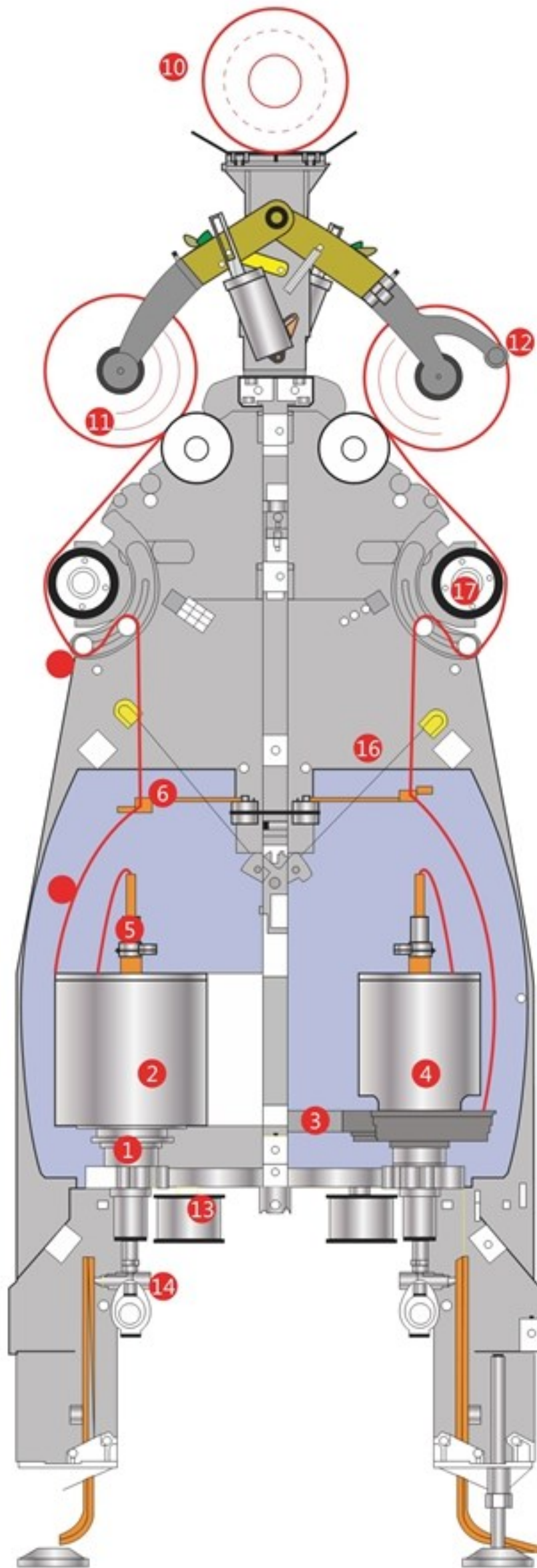
The two-for-one spindle is the heart of TFO machine. The e-save spindles and new driving system is the key to reduce the power consumption. The e-save spindle family includes:

3.

e-save spindle can generate new yarn balloon geometry and save up to 40% balloon energy consumption

Machine cross section

- 1 Spindle
- 2 Balloon limiter
- 3 Balloon Ring
- 4 Spindle pot
- 5 Multi-tension device
- 6 Yarn balloon guide
- 7 Yarn balloon
- 8 Deflection rollers
- 9 Friction roller
- 10 Yarn package
- 11 Centering disc
- 12 Cradle
- 13 Press roller
- 14 Threading valve
- 15 Foot pedal
- 16 Yarn feeler
- 17 Pre-take-up roller





Servo Technology

The servo drive system uses 3 independent motors to drive respectively:

- ▲ main motor: spindles
- ▲ slave motor: take-up rollers
- ▲ servo motor: traverse

Controlled by PLC, 3 independent motors are running with constant speed ratio (the TPM evenness), both during normal running conditions and start/stop phases.

In case of power supply failure, (the main motor works as generator) PLC will control and reduce their 3 speeds progressively until the complete stop.

The new electronic servo drives have been designed:

- ▲ Take-up speed is up to 120m/min
- ▲ TPM can be set to any level
- ▲ Electronically controlled anti-patterning device
- ▲ Electronically breathing device for package dyeing
- ▲ Oil-free, maintenance-free
- ▲ Flexible shape of package

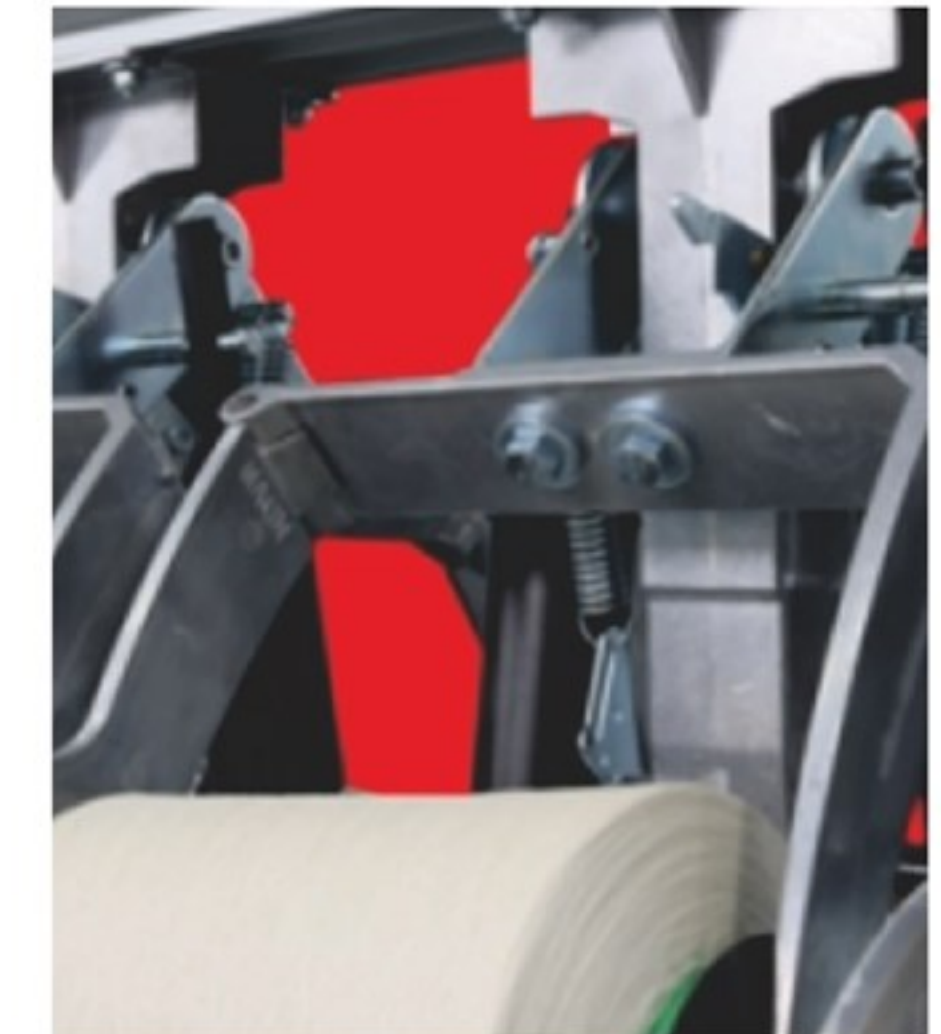
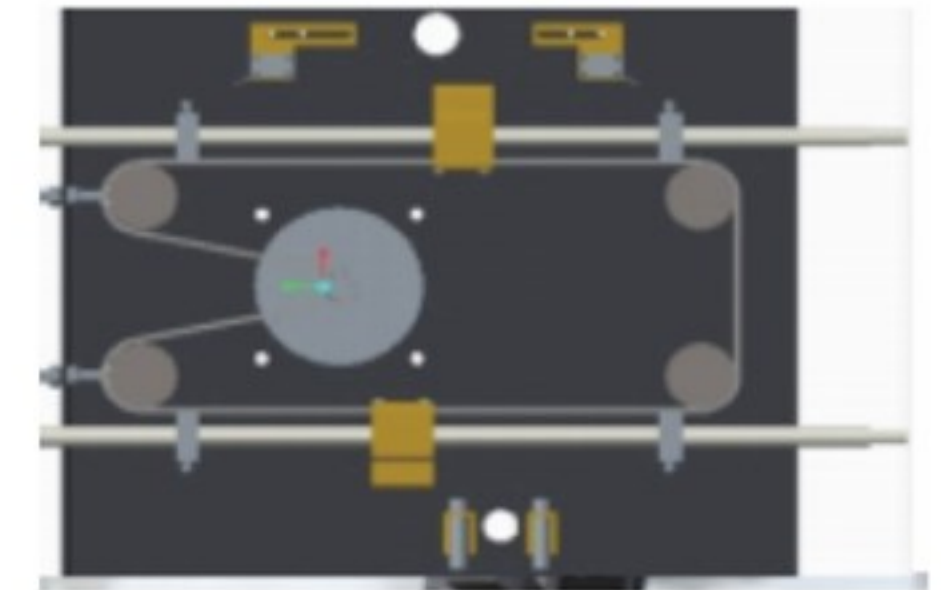
Surface treatment

All elements in direct contact with the yarn feature a high-grade surface finish for optimum yarn protection.

- ▲ Flyer, tension device, capsule
- ▲ Spindle inner path
- ▲ Balloon guide, yarn feeler
- ▲ Over feed roller, deflection roller
- ▲ Traverse guide
- ▲ Balloon limiter

Locking device

The yarn feelers are automatically locked in their working position. It prevents the feelers dropping when the machine is stopped.



Optional Devices



Air Threading device

Threading device ensures rapid and faultless threading every time. the foot pedal stops the spindle. as the pedal is pressed down further. It's carried by the airstream up and around the spindle pot where it can easily be grasped by the operator.



Pneumatical lifting device

In case a yarn break or feed package runout, the take-up package is lifted from the drive roller following a time delay.



Speed sensor

The speed sensor can detect yarn breakage and rotational speed, to avoid quality problem of spindle speed deviation. choose this sensor, we can get precise production.



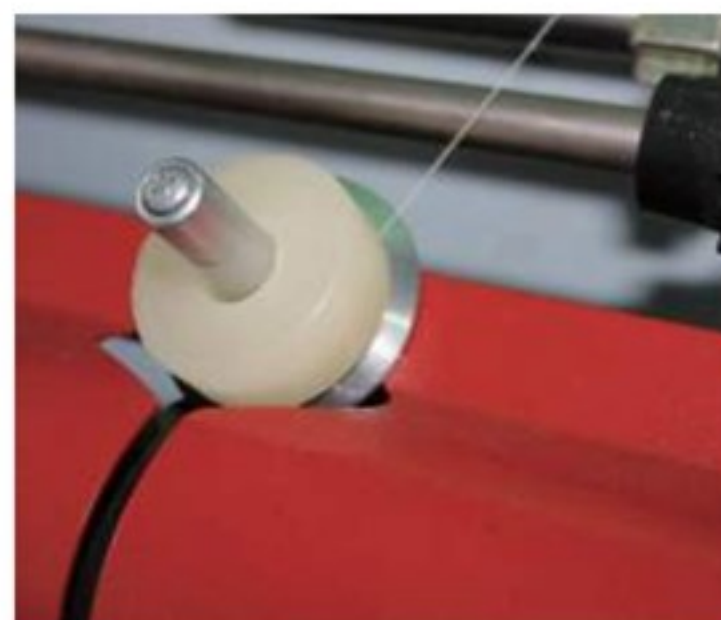
Tail device

The function of the tail on the twisted package tube is automatic. The length of the tail can be centrally adjusted.



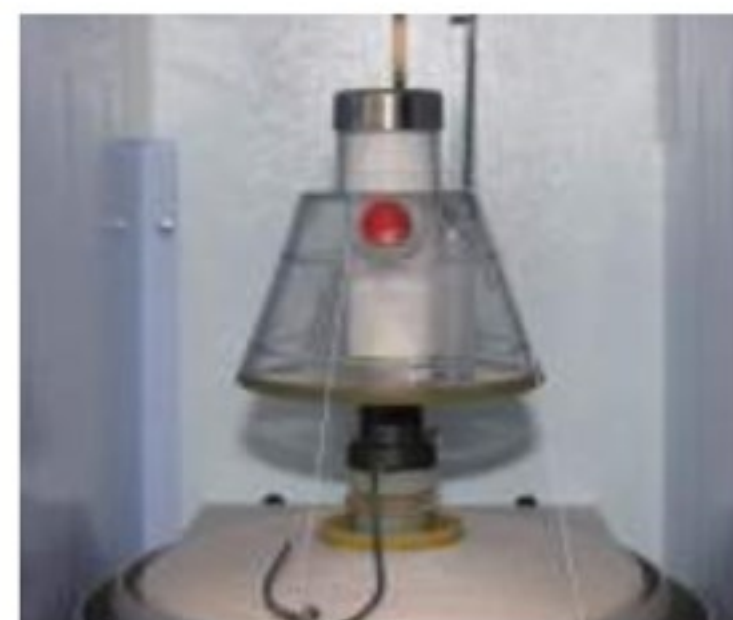
Front wall

For better balloon & pot protection.



Waxing

Waxing and Lubricant reduce the frictional coefficient of the twisted yarn in the subsequent processes. and hairness, dust & fibre fly also will be reduced.

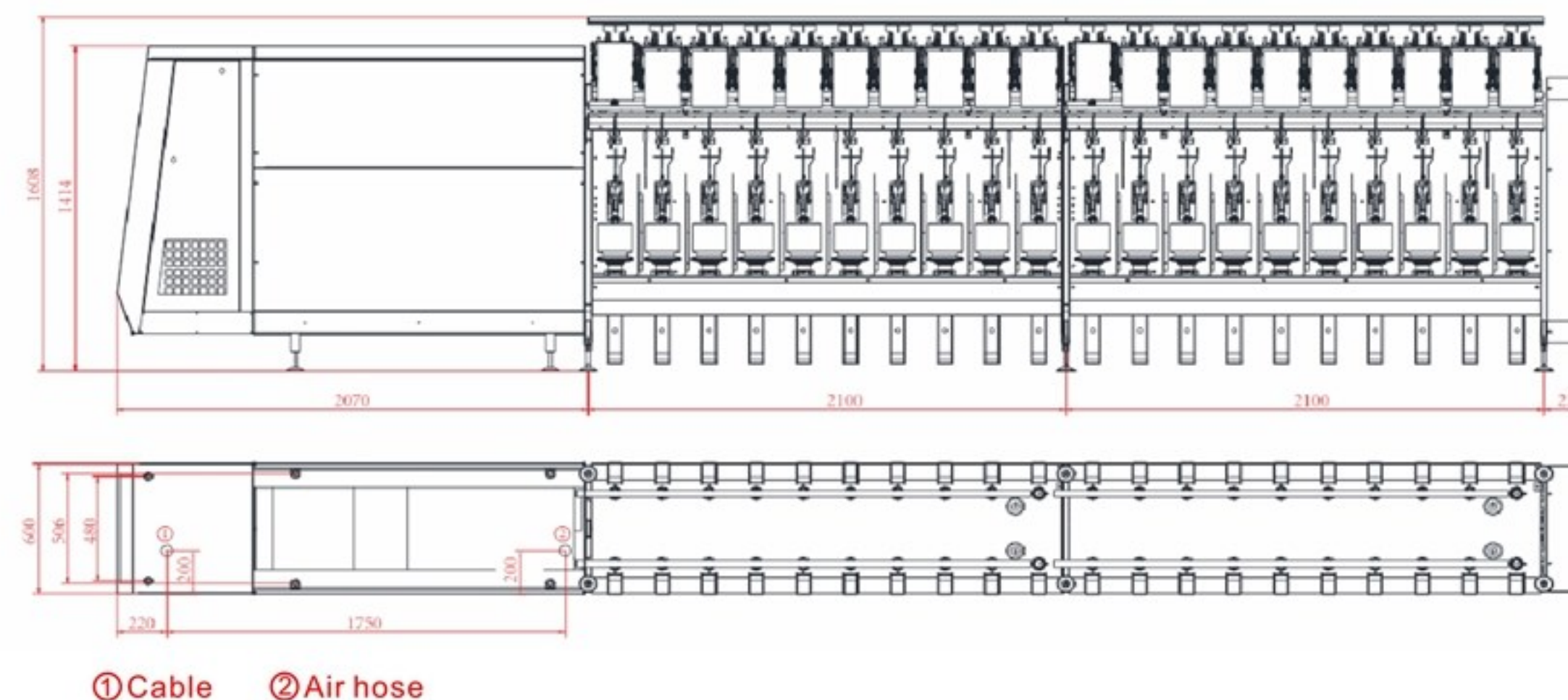


Lubricant

Specification

SPINDLE MODEL	SK-07	SK-08	SK-09	SK-10	SK-11
Tpm	80-2800T/m 2.03-71.09T/inch	80-2800T/m 2.03-71.09T/inch	80-2800T/m 2.03-71.09T/inch	80-2800T/m 2.03-71.09T/inch	80-2800T/m 2.03-71.09T/in
Spindle speed	11,000rpm max. 22,000min ⁻¹ max.	12,500rpm max. 25,000min ⁻¹ max.	13,500rpm max. 27,000min ⁻¹ max.	14,500rpm max. 29,000min ⁻¹ max.	15,000rpm max 30,000min ⁻¹ max
Count	Ne 4/2-100/2 With BL Ne 8/2-100/2 Without BL	Ne 8/2-170/2 With BL Ne 16/2-170/2 Without BL	Ne 20/2-200/2 With BL Ne 20/2-200/2 Without BL	Ne 30/2-200/2 With BL Ne 30/2-200/2 Without BL	Special for 100% c Ne 60/2-200/2 Without BL
Feed package	φ 180mm Max. φ 180mm Cylindrical	φ 155mm Max. φ 155mm Cylindrical	φ 135mm Max. φ 135mm Cylindrical	φ 120mm Max. φ 120mm Cylindrical	φ 110mm Max. φ 110mm C
twisted package	5° 57' conical φ 280mm max. diameter	5° 57' conical φ 280mm max. diameter	5° 57' conical φ 280mm max. diameter	5° 57' conical φ 280mm max. diameter	5° 57' conical φ 280mm max. Diameter

Layout



Production

$$\text{Production (kg)} = \frac{\text{Yarn speed} \times \text{working time (minute)} \times \text{No. of spindle} \times \text{Efficiency}}{\text{Nm (metric count)} \times 1000} \text{ (kg)}$$

$$\text{Yarn speed} = \frac{\text{spindle speed (r/min)} \times 2}{\text{No. of twists (T/M)}} \text{ m/min}$$

$$\text{Yarn speed} = \frac{11000 \times 2}{850} = 25.9 \text{ m/min} \quad \text{Nm} = 60/2 \times 17.15 = 51.54$$

$$\text{Production} = \frac{25.9 \times 24 \times 60 \times 180 \times 0.98}{51.45 \times 1000} = 127.9 \text{ kg/day}$$

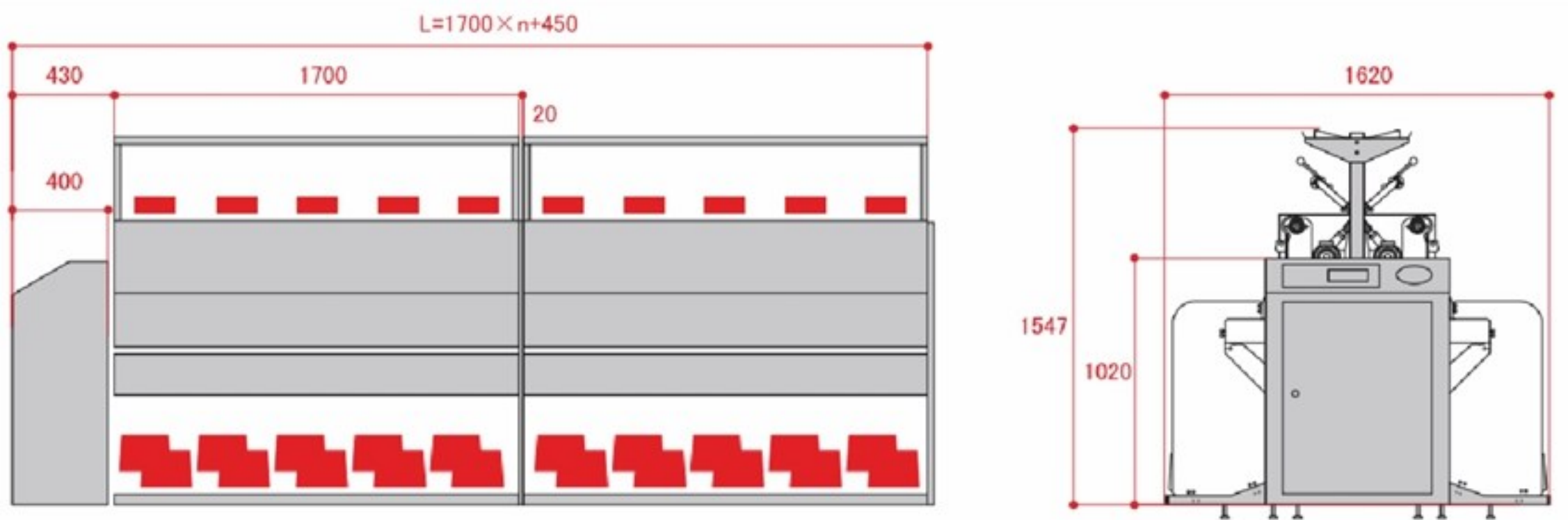


SK80A Drum Winding Machine

Technical Parameter

Suitable yarn	Cotton and wool short fiber yarns
Yarn count range	Ne3-80 (Nm5-135)
Feeding yarn diameter	Maximum: 230 mm
Full package weight	Maximum:4kg
Spindle arrangement	double sided
Transmission device	Single spindle
No. of spindles / section	10spindles(or 8 spindles)
No. of spindles and No. of sections	Max 120 spindles
Spindle gauge	340mm 425mm
Section length	1700 mm
Package mode	Grooved drum
winding mode	Not adjustable
Bobbin type	Minimum diameter of empty bobbin:Inner diameter 38mm Outer diameter 43mm
Lengu1 of empty bobbin	170mm or 230tnm
Take-up diameter(mm)	Maximum 200mm
Traverse length	152 mm or 215mm

Mechanical speed	Maximum 600m/min(the technical speed depends the yarn and the technical parameters)
Supply frequency	50/60HZ
Installed power per spindle	0.09KW
Actual power consumption per spindle	0.05-0.07KW(different according to the process)
Travling cleaner Power(optional)	1.1kw
Electronicyarnclearer;Tensionsensor;Spandexdevice;Singleyarntensionauxiliarydevice	



**SK80B Precision Winding Machine****Technical Parameter**

Suitable yarn	Cotton and wool short fiber yarns
Yarn count range	Ne3-80 (Nm5-135)
Feeding yarn diameter	Maximum: 230 mm
Full package weight	Maximum:4kg
Spindle arrangement	double sided
Transmission device	Single spindle
No. of spindles / section	10spindles(or 8 spindles)
No. of spindles and No. of sections	Max 120 spindles
Spindle gauge	365mm-415mm
Section length	1700 mm
Package mode	Grooved drum
winding mode	Not adjustable
Bobbin type	Minimum diameter of empty bobbin:Inner diameter 38mm Outer diameter 43mm
Lengul of empty bobbfn	170mm or 230tnm
Take-up diameter(mm)	Maximum 200mm

Traverse length	152 mm or 215mm
Mechanical speed	Maximum800m/min(thetechnical speeddepends theyarnandthetechnicalparameters)
Installed power per spindle	0.1kw

