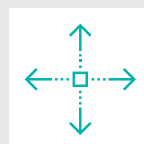
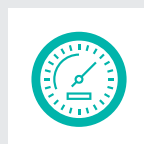
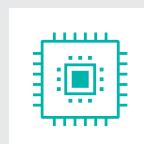
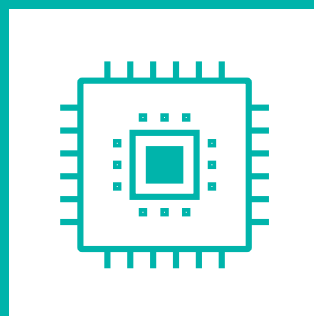




Sirius

TWO-FOR-ONE TWISTER

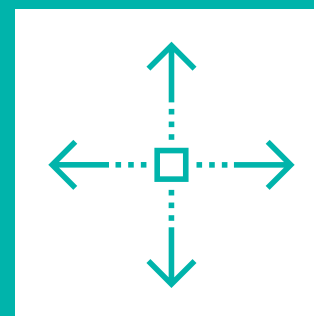




TECHNOLOGY



EFFICIENCY



FLEXIBILITY

Sirius

TWO-FOR-ONE TWISTER

The worldwide flagship of Savio in high-end TFO segment

The machine responds to the demands of customers looking for a significant reduction in labor and energy.

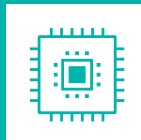
Besides the demand to sustain low investment costs and lower energy consumption, the customers also take on great importance time and cost of maintenance.

MACHINE MODELS:

- **SIRIUS**
Two for one twister
- **SIRIUS ELECTRONIC DRIVE SYSTEM (EDS)**
Two for one twister with EDS Electronic Drive System

BENEFITS:

- Widest range of feeding solutions.
- Great selection of optional covering all needs.
- EDS and Inverter solutions to minimize downtime and enhance flexibility.

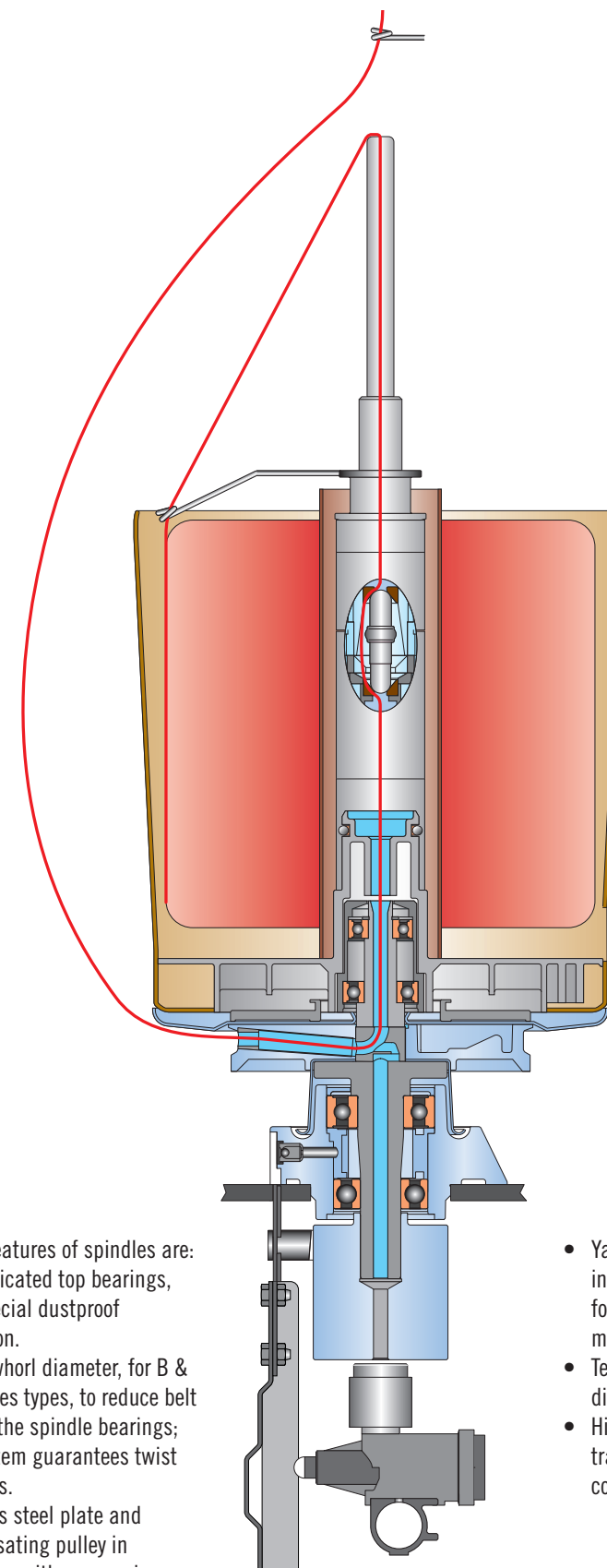
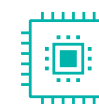


TECHNOLOGY

Twisting technology allows, by means of a twist, to tie together two or more threads, around their longitudinal axis. This procedure produces yarn with greater resistance, greater regularity and particular appearance/hand effects.



The spindle



Sirius has been realized to support the entire Savio spindle range. Savio spindle is designed to optimize its integration within the machine structure.

The main features of spindles are:

- Life lubricated top bearings, with special dustproof protection.
- Bigger whorl diameter, for B & C spindles types, to reduce belt load on the spindle bearings; this system guarantees twist evenness.
- Stainless steel plate and compensating pulley in aluminum with a ceramic coating, with optimized shape that guarantees less power absorption and maximum feeding content.

- Yarn tensioning with interchangeable spring pistons for different counts and materials.
- Tension can be adjusted with 6 different positions.
- High flexibility thanks to quick transformation from free to controlled balloon.



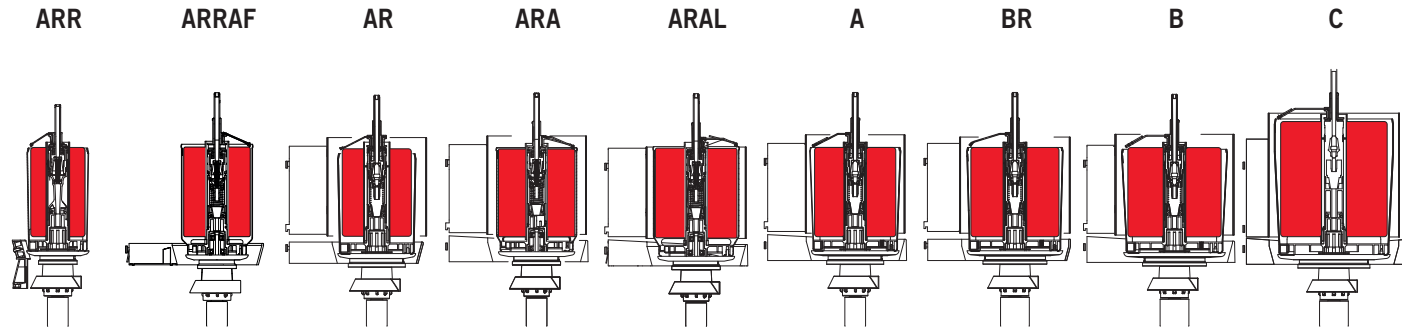
Spindle range



You can choose the best spindle according to dimension, weight and density of feeding package.

The use of the smaller diameter spindle involves: lower energy consumption, less energy per kilos of twisted yarn produced; higher twisting speed and higher productivity; lower twisting tension and better quality of twisted yarns; less noise at the same speed.

The use of the bigger diameter spindle involves: lower needs of work force; less package doffing is necessary at a certain package weight; lower number of joints in the final package.





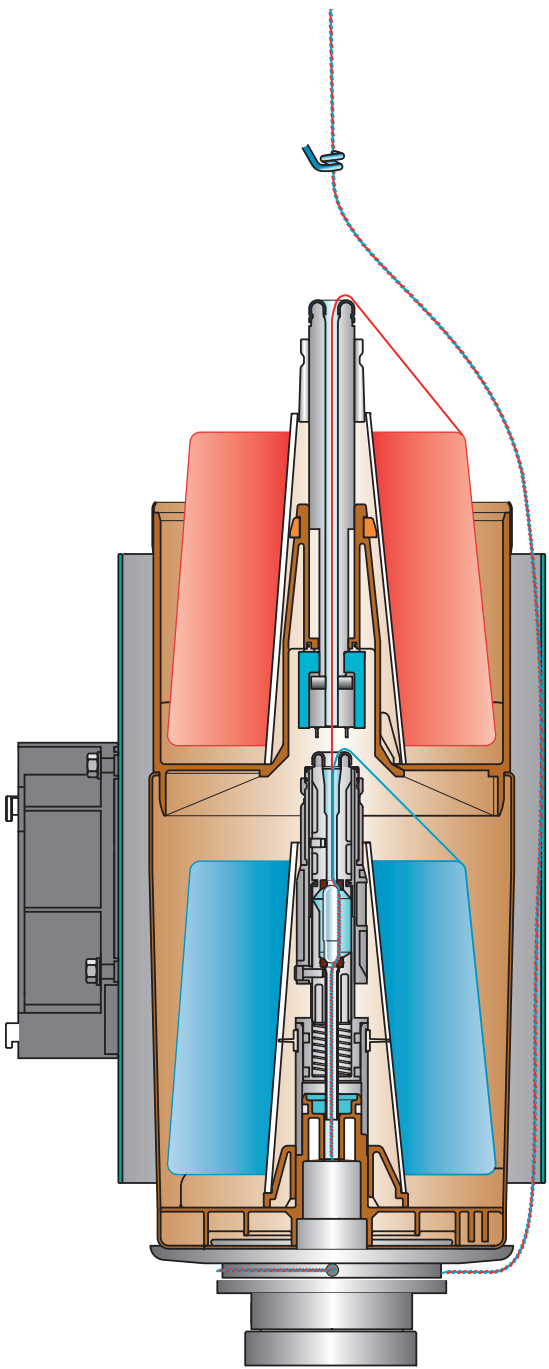
Duo Pot System

Savio's DUO POT system can be considered the real direct twisting of overlapped packages, it can be considered an "all-in-one" assembling and twisting. This allows to obtain a shorten production cycle by using standard conical packages.

The application consists of a spindle divided into two parts, upper and lower. Each package, housed in the upper and lower part, has a twin passage of the thread ("Twin Threading"), since it realizes the same wire unwinding distance for both positions.

This keeps separated the unwinding of the upper bobbin thread from the lower one. Consequently, the constant tension of unraveling the two independent cones and the absence of tangles are ensured, reducing to a minimum the defects and irregularities of the twisted yarn.

Like the traditional system, it involves a few simple operations, and, thanks to its pedal control, pneumatic threading is extremely fast.

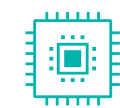


Direct feeding with standard conical packages 2x1°30' - 2x3°30' - 2x4°20' -2x5°57'
The main characteristics of the new system is the separate directions of the two yarns that only join at the point of control of the tension.

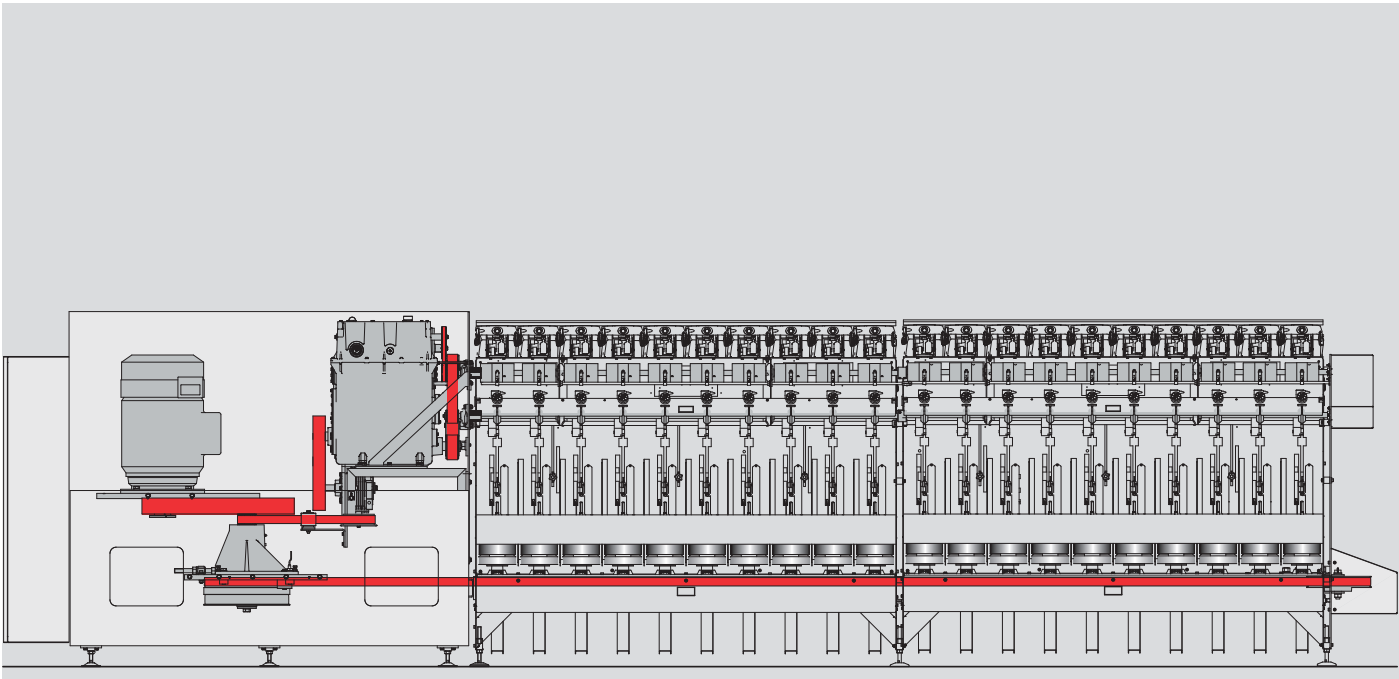
Advantages
Format standardization. The system uses standard packages 1°30' - 3°30' - 4°20' - 5°57' with a 152 mm traverse. Minimum diameter on tube nose is 28 mm.
Production increase
Higher speed.
Reduced breaks.
Reduced yarn waste.
Improved quality
Separate unwinding of the two ends.
Tension evenness.
No knots, tangles or ravels.

Flexibility
Use of yarns, which differ in count, material and color.
Upper and lower yarn package brake
A patented device brakes the unwinding of the lower package in case of upper yarn break. This avoids that single lower package yarn continues to be twisted.

Duo-Pot feeding system is available with gauge 250 suitable; it's advantageous for wool and acrylic all yarn count, and also for cotton yarn count up to 30/2, possible up to Ne 40/2.
Max Feeding Weight:
Wool: 1900 gr. Density 0,4 g/cm³
Acrylic: 1900 gr. Density 0,4 g/cm³



Compact tangential drive

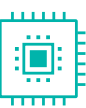
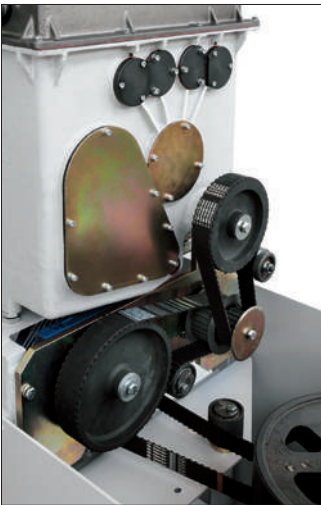


Encased tangential drive and motorization system to reduce noise, keeping free from dust and lint.

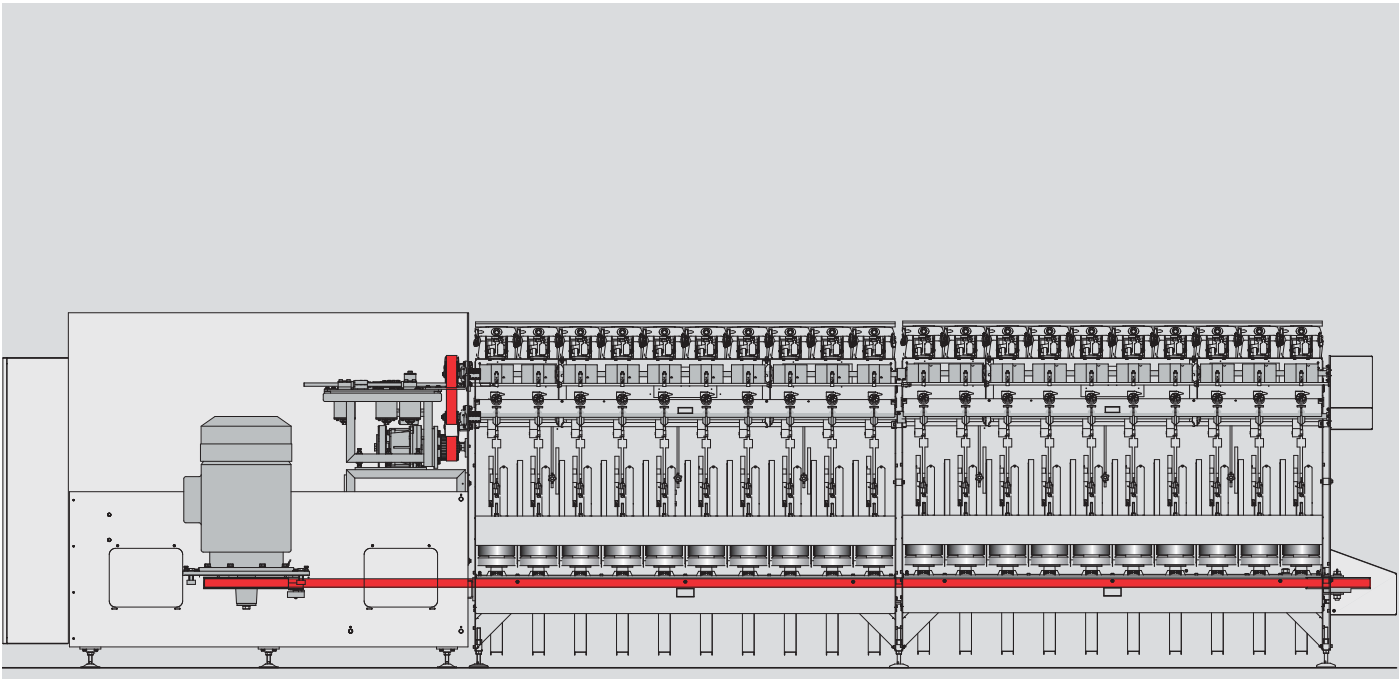
- Twist variation by means of drive pulleys positioned at the front for easy access.
- Mechanical change of S/Z twist variation.
- Headstock gears allows regulating the mechanical modulation -for antiribbing effect, and the cross winding angle variation for package density.
- The oil lubrication of the top gearbox has oil level indicator and pilot light to check the circulation pump.

Control unit with display for:

- Spindle speed
- Twists number
- Take-up speed
- Motor power absorption (Ampere)
- Time counter
- Yarn length meter for programmed machine stop



Electronic Drive System (EDS)

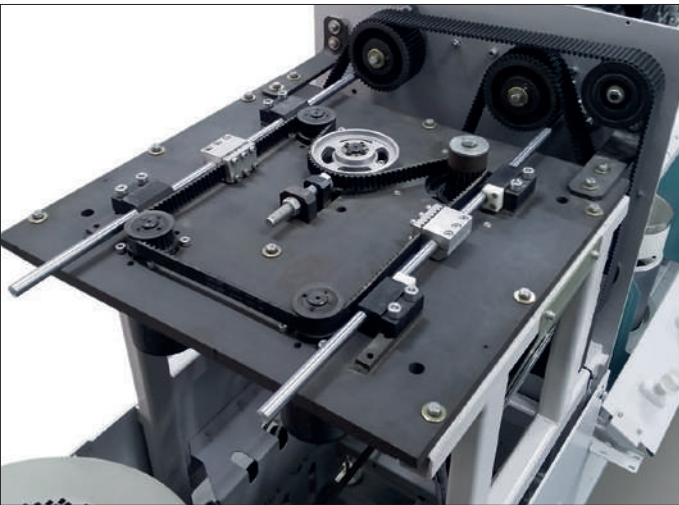


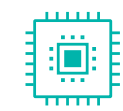
The Electronic Drive System uses three independent motors to drive, respectively:

- Spindles
- Take-Up (overfeed and drums)
- Thread-guide

Allowing customers to set all working parameters via PC, machine set-up time is strongly decreased, by introducing a simple and direct way to change any setting. This system allows to reduce the number of operators for each machine, and to change settings continuously and not “step by step”, as in the mechanical version, allowing customers to try any parameters combination, in order to obtain the best results.

An electrical control links the speed ratio among the various motors, guaranteeing the twists evenness. The evenness is thus granted during normal running conditions, start/stop phases and in case of brown out / black out.



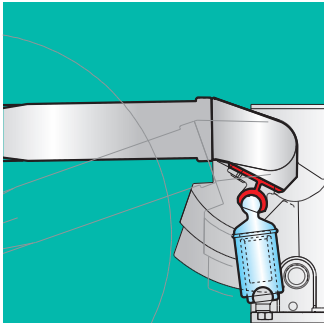


Package cradle

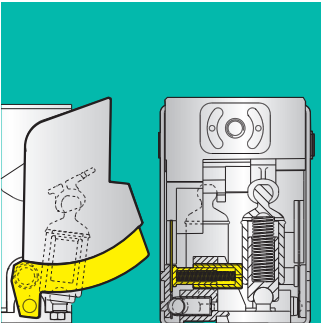


The package cradle, specifically designed to perform a simple manual package doffing, is equipped with:

- Mechanical counterweight with four adjustment possibilities. Setting requires no tools.
- Anti-vibration device (an adjustable friction disk) to optimize package formation and eliminate package vibration even at high take-up speed.



Mechanical counterweighing



Damping device





EFFICIENCY

The simplified PC interface allows to program with few settings the working parameters, thus reducing set up times. This simplifies the use and maintenance of the machine, allowing customers to change settings by a simple touch screen.



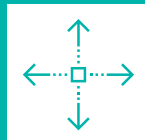
Control of twisting process



The simplified PC interface allows to program with few settings the working parameters; this computer flexibility allows reducing set up times.

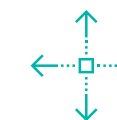
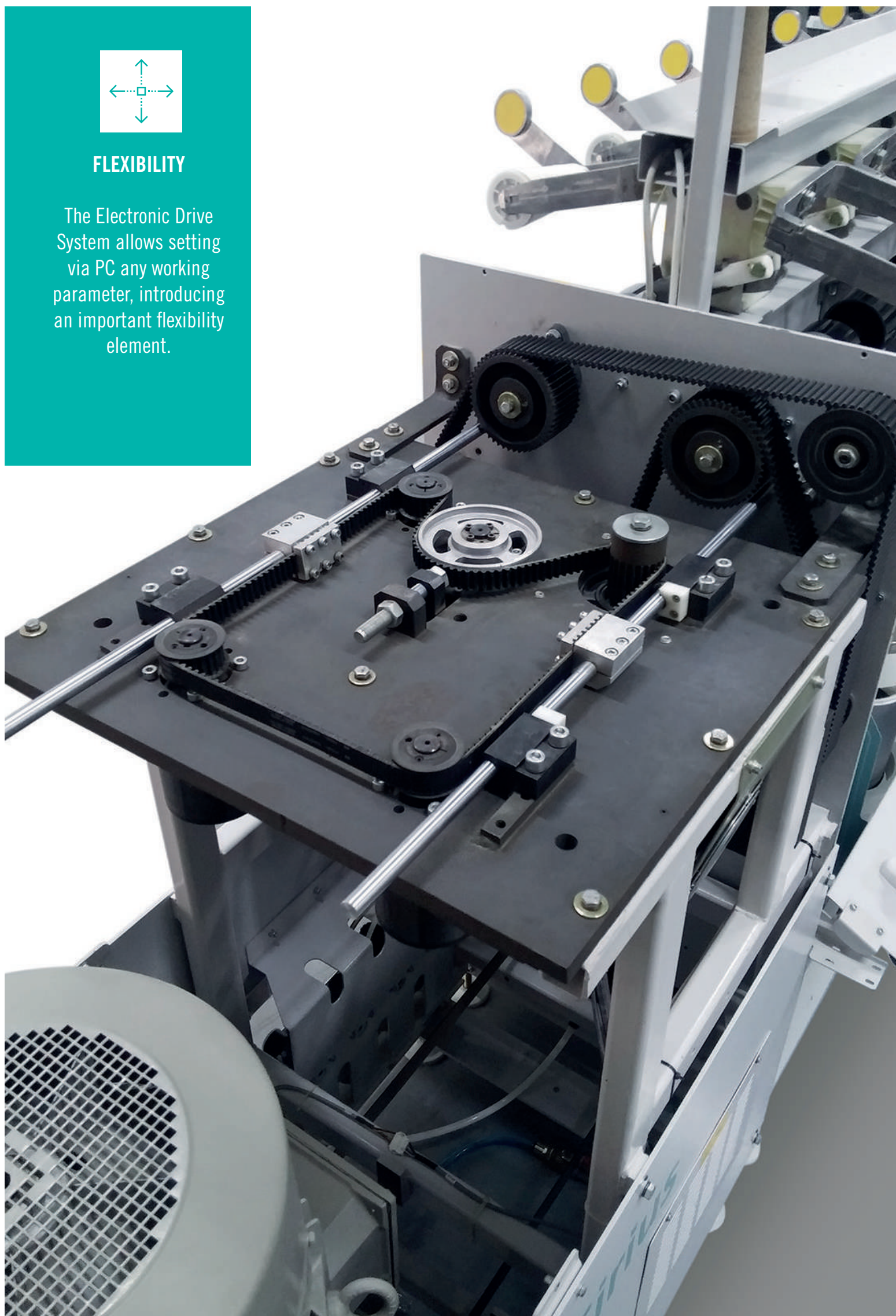
The thread guide electronic control allows to set winding angle, traverse stroke, position on the package tube and the yarn distribution over the package. All above improves design and formation of the package, optimizing all the downstream processes, thus allowing customers to obtain the best results.





FLEXIBILITY

The Electronic Drive System allows setting via PC any working parameter, introducing an important flexibility element.



Electronic Drive System



The Electronic Drive System allows setting via PC any working parameter, introducing an important flexibility element. In particular, is possible to set:

- Spindle Speed
- Twist number and direction (S/Z)
- Winding angle
- Modulation (antiribbing)
- Thread-guide traverse
- Axial displacement
- Variable bunching length

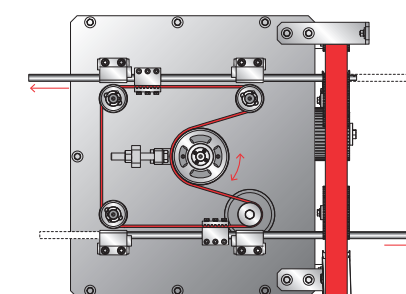
Moreover, Electronic Drive System allows customers to choose, among the diverse package shape:

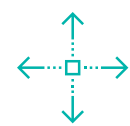
- Standard packages
- “Pineapple” packages
- Rounded-edge packages

This system includes axial displacement, realized by the electronic thread-guide control, which allows the yarn distribution over package edges, to obtain a “Customized” Package design.

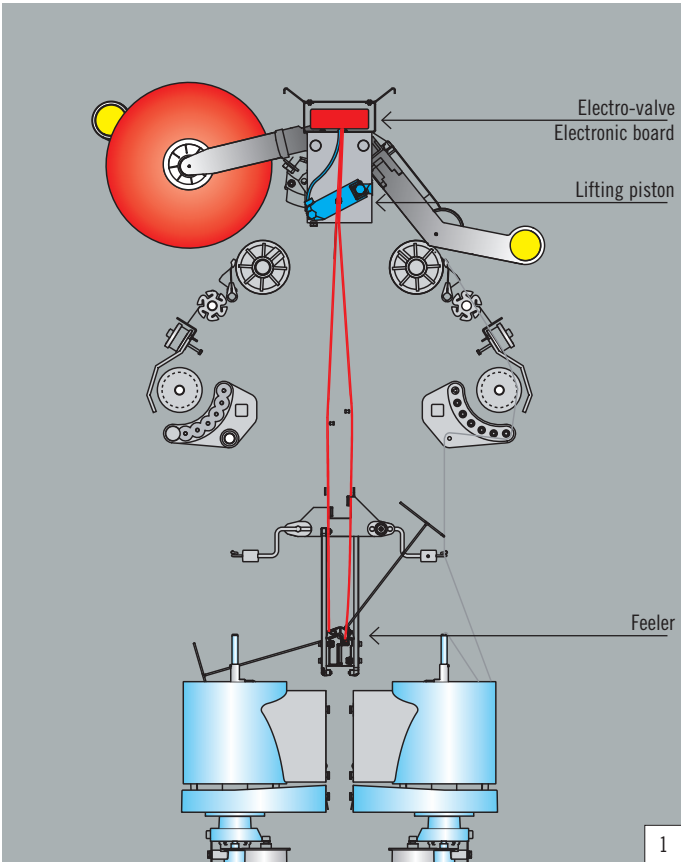
The bunching length is settable by the PC, as well as its position on the package tube.

The working parameters can be varied flexibly, there're not pre-set ranges any more, this allows our customers to obtain the best results, both in terms of working speed and package formation.





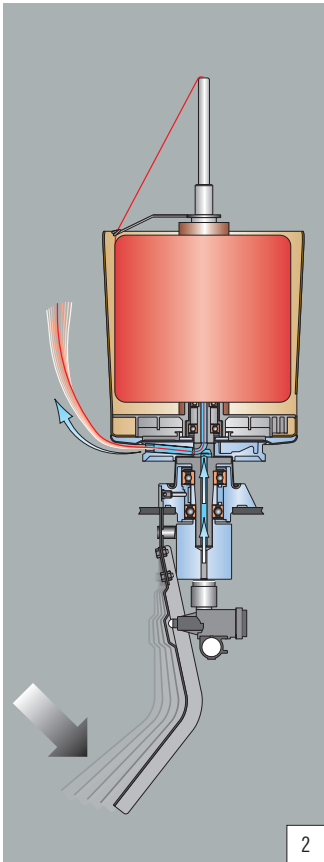
Many optionals available to reach the maximum technological flexibility



Package Lifting Device (1)
The new electro-pneumatic package-lifting device operates with:

- A lifting delay independent from the package weight
- A cradle that locks in its position and remains lifted also during feeler rearm

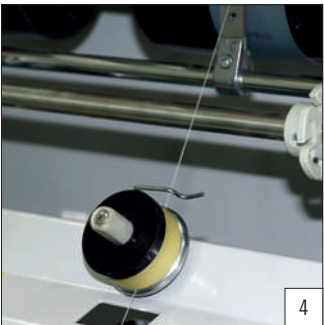
Feeler lock
A centralized control, located inside the headstock, locks all the yarn feelers avoiding their fall, upon the machine is stopped. When the machine is restarted, the feeler lock is disconnected only when the ballon has reached the optimal tension.



Pneumatic Threading (2)
Both spindle brake and pneumatic threading are operated via the pedal at the bottom of the machine. When yarn breaks, the operator brakes the spindle pressing on the pedal, picks up the package yarn end and, by pressing the pedal right down, effects threading easily.



Second overfeed roller (3)
Allows optimizing yarn path in any overfeeding condition.



Second counterweight spring for soft packages
Allows increasing the counterweight effect over the package.

Yarn reserve
The best solution to eliminate not twisted yarn on the package when machine is started.

Waxing device (4)
Thanks to magnetic compensation, waxing device grants a constant wax distribution over the yarn.



Pulleys for complete speed range
Allows using the complete speed range available for the chosen spindle.

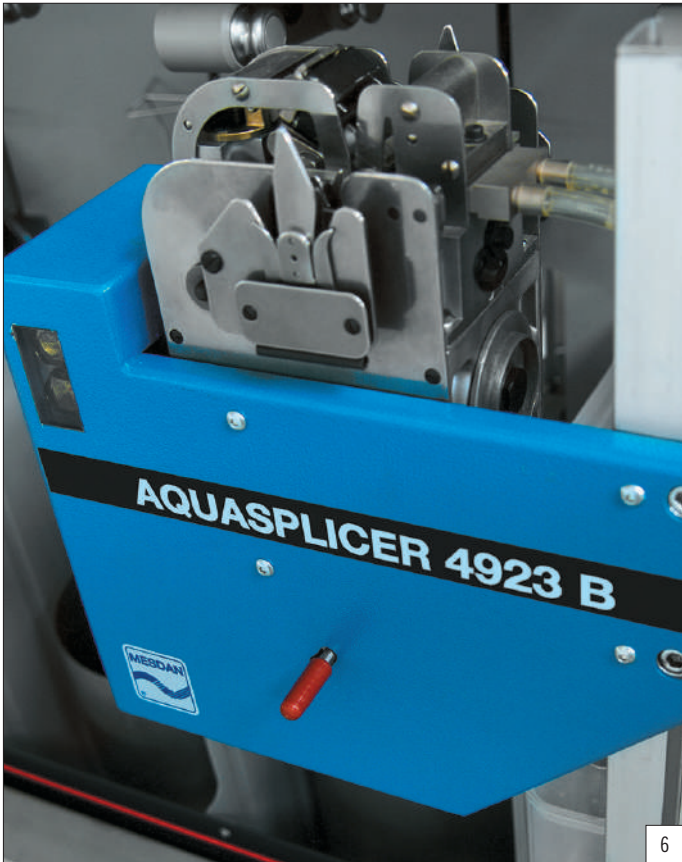
Mechanic axial displacement
Axial displacement offers the possibility to obtain dying soft packages, by distributing the inversions on a wider space (up to 7 mm).

Partial soundproofing (with front panels)
A dampening modular panel placed on the bottom part of each section reduces the noise.

Complete soundproofing (with front and inferior panels)
An additional dampening modular panel located under each section further reduces the noise.

Lycra kit (5)
Special flyer for twisting elasticized yarns.

Abrasive yarns feeler (ceramic)
Allows to process abrasive yarns avoiding damage on them.



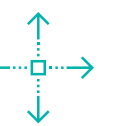
Inverter
Allows varying spindle speed continuously.

Emergency stop
A secure and immediate way to stop the machine in case of emergency.

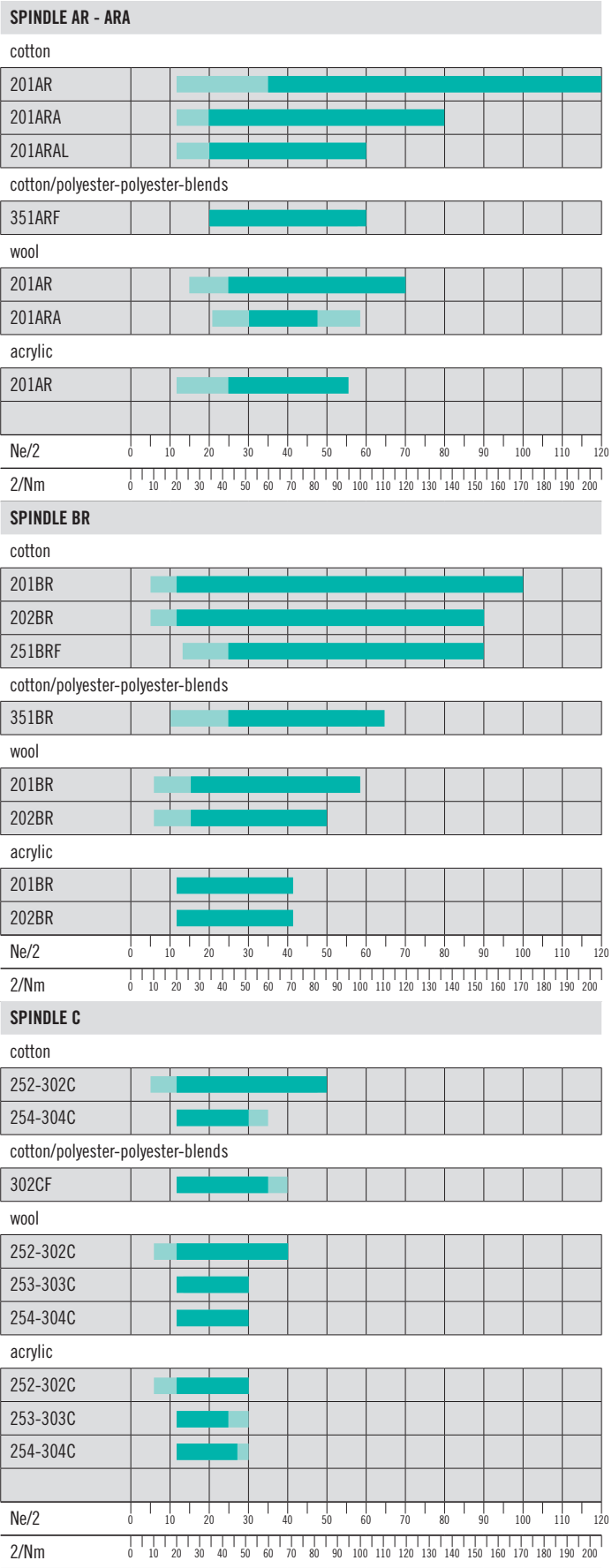
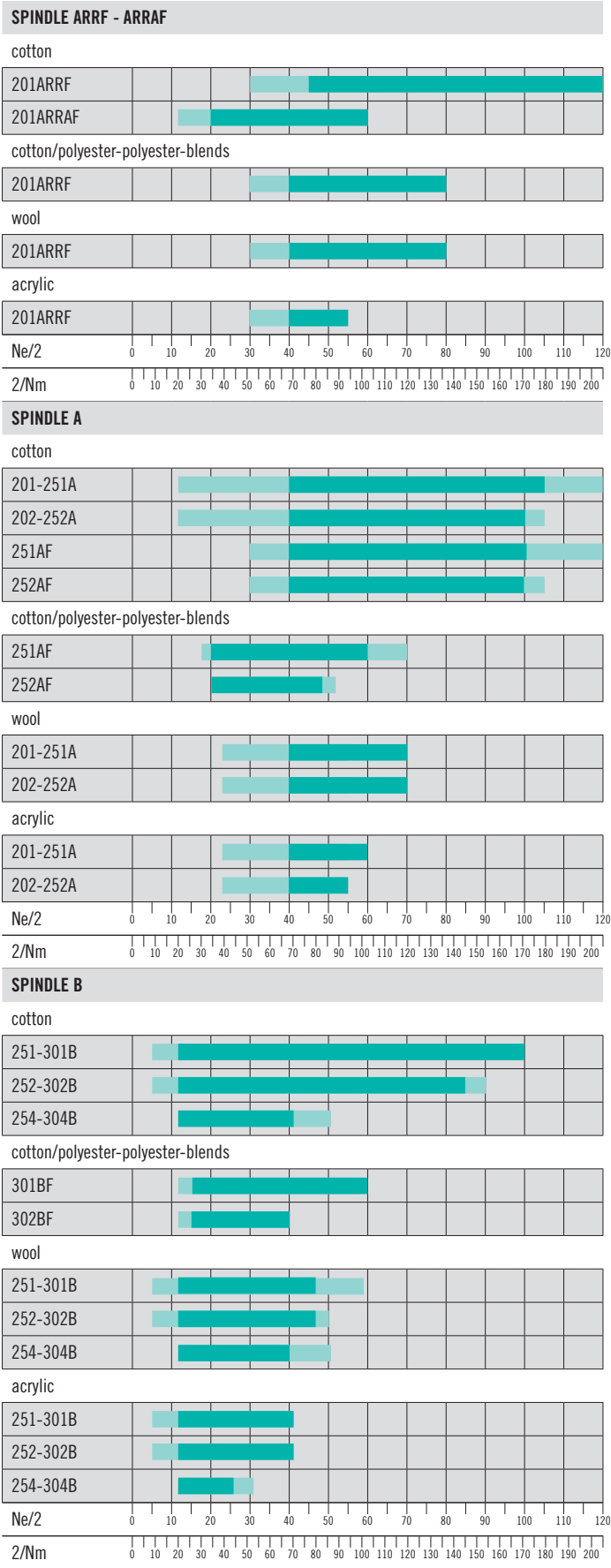
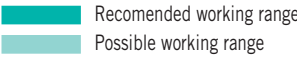
Travelling blower
Total programmable cleaning of machine headstock.

Jointair (6)
System with trolley moved manually along the machines fronts. The following versions are available according yarn type:

- Jointair 115 A (Airsplicer)
- Jointair 4923B (Watersplicer)



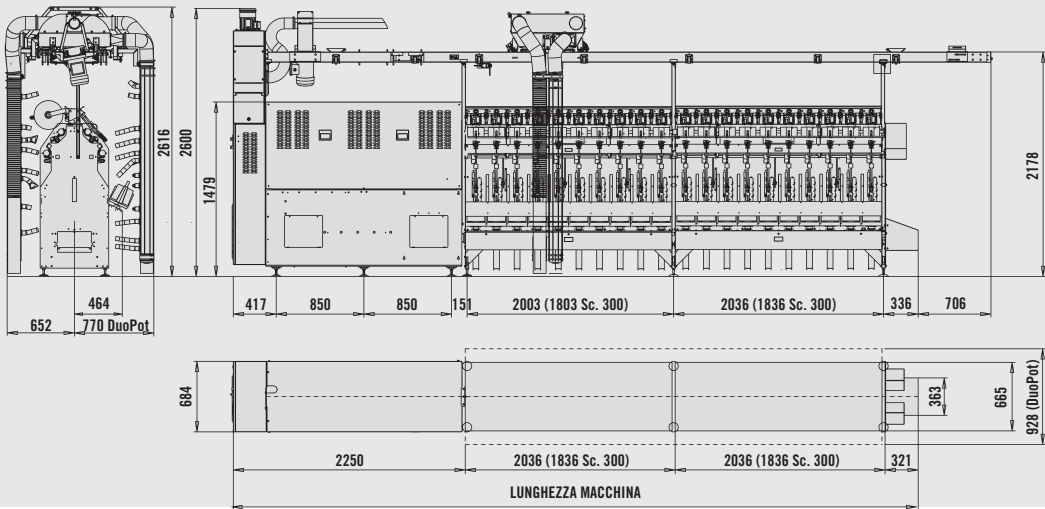
Possible working range



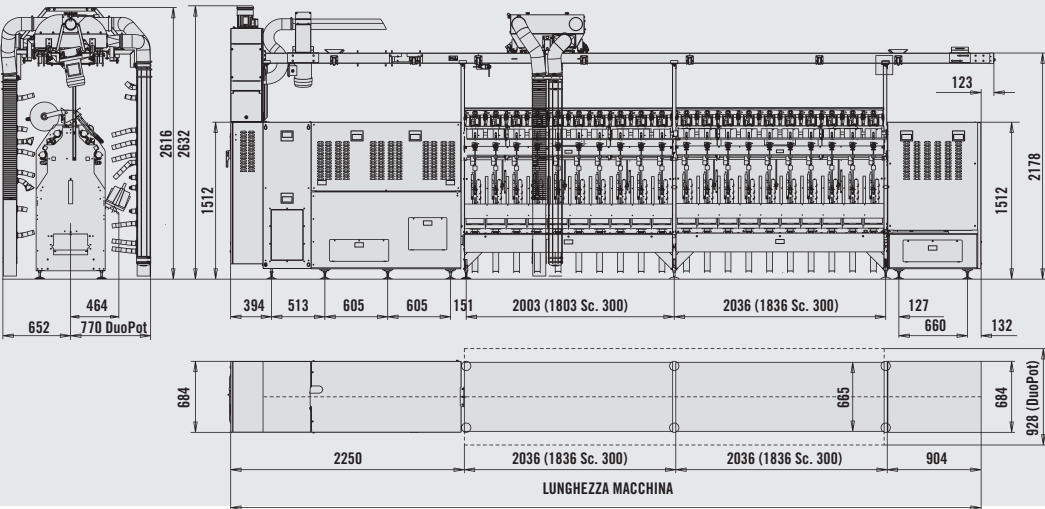
GAUGE	SPINDLES	BASKETS	FEEDING			MACHINE MODEL	
			DOUBLE	SUPERIMPOSED	DUO POT SYSTEM	CONTROLLED BALLOON	FREE BALLOON
200	ARRF	1	155x94				201ARRF
	ARRAF	1	155x115				201ARRAF
	AR	1	155x125			201AR	
	ARA	1	155x135			201ARA	
	ARAL	1	155x141			201ARAL	
	A	1	155x141	2x85x140		201A	
		2	178x141 200x141	2x110x145		202A	
	BR	1	155x151			201BR	
		2	178x151 200x151	2x110x155		202BR	
250	AR	1	155x125			251AR	251ARF
	A	1	155x141	2X85x140		251A	251AF
		2	178x141 200x141	2x110x145		252A	252AF
	BR	1	155x151			251BR	251BRF
		2	178x151 200x151	2x110x155		252BR	
	B	1	155x162	2x85x165		251B	
		2	178x162 200x162	2x110x165		252B	
	C	2	178x185 200x185	2x110x185		252C	
		2.5	200x185 250x185			252.5C	
250 LOW	B	4			2x4°20'x160 2x5°57'x160	254B	
	C	3		2x150x185		253C	
		4			2x4°20'x185 2x5°57'x185	254C	
300	B	1	155x162	2x85x165		301B	301BF
		2	178x162 200x162	2x110x165		302B	302BF
	C	2	178x185 200x185	2x110x185		302C	302CF
300 LOW	B	4			2x4°20'x160 2x5°57'x160	304B	304BF
	C	3		2x150x185		303C	303CF
		4			2x4°20'x185 2x5°57'x185	304C	304CF

Overall dimensions and installation layout

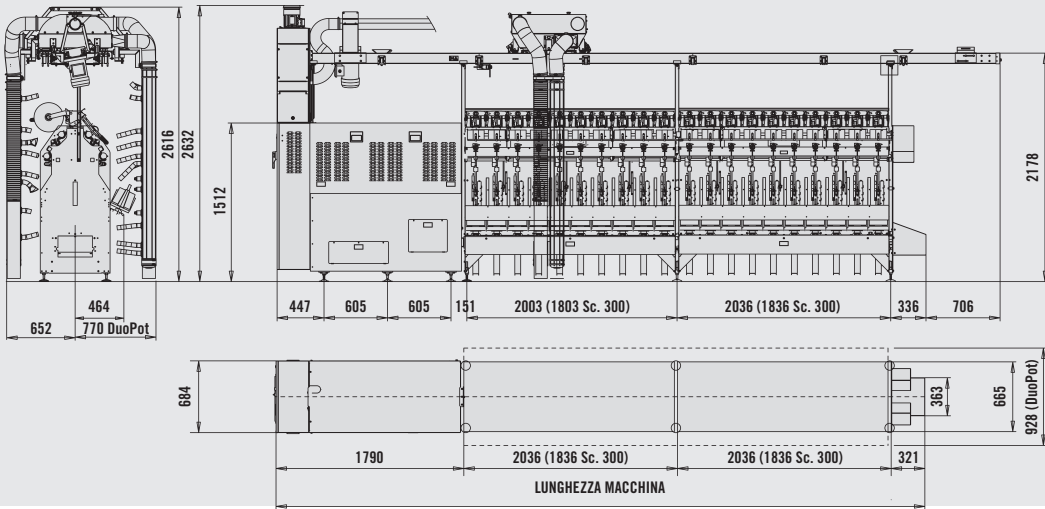
MECHANICAL HEADSTOCK
VERSION WITH 1 MOTOR



EDS HEADSTOCK
VERSION WITH 2 MOTORS



EDS HEADSTOCK
VERSIONS WITH 1 MOTOR



MACHINE LENGTH (mm)											
Sections	GAUGE 200mm			GAUGE 250mm				GAUGE 300mm			
	Spindles	ARRF ARRAF AR - ARA ARAL - A	BR	Spindles	ARF - AF BRF 1/2 B	4 B	2 C	3/4 C	Spindles	B	C
1	20	4.607	4.607	16	4.607	4.607	4.607	4.607	12	4.407	4.407
2	40	6.643	6.643	32	6.643	6.643	6.643	6.643	24	6.243	6.243
3	60	8.679	8.679	48	8.679	8.679	8.679	8.679	36	8.079	8.079
4	80	10.715	10.715	64	10.715	10.715	10.715	10.715	48	9.915	9.915
5	100	12.751	12.751	80	12.751	12.751	12.751	12.751	60	11.751	11.751
6	120	14.787	14.787	96	14.787	14.787	14.787	14.787	72	13.587	13.587
7	140	16.823	16.823	112	16.823	16.823	16.823	16.823	84	15.423	15.423
8	160	18.859	18.859	128	18.859	18.859	18.859	18.859	96	17.259	17.259
9	180	20.895	20.895	144	20.895	20.895	20.895	20.895	108	19.095	19.095
10	200	22.931	22.931	160	22.931	22.931	23.514	22.931	120	20.931	20.931
11	220	24.967	25.550	176	24.967	24.967	25.550	25.550	132	22.767	22.767
12	240	27.003	27.586	192	27.003	27.586	27.586	27.586	144	24.603	24.603
13	260	29.622	29.622	208	29.622	29.622	29.622	29.622	156	26.439	27.022
14	280	31.658	31.658	224	31.658	31.658	31.658	31.658	168	28.275	28.858
15	300	33.694	33.694	240	33.694	33.694	33.694	33.694	180	30.111	30.694
16	320	35.730	35.730	256	35.730	35.730			192	31.947	32.530
17	340	37.766	37.766	272	37.766	37.766			204	33.783	34.366

MECHANICAL HEADSTOCK VERSION WITH 1 MOTOR
EDS HEADSTOCK VERSIONS WITH 1 MOTOR = - 460 mm
EDS HEADSTOCK VERSION WITH 2 MOTORS



COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =
= ISO 14001 =

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We reserve the right to modify the characteristics of the machines described herein without prior notice. The data given in this brochure are not intended as a guarantee.

Savio machines are equipped with safety devices in compliance with existing regulations.

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