



Officina Meccanica

**PIETRO RAMELLA & C. s.a.s**

Carding sets and carding machines producers since 1947

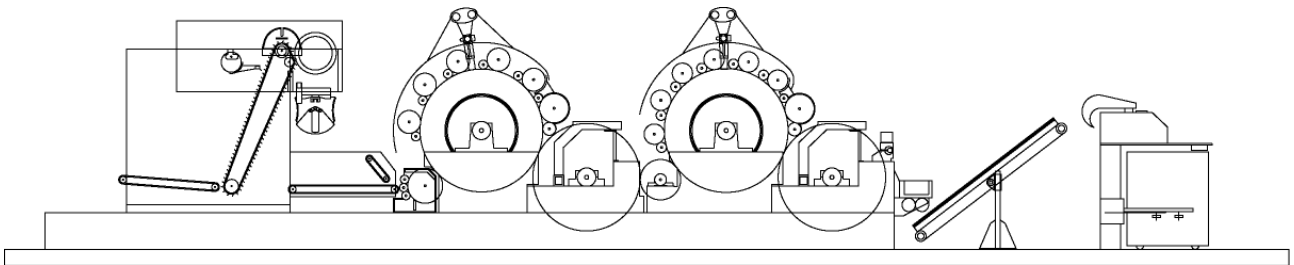
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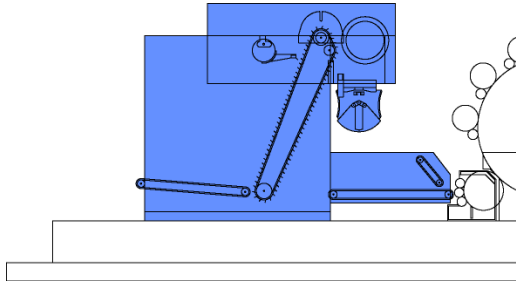
## **MODEL SP2 w.w. 2500 mm**



### **Technical description and machine composition :**

- Automatic hopper feeder
- Inlet unit
- Breast
- First unit
- Fly comb, belt conveyor and coilers

## AUTOMATIC HOPPER FEEDER



The automatic hopper feeder introduces the raw material in the carding machine in a regular and constant way.

The automatic hopper feeder is provided with 4 tables:

- Pinned table with outer mantle in PVC, slats of multi-layer plywood and pins of tempered steel.
- Mixing table, feeding table and press mixture table with outer mantle in PVC and slats of multi-layer plywood.

The pinned table unload is done by a rotatory comb with teeth in PVC. It is studied to discharge completely the pinned table without leaving remaining material on it.

With very easy adjustments of the dosing table, it is possible to increase or decrease the charging speed to do the weighing in the exact time limit also changing the material or the outlet speed.

A blend pusher plate, placed on the feeding table, makes compact and uniform the material discharged by the basket.

The balance basket, suitable to contain long, bulky and light fibres, is assembled on special hardened fulcrums. The basket has a special shape and the opening is done by a pneumatic cylinder.

The balance basket is very precise and the weighing is controlled by suited devices that stop the machine in case of wrong weighing.

The basket filling is done by a two-speed engine with inverter that drives the pinned table.

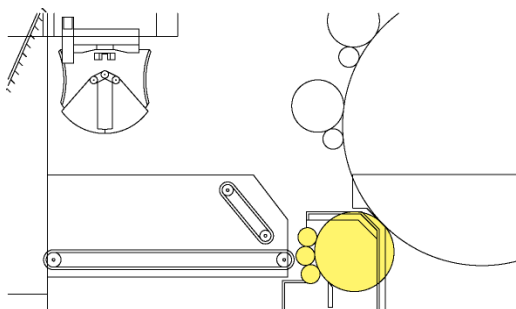
After the weighing two plates, pneumatically controlled, cover the basket preventing the accidental material fall.

It is possible to change the quantity of material loaded bringing the dosing comb near or moving it away from the pinned table.

The combs (dosing and unloading) are driven by a single gear-motor.

All these devices are deliberately studied and are guaranteed by a long application in the carding field.

## INLET UNIT



composed of:

N. 1	Upper taker-in roller	∅ 100 mm	Rigid card clothing
N. 1	Under taker-in roller	∅ 100 mm	Rigid card clothing
N. 1	Cleaner roller	∅ 100 mm	Rigid card clothing
N. 1	Opener roller	∅ 420 mm	Rigid card clothing

The inlet unit introduces the material in the breast in a regular way, avoiding, through the safety devices, the foreign bodies entry into the process.

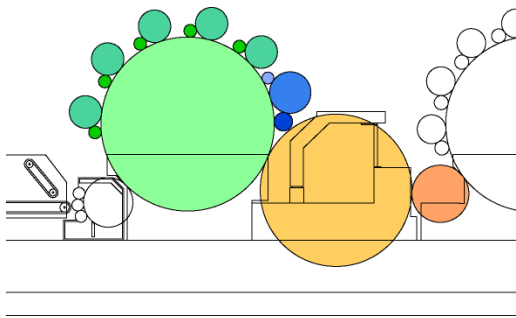
All rollers are wired with rigid card clothing saw tooth type.

The opener roller rotates toward the lower and it's provided with a knife with a nails puller knife that eliminates the foreign bodies among the fibres.

The opener roller is provided with a first class safety device that stops the machine in case of foreign bodies get into the processing.

The inlet unit rollers are controlled by a speed variator that can be easily regulated on the main electric panel.

## BREAST



composed of :

N. 1	Drum	∅ 1500 mm	Rigid card clothing
N. 5	Worker rollers	∅ 270 mm	Rigid card clothing
N. 5	Cleaner rollers	∅ 100 mm	Rigid card clothing
N. 1	Upper fancy roller	∅ 90 mm	Rigid card clothing
N. 1	Fancy roller	∅ 314 mm	Flexible card clothing
N. 1	Under fancy roller	∅ 140 mm	Rigid card clothing
N. 1	Comber roller	∅ 1300 mm	Rigid card clothing
N. 1	Conveyor roller	∅ 475 mm	Rigid card clothing

The breast opens the fibres entering in process in tangled way and prepares them to the following passage. The conveyor roller connects the breast to the first unit.

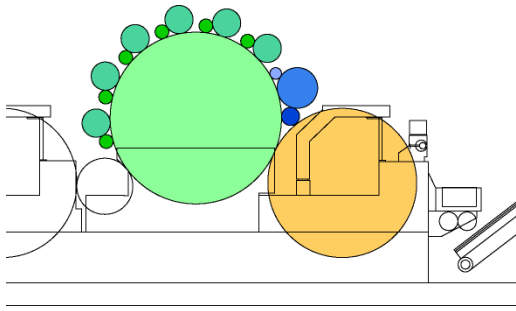
All the rollers, except for the fancy roller, are constructed in steel.

This unit is clothed with rough card clothing to give a first opening to the material.

The frame is made of double steel sheet .

Crescents are manufactured in a single piece of cast iron, they are turned externally for the right fitting with covers.

## FIRST UNIT



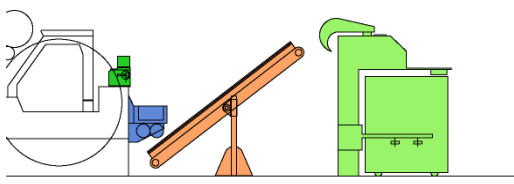
composed of :

N. 1	Drum	∅ 1500 mm	Rigid card clothing
N. 6	Worker rollers	∅ 230 mm	Rigid card clothing
N. 6	Cleaner rollers	∅ 100 mm	Rigid card clothing
N. 1	Upper fancy roller	∅ 90 mm	Rigid card clothing
N. 1	Fancy roller	∅ 314 mm	Flexible card clothing
N. 1	Under fancy roller	∅ 140 mm	Rigid card clothing
N. 1	Comber roller	∅ 1300 mm	Rigid card clothing

The first unit completes the fibres parallelizing partially done by the breast.  
The fancy roller permits a better material removal by the doffer roller.

The fancy roller is clothed with a flexible card clothing placed on a web with rubber bottom.  
All other cylinders are wired with rigid card clothing saw tooth type.  
The fancy roller and all worker rollers are made of light aluminum alloy.  
All other cylinders are made of steel.

## FIRST UNIT



The fly comb detaches the web from doffer roller, through two cylinders the web becomes a ribbon sent to the coilers by a inclined belt conveyor.  
Coilers store the ribbon in the can-coils.

The fly comb moves at high speed with a 40 mm oscillation.  
Coilers is automatic with lateral ejection and it is suitable for cans with diameter 1000 mm and height 1200 mm.

## TECHNICAL DETAILS

This carding machine is equipped by 15 AC motors. These motors drive independently:

- Mixing table, pinned table
- Dosing and unloading combs
- Feeding table, press-mixture table and inlet unit (variable speed motor)
- Breast drum, cleaner rollers, knot-breaker roller (variable speed motor)
- Breast worker rollers (variable speed motor)
- First doffer roller
- First unit drum, cleaner rollers, fancy roller, under fancy roller, upper fancy roller (variable speed motor)
- First unit worker rollers (variable speed motor)
- Second doffer roller, conveyor belt and coilers (variable speed motor)
- Fly comb
- Protection covers (4 motoreducers)
- Ejection device for can-coils

The variable speed motors can be easily controlled by the main electric panel.

All rotary parts are assembled on first-class ball bearing.

Main cylinders and doffers are made in steel sheet heat treated into an electric furnace.

## ELECTRIC PANEL

The panel is provided with user-friendly devices to control all motor speed.

An electrical stabilizer provide the right power supply to all electrical parts.

The panel is also provided with a display to control the main machine functions and an acoustic alarm that rings in case of :

- signal of the inlet unit safety device.
- signal of can-coiler filling

## FRAME

The frame is fully manufactured in our factory in steel sheet and it is heat treated in special electric furnace. It is made of double steel sheet with internal strengthening that completely eliminates the vibrations.

Crescents are manufactured in a single piece of cast iron, they are turned externally for the right fitting with covers.

## PROTECTION SYSTEMS AND QUALITY CERTIFICATION

Both sides of the machine are completely protected by security doors according to the current rules. The lock device doesn't allow open the lateral protections while the machine is running. This will be deactivated only when the machine is completely stopped and if all protection doors are closed.

Covers protect the upper side of the machine: they are in steel sheets with aluminum rims and they are provided with electric lift device and automatic blockage system.

The blockage system is deactivated only when the carding machine is completely stopped.

The machine is marked C.E. and follows UNI EN ISO 9002 rules.