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FS 368 COMBI

MONOBLOCK BAG-FILLING MACHINE FOR OPEN-MOUTH BAGS

PAGLIERANI

The FS368 COMBI monoblock bag ging machine is the fully automatic solution for the filling of open-mouth bags.

COMPACT: all machine operations, including empty bag positioning, filling and closure (by stitching, sealing or both) take place in a space just 3,2 m long and 2,3 m wide (version with stitching only or sealing only).

RELIABLE: the entire filling procedure (bag mouth forming and closing) is assisted by a gripper system which holds the top of the bag through every stage, never releasing the bag from the moment of pick-up.

VERSATILE: the filling machine is able to pack bags made of widely varying materials (paper, woven or laminated polypropylene, polyethylene).

SIMPLE: robust design, conceived to meet the highest performance standards, easy to operate and maintain.

SAFE: intrinsic guarding provides safe working environment whilst allowing easy access though sliding doors, for maintenance.

HIGH PERFORMANCE: the electronic control systems enable the bag-filling machine to achieve high production rates and reliability.

COMPACT

RELIABLE

VERSATILE

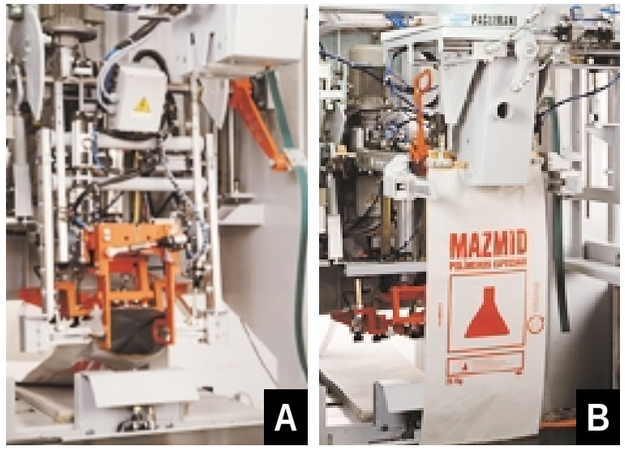
SIMPLE

SAFE

FAST

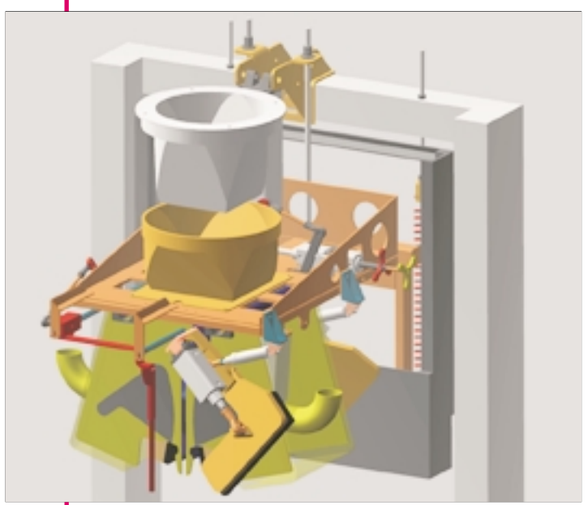
FILLING SPOUT AND FORMING DEVICE FOR FLAT BAGS (BAG ALIGNER)

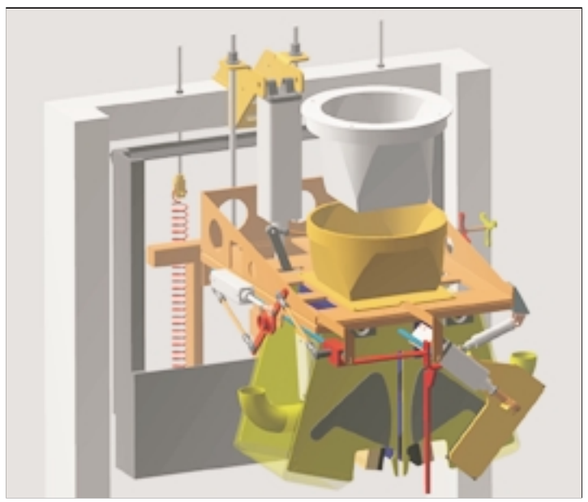
The filling spout is adjustable for bags of different widths. Bag presence sensors ensure that filling only takes place when the bag is correctly positioned. The forming device (bag aligner) is part of the filling spout and ensures perfect alignment of the bag top. No adjustment is required in case of variations in bag size. Dust guard baffles and dust extraction connections ensure a dust-free environment during filling operations. The full bag is placed on the conveyor belt ready for removal by a pneumatically operated raising and lowering movement.
As an optional extra, parts in contact with the product can be in stainless steel.



VERSION FOR GUSSETED BAGS

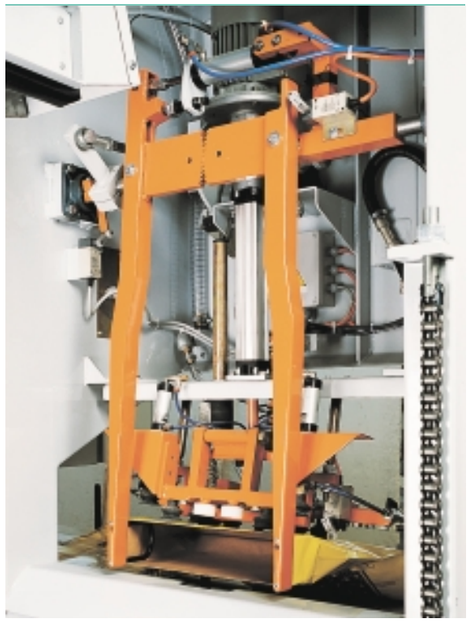
For gusseted bags, the feeding system and the filling outlet are equipped with pneumatic grippers which hold the gusset closed, ensuring it keeps its shape. The mouth of the bag is opened and the gusset is kept closed by side grippers (A). After positioning at the filling outlet, the bag is kept with its gussets closed and correctly shaped (B).





PICK AND PLACE ARM

The bag is picked up from the stack by the bag pick up arm, which moves in an arc to place it onto the filling spout driven by a rod and crank coupling. Precise high speed operation is guaranteed by the encoder controlled variable speed motor.



BAG PICK-UP

The empty bag is picked up and opened by suction cups. Suction is provided by a Venturi or vacuum pump in the case of plastic and woven polypropylene bags.

BAG MAGAZINE

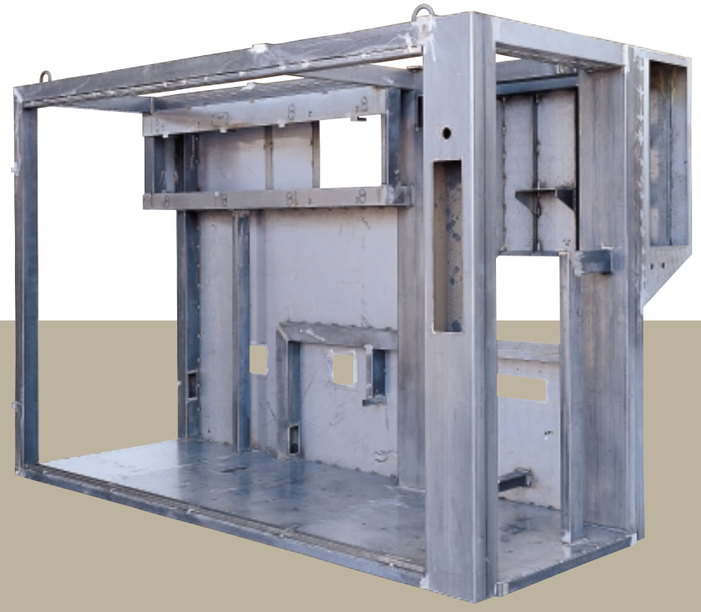
The standard machine has a bag magazine for three stacks of bags, each 200 mm high. Empty bags can be added at any time without stopping production. No adjustments are required for variations in bag length, while changes in width involve quick adjustment. If the supply of bags runs out, the machine stops and the operator is alerted by a beeper and/or flashing warning lamp.

FRAME

Constructed of rolled hollow section carbon steel* members, the FS368 COMBI monoblock bag-filling machine has a rigid, solid structure which:

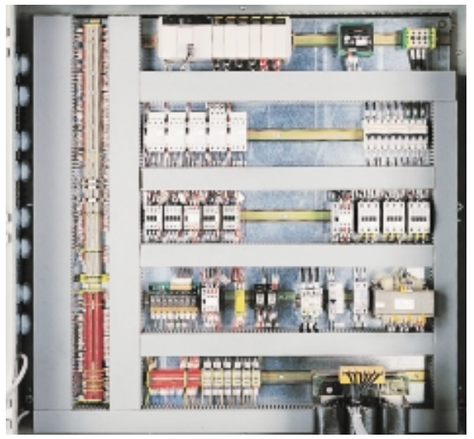
- minimizes the points where dust can build up, in compliance with food standard hygiene requirements
- houses and protects all electrical wiring and compressed air lines inside the structure.

* Special version in
AISI 304 stainless steel.



OPERATOR TERMINAL

The machine is simple to control from the conveniently placed control panel.

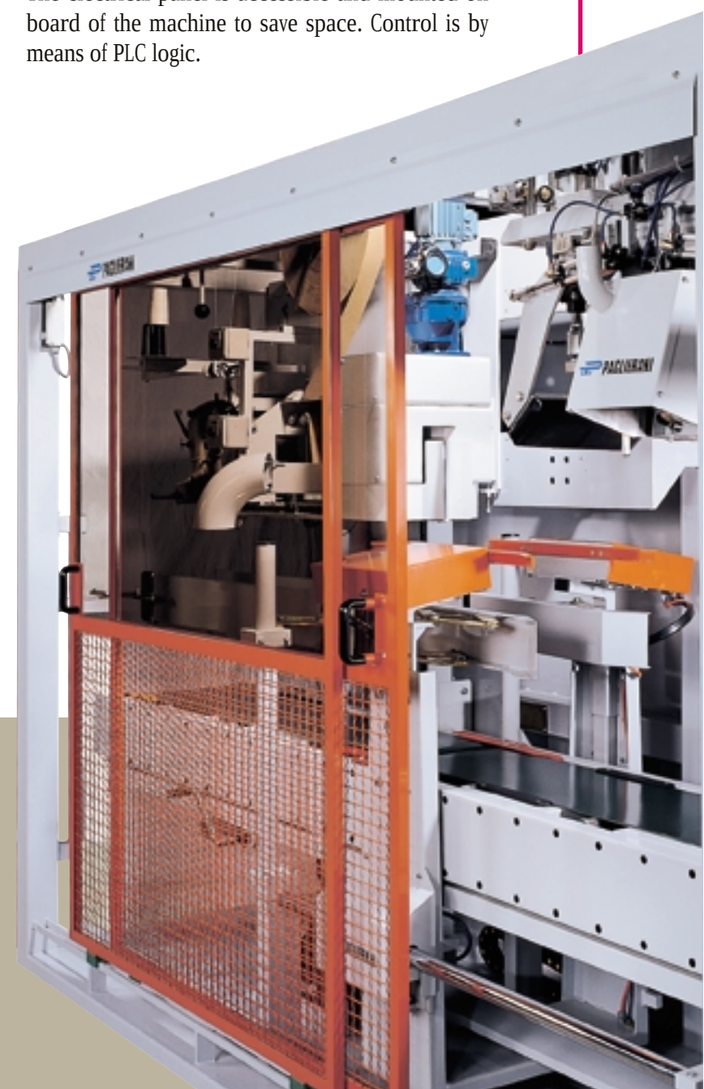


ELECTRICAL PANEL

The electrical panel is accessible and mounted on board of the machine to save space. Control is by means of PLC logic.

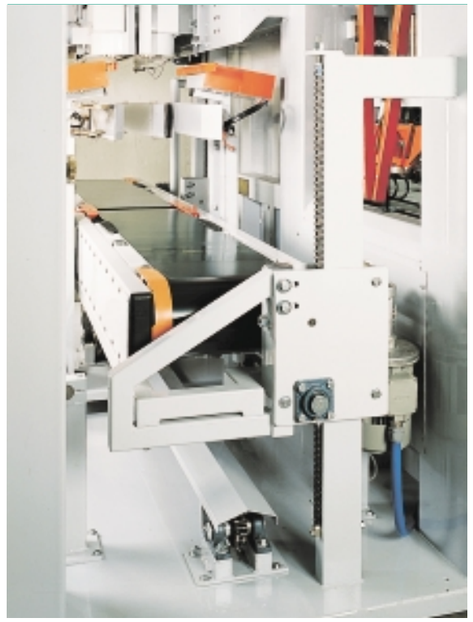
SAFETY FENCES

In accordance with current safety guide lines, the machine includes sliding safety fences, which trigger an emergency and an immediate stoppage when opened.



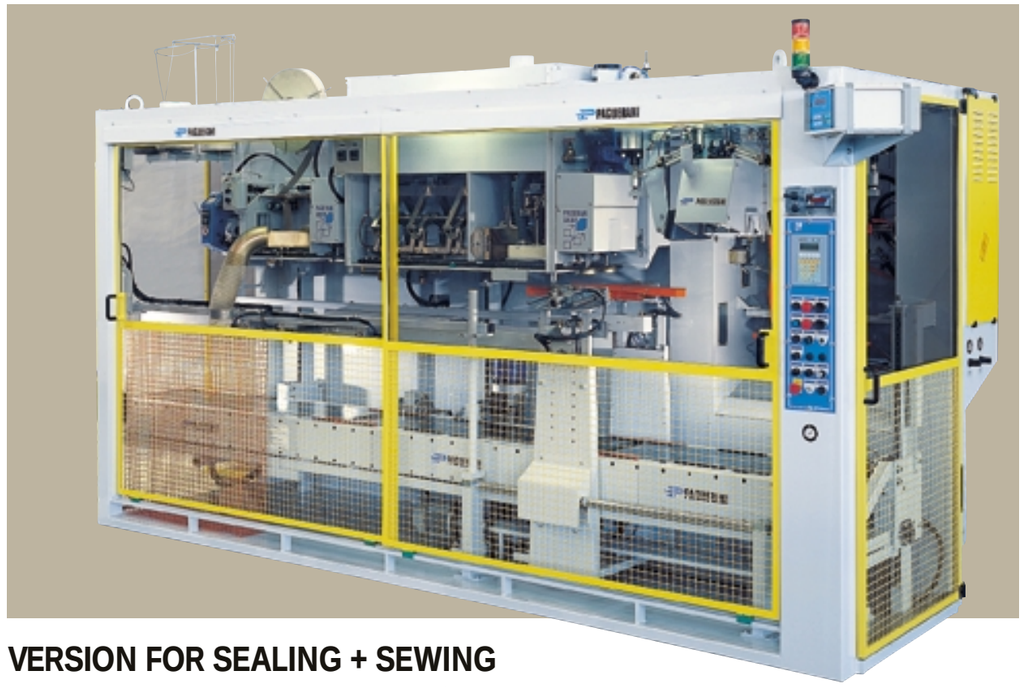
BAG TOP GRIPPER AND TRANSFER CARRIAGE

After filling, stretching and alignment, the bag is held close to its mouth and transported by the transfer carriage to the entry point of the dynamic conveyor (closing system). The gripper operates pneumatically, while carriage travel is mechanically driven (motor-reduction gear-chain) at a variable speed electronically controlled by a programmable frequency drive. No adjustment is necessary when changing bag sizes.



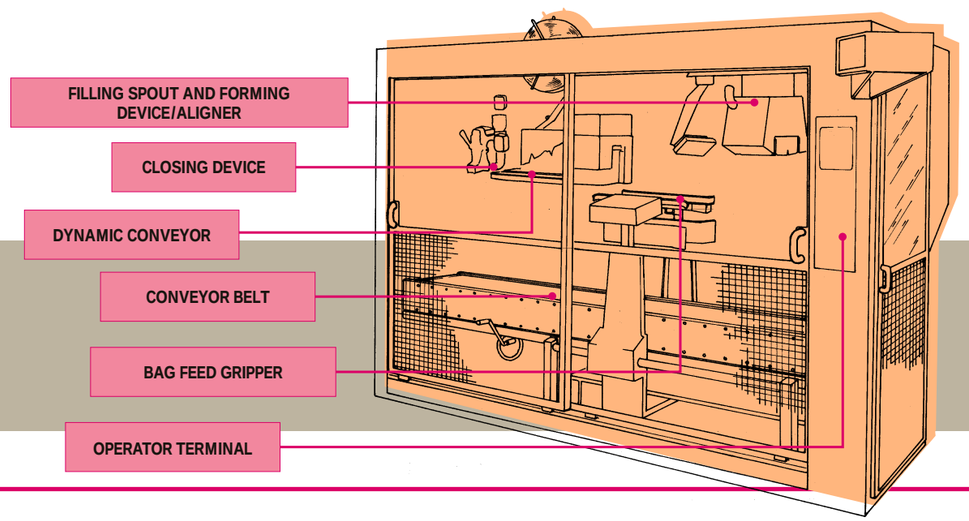
CONVEYOR BELT

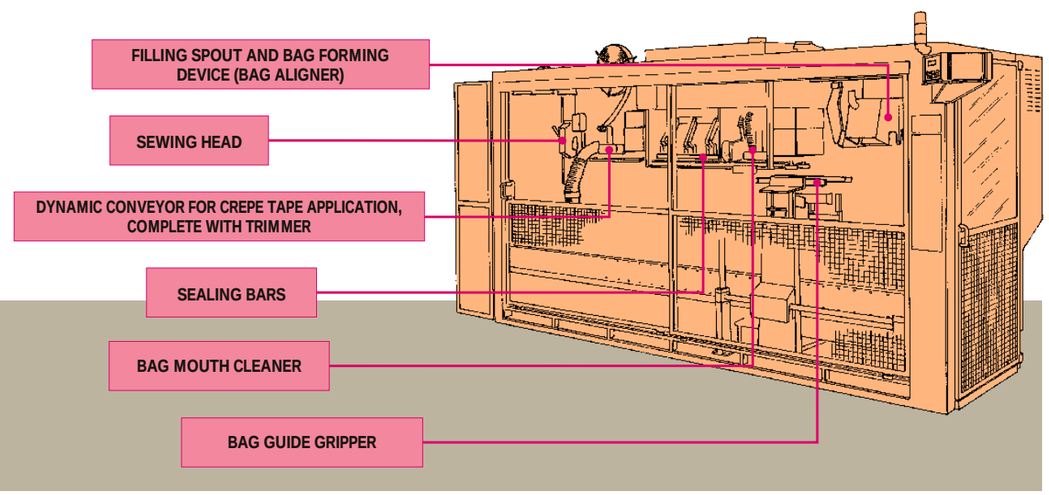
The full bag is transported on a motor driven conveyor. Adjustment of the conveyor height is electrical and automatic; during the switch from one bag size to another, the height of the conveyor is controlled by an encoder.



VERSION FOR SEALING + SEWING

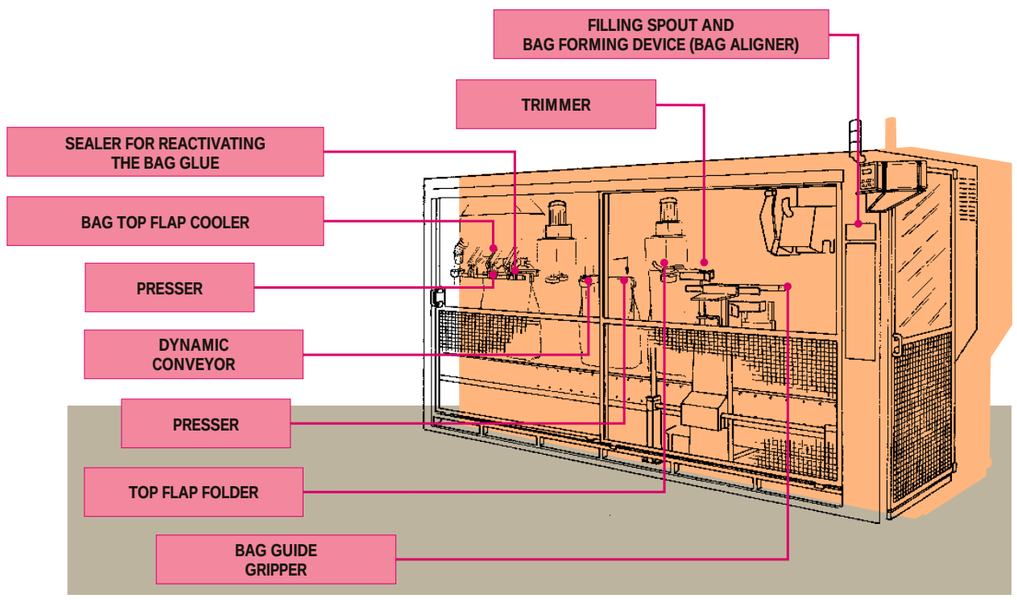
SOT type closing: internal seal with application of a crepe paper cover tape.





VERSION FOR PT SEALING

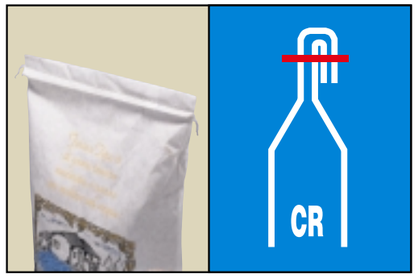
Folding + gluing (paper or aluminium-coated pinch top bag).



TYPES OF CLOSING

CHOOSE FROM THE FOLLOWING OPTIONS DEPENDING ON THE TYPE OF CLOSURE REQUIRED:

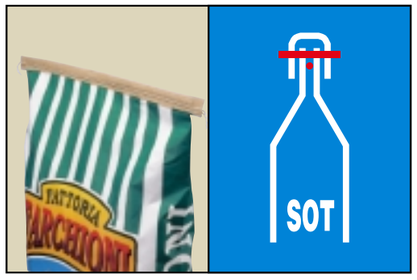
Single seam (paper, polythene, polypropylene, cotton, jute).



Seam with fold (paper, polythene, polypropylene).

Seam with application of crepe paper cover tape (paper).

Seal (polythene).



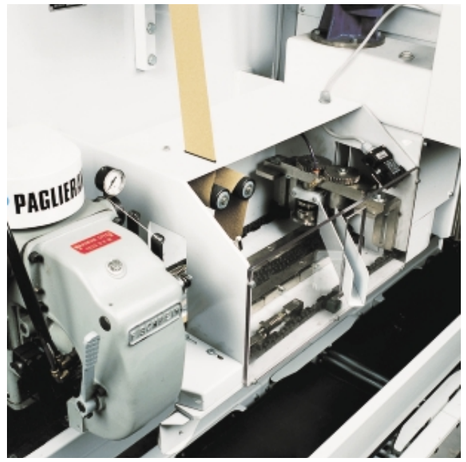
Internal seal with application of a crepe paper cover tape (paper + polythene lining).

Seam with application of heat sealed paper cover tape (paper, or paper + polythene lining, or paper + polypropylene lining).

Folding + gluing (paper or aluminium-coated pinch top bag).

Double folding and hot melt gluing (paper or aluminium-coated material).

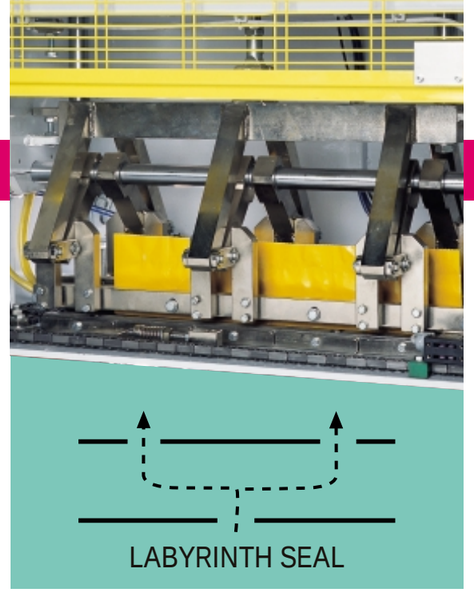
TECHNICAL FEATURES



DYNAMIC CONVEYOR

A pair of chains guide the top edge of the bag into the stitching or sealing unit. Drive is by means of a variable speed drive for simple, immediate speed regulation and perfect synchronization with the other devices (belt and closing system). Depending on the options installed, this device is able to:

- trim the top edge of the bag
- fold the edge
- fit the crepe paper cover tape.

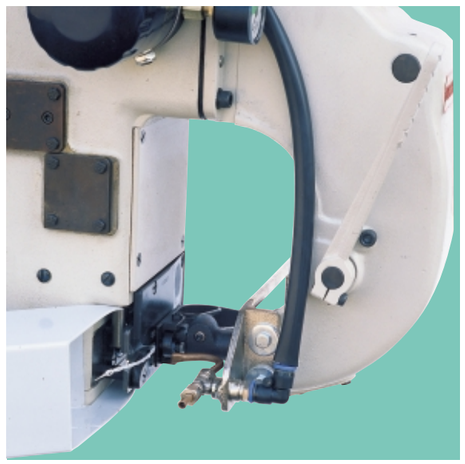


SEALING BARS

Bags are sealed by means of two heated bars. Closure is pneumatic. The height and number of sealing rods can easily be modified from the standard (2 rods each 7 mm thick). A labyrinth seal is used to extract the air from inside the bag.

THREAD SCISSORS

After the stitching operation, the stitched thread chain is cut by a pair of pneumatic scissors mounted outside the stitching head.



BLOW-TYPE THREAD CUTTER

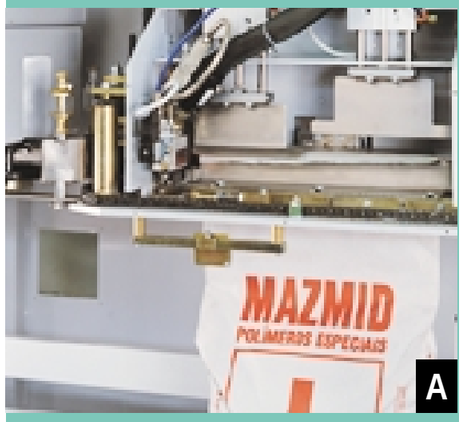
As an alternative to the thread scissors, a blower type thread cutter can be used - compressed air blows the stitched thread between the cutter knives.

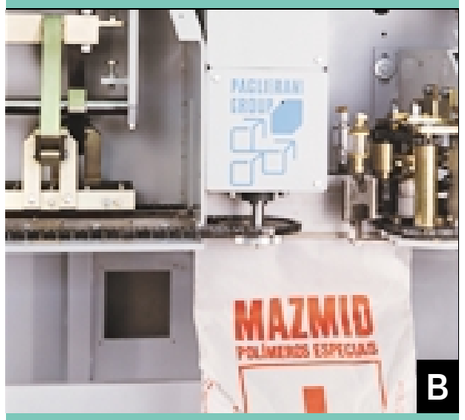
STITCHING HEAD

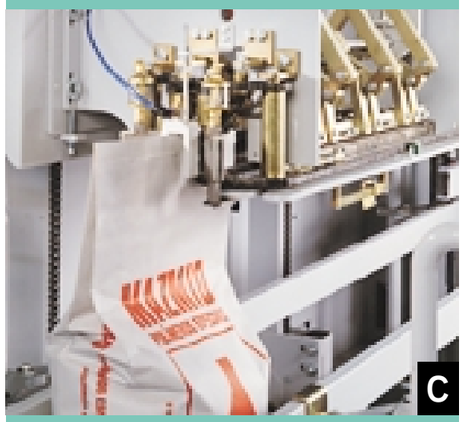
The suitable stitching head for the type of seam required and the specific application will be recommended. Heads are manufactured by Fischbein or Union Special.

PT SEALING

When pinch top bags are to be handled, the Combi bag filler is equipped with a system to: **Fold over the top edge (A).** The top of the bag, guided by a dynamic chain conveyor, is folded over (with a pneumatically operated guide). **Reactivate the glue (B).** A bar sealer heated by thermostatically-controlled electric heating elements, with a pneumatically operated closing movement, reactivates the glue on the edge which has been folded over.
Press and cool the top edge (C). After folding, the edge is pressed and cooled.







TECHNICAL FEATURES

DPI SEALING

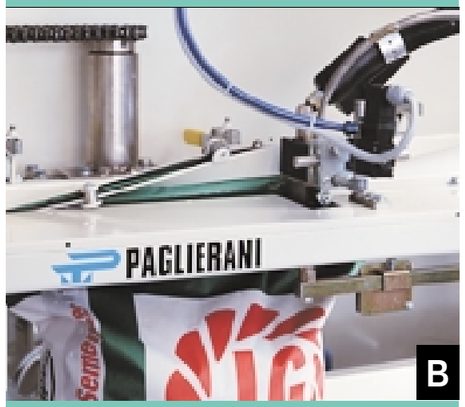
Conventional paper bags can be sealed using the double fold and glue system. The Combi bag filler is equipped with a system to:

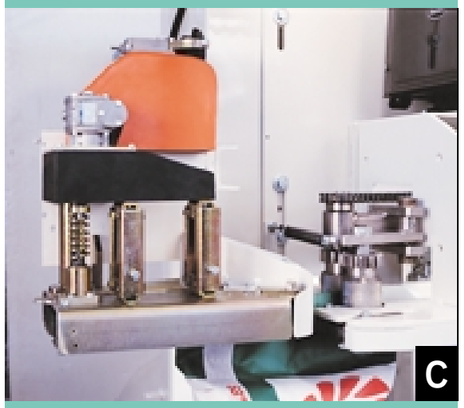
Trim the top to level the edges (A). The top of the bag, guided by a dynamic chain conveyor, is folded over; the offcut is discarded into a collection container.

Double fold the top edge (B). The top of the bag, guided by a dynamic chain conveyor, is folded twice as it passes through two “propellers”.

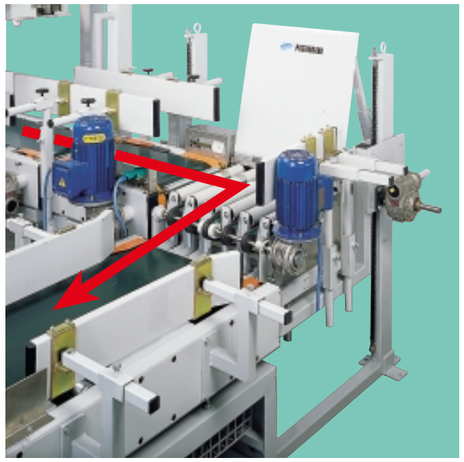
Apply the hot-melt glue (B). The hot-melt glue is applied using a hot-melt glue spraying device.

Press and cool the top edge (C). After folding, the edge is pressed and cooled by means of a motor-driven belt conveyor.





OPTIONALS

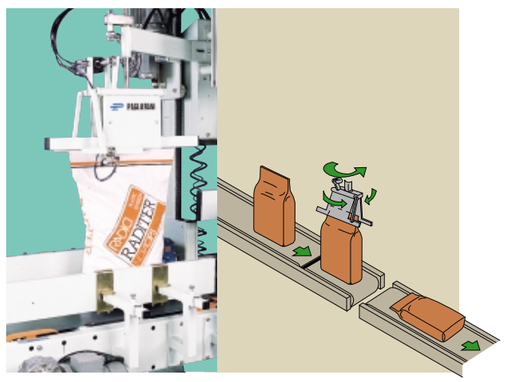


FULL BAG TIPPER

The full bag, initially in the vertical position, is removed lengthwise, laying horizontal, thanks to the tipper which changes its position by 90 degrees. More specifically, the bag travels forward (upright) on the motor-driven roller way. The deflector system, with motor-driven belts, is then pneumatically raised and deflects the bag by 90 degrees, tipping it so that its bottom is pointing forward.

THREAD CONTROL

Automatic packing lines can include a system to check for thread breakage (or end of thread), which stops the line if stitching does not take place. A similar device is also adopted for control of crepe paper (in case of CC - SOT - SOS seals).



BAG TURNING GRIPPER

A pneumatically operated gripper can be installed to turn full bags lengthwise in relation to the axis of the conveyor belt. This device grips the top of the bag and turns it 90°.

BAG TOP CLEANER FOR HEAT SEALER

When packing powdery products, the cleaning device is used to clean the inside of the bag and allow sealing. The bag mouth is opened while a blower nozzle enters it to remove any dust. The pneumatically operated system includes a dust extractor to trap the dust generated during the operation.

OPTIONALS

LABELLING UNIT

The device, suitable for use with pre-printed, ready cut labels, is designed to be combined with the main stitching machine in order to attach labels to the bag mouth. Labels are stored in a special container which holds approximately 600 labels at once. The labels are picked up individually by means of suction cups and transferred to the stitching head on a conveyor belt. The system is both straightforward and reliable.

The following size range of labels can be handled:

- Width min. 150 mm - max. 200 mm
- Height min. 90 mm - max. 150 mm
- Weight min. 100 g/m^2 - max. 120 g/m^2

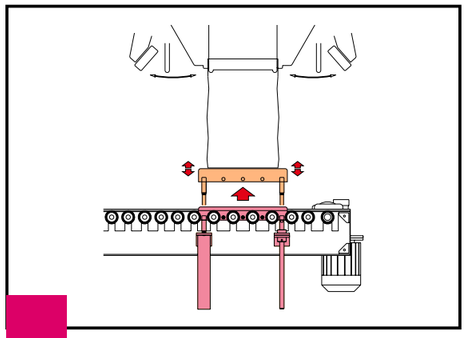
SEPARATOR FOR POLYPROPYLENE AND FINE POLYTHENE BAGS

The G-368-18-00 device is designed for use with polypropylene and/or fine polythene bags. The device separates each bag and places it in the correct position in the pick - up area. This application guarantees perfect handling, increasing performance and reliability where bags are slippery and difficult to control. Bags are picked up from the pile (1), separated (2) and positioned beneath the pick and place grippers (3), (4).

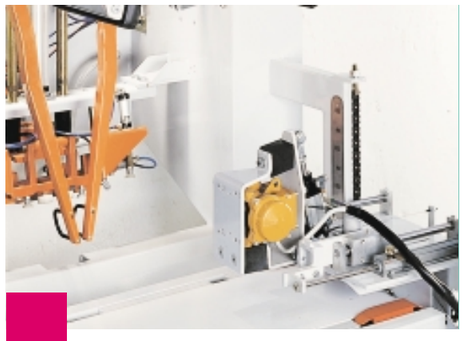
VIBRATION DEVICE

The machine can be fitted with the following devices for products requiring vibration:

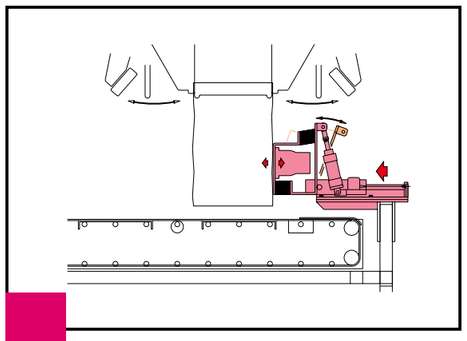
- vibrating base (Figure A); a grid positioned between the conveyor rollers moves upwards and vibrates the bottom of the bag for a pre-set time. The grid is raised and lowered pneumatically. The first part of the conveyor belt runs on motor-driven rollers in this application;
- alternatively, a vibrating lateral grid (Figure B) which vibrates the side of the bags.



A



B



B

1

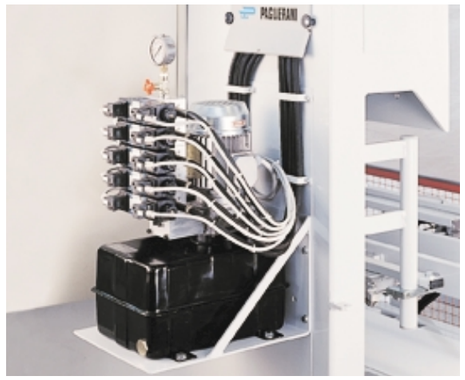
2

3

4

ADJUSTABLE GUIDES FOR DIFFERENT SIZED BAGS

To enable quick size changes, the machine is fitted with special guides; the guides are adjusted hydraulically using a remote joy stick. The exact position is shown on a dedicated display.



Hydraulic power unit.

Bag guides.

Pick-up grippers.

Joy stick.

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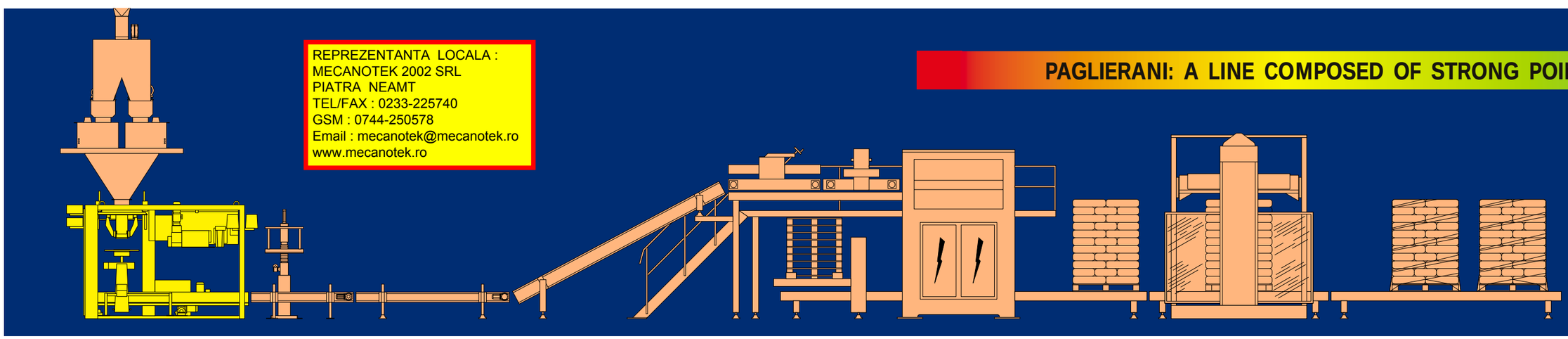

PAGLIERANI: A LINE COMPOSED OF STRONG POINTS.