SHIMLINE

SHIM ASSEMBLY AND RIVETING LINE

MAIN FUNCTION

Carry out the shim assembly and brake pad riveting operations according to the customer's specifications.

DESCRIPTION

Le caratteristiche principali della linea sono:

• Pallet frame to support the transporter and machinery present in the line.

• Chain conveyor with flights for brake pad tending, with "Bonfiglioli" gearmotor and inverter for speed management; brake pad loading robot; manual shim assembly stations #1 and #2 with photoelectric safety barrier; electromechanical press #1; electromechanical press #2; free station for future pad printing press or stamping machine; riveting1, riveting2; brake pad unloading robot and loading onto the exit conveyor.

• Brake pad loading station with scara robot with 600 mm stroke, 6 kg capacity.

• Station #1 for manual mounting of shims on the brake pad carrier.

• Station #2 for manual mounting of shims on the brake pad carrier.

• Kistler electromechanical press F=4000kg. complete with internal piezoelectric load cell and plate with electrical resistances for a temperature of 150°.

• Free workplace for future pad printing press or stamping machine.

• Baltec orbital riveting machine type RNE 231 installed on an orthogonal table with a controlled X-Y registration axis system.

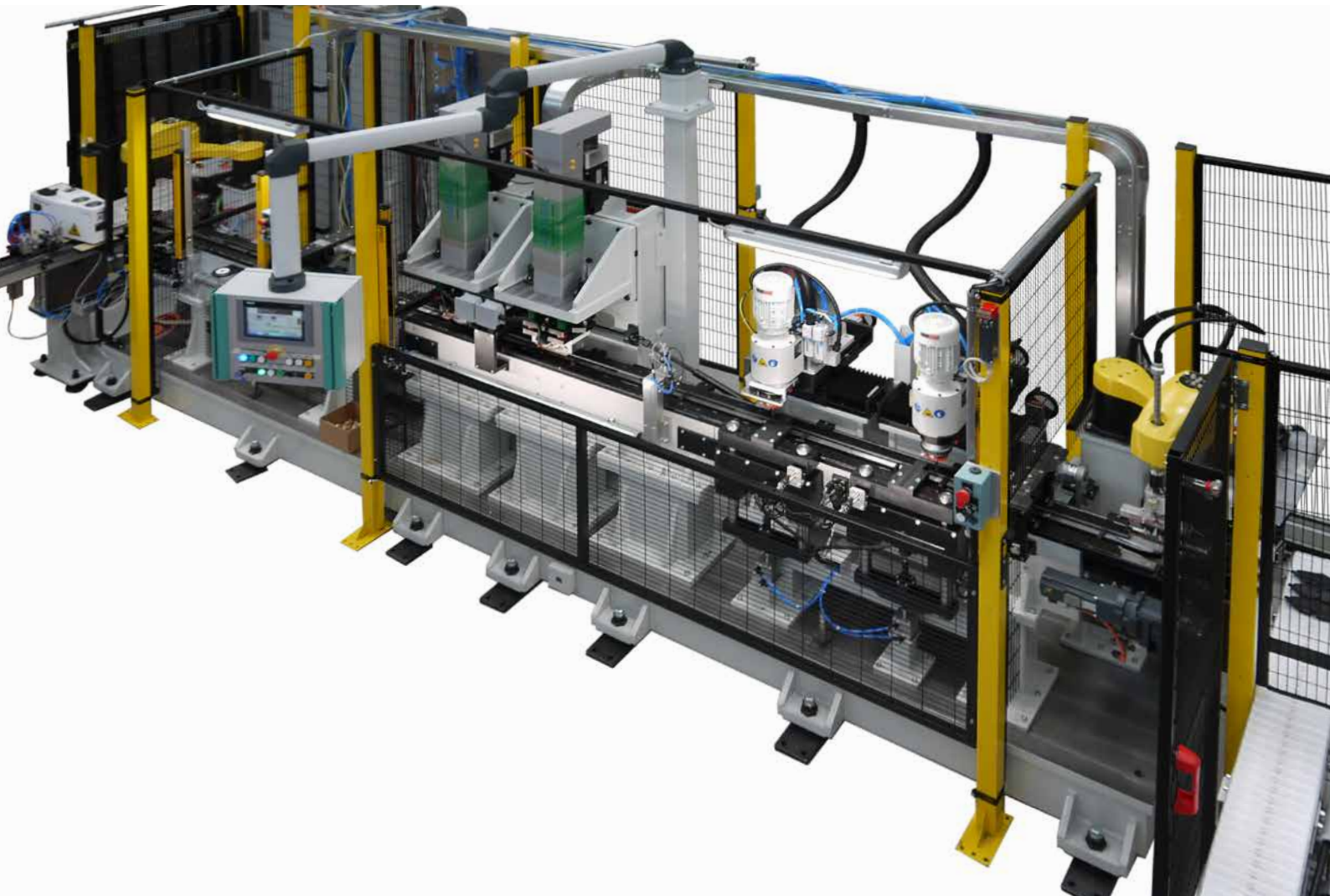
• Brake pad unloading station with scara robot stroke 600 mm capacity 6 kg

• Brake pad exit conveyor belt.

• Upstream of the finishing line is a conveyor with galvanised steel plate conveyor complete with pneumatic cadencer for the brake pads.

• The galvanised steel slat conveyor is equipped with an automatic flaming deviceTeca-Print FLG201.

• PLC line management software with recipe commands on the operator panel.



SPECIFICATIONS

CYCLE / SEQUENCE OF OPERATIONS
4”

WORKING CYCLE

• STATION 1 = pick-up of the brake pad, which has previously undergone flaming treatment using the Teca-Print automatic device, on board the galvanised steel plate slat conveyor and depositing of the brake pad using a Fanuc scara robot on the finishing line conveyor.

• STATION 2 = manual assembly of the shim on the brake pad on the chain conveyor with flights.

• STATION 3 = manual assembly of the shim on the brake pad on the chain conveyor with flights.

• Brake pad advance movement to subsequent stations.

• STATION 4 = vertical pressure with electromechanical press F=4000 kg. of the shim with interface with plate with electrical resistances for temperature of 100°.

• STATION 5 = vertical pressure with electromechanical press F=4000 kg. of the shim with interface with plate with electrical resistances for temperature of 100°.

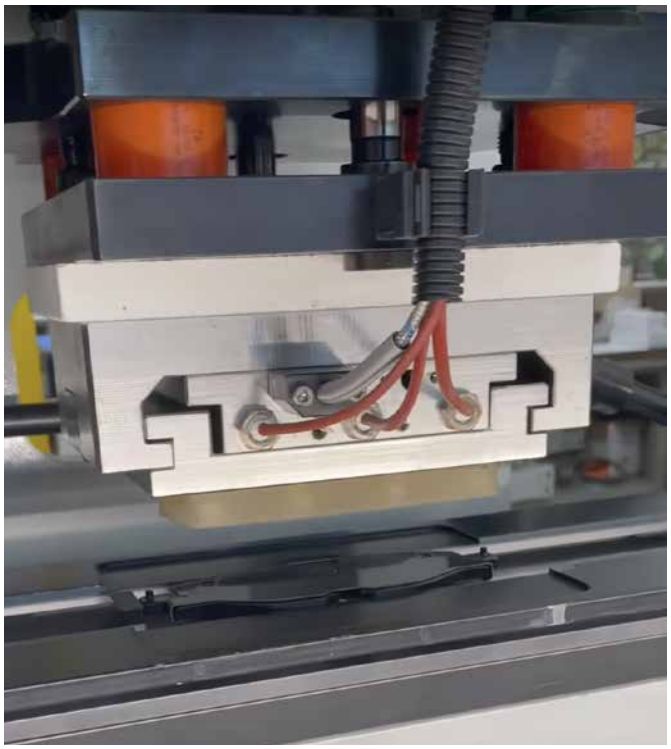
• STATION 6 = free for future tamping press or stamping machine.

• STATION 7 = riveting of pin 1 on the brake pad.

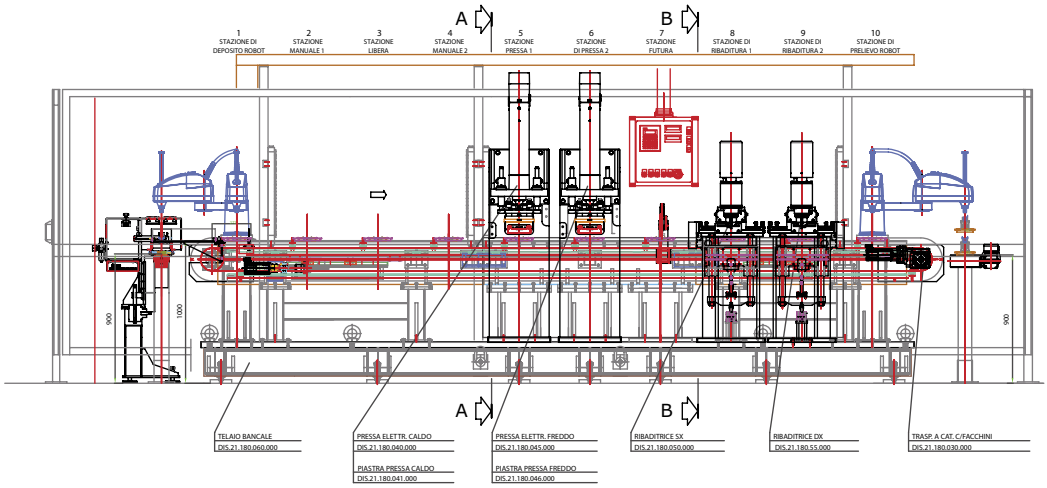
• STATION 8 = riveting of pin 2 on the brake pad.

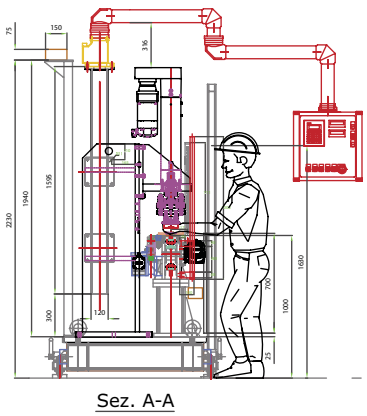
• STATION 9 = unloading of brake pad with Fanuc scara robot and depositing on exit conveyor belt.

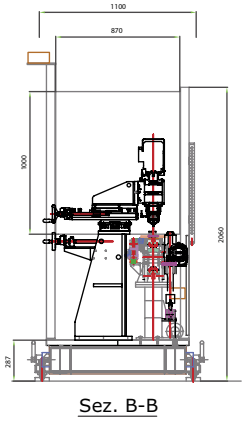
• STATION 10 = exit conveyor belt for processed brake pads.

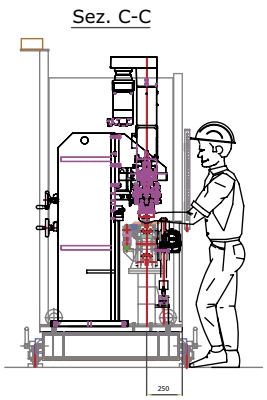


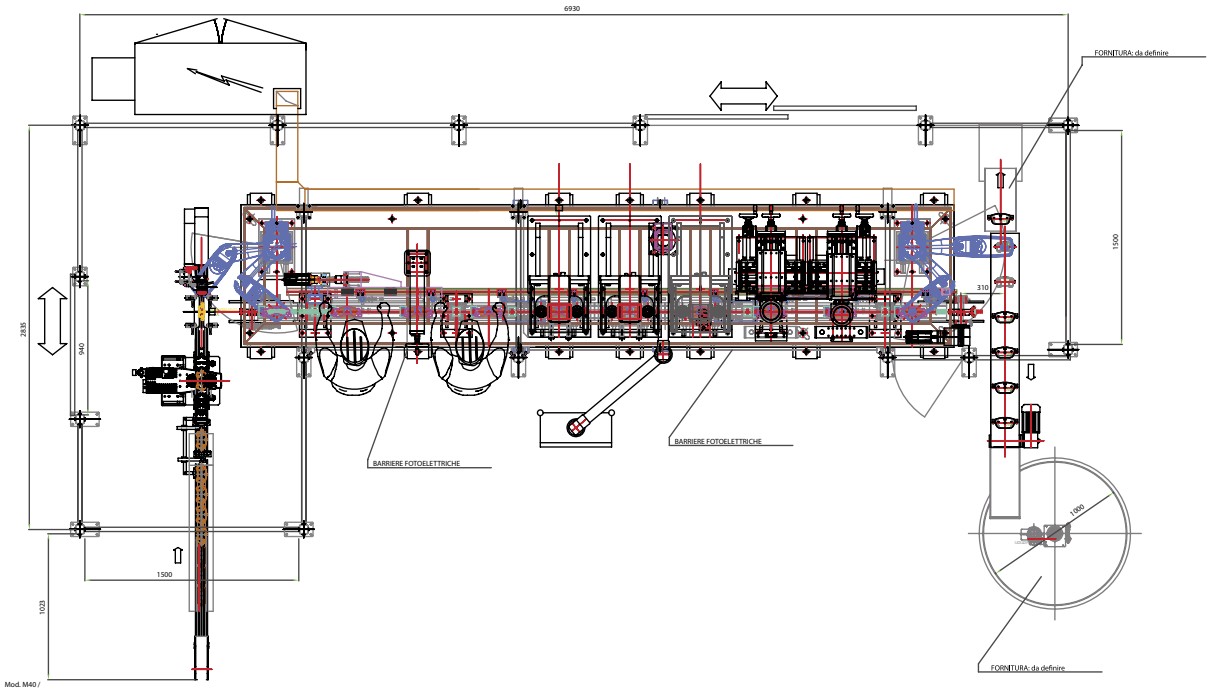
DIAGRAM




Sez. A-A


Sez. B-B


Sez. C-C



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