EDGE CAP APPLICATOR

USER MANUAL

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PACKAGING MACHINES
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Table of contents:

Model

AT series Cap applicator:

Doser Model	*ATE-920-S*
Doser number	*920.029*
Machine Model	*H-180 FE*
Serial number	*182.037*
Delivery date	*FEBRUARY 2010*
Customer	***PROFIL*** *(POLAND)*

IMPORTANT:
When making a technical enquiry or ordening spare parts could customers please include the above serial number (it coincides with the license plate serial number which is located on the left side of the main machine). In this way you will help us to speed up operations and ensure accuracy and prompt delivery of spare parts.

EEC Declaration of Conformity

We:

MESPACK

C/ Mar Adriático 18, Polígono industrial La Torre del Rector

08130 Santa Perpetua

Barcelona (Spain)

920.029

Certify that:

The A.T. cap applicator which is part of the H-150, H-180, H-210, H-220, H-260, H-320 and H-360 latest generation machinery series, conforms to the following European directives:

***Machinery directive 2006/42 (after 98/37/ EEC).**

***Low Voltage directive 93/68/EEC.**

***Electromagnetic compatibility directive 2004/108 (after 89/336/EEC).**

***Standard 89/109/CEE related to all materials that are in direct contact with the product to be dosed.**

***BS-EN 60204-1 regulations on electrical equipment of industrial machines.**

Santa Perpetua, 2010

Signed:

MESPACK, S.L.

Introduction

The instructions contained in this manual apply to all the types of cap applicator model the customer may have. All the different adjustments and units have the same functioning. The only difference between one cap applicator and another is the number of caps introduced in the pouch, which depends solely on the on the type of host machine the customer has purchased.

This manual gives a detailed summary of essential information for commissioning and the proper functioning of cap applicators.

These servicing instructions are especially addressed to technical personnel and the applicator operator. We strongly recommend that they carefully read these instructions despite any prior experience and knowledge they may have of this type of machinery.

We would also like to point out that it is not possible to write down instructions for all possible inconveniences or unexpected occurrences that may arise whilst using the applicator. The most important thing above all is careful observation, common sense and calm and patience on the part of the machinery operator.

The proper functioning of an applicator primarily depends on careful use and maintenance by the machine operator.

Careful cleaning and maintenance will significantly prolong applicator lifespan.

General data

The latest generation EDGE CAP APPLICATOR incorporates state of the art technology whilst guaranteeing very high efficiency and quality.

This unit, as its name indicates, positions and seals the edge cap on the pouch after it has been properly folded, sealed and perforated. This completes the pouch forming process prior to filling.

The edge cap applicator can produce both SIMPLE and DUPLEX pouches:

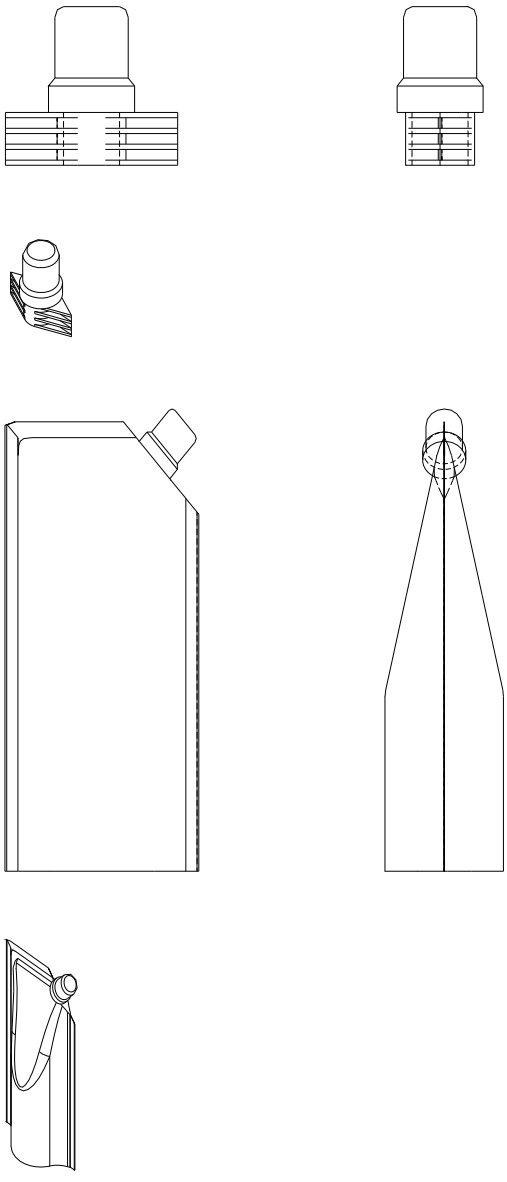
SIMPLE	**A.T.E. (920.000)**
DUPLEX	**A.T.E.D. (921.000)**

The difference between a machine that produces simple pouches to one that produces duplex pouches is that the former forms one pouch per movement whereas the duplex forming machine produces two pouches per movement. It effectively doubles production but reduces the size of the pouch it produces.

The edge cap is designed to be placed on the upper edge of the pouch. A cut is made on one of the edges at a 45º angle leaving a slanted base so that the cap can be attached onto the pouch by means of sealers.

Drawing nº 1

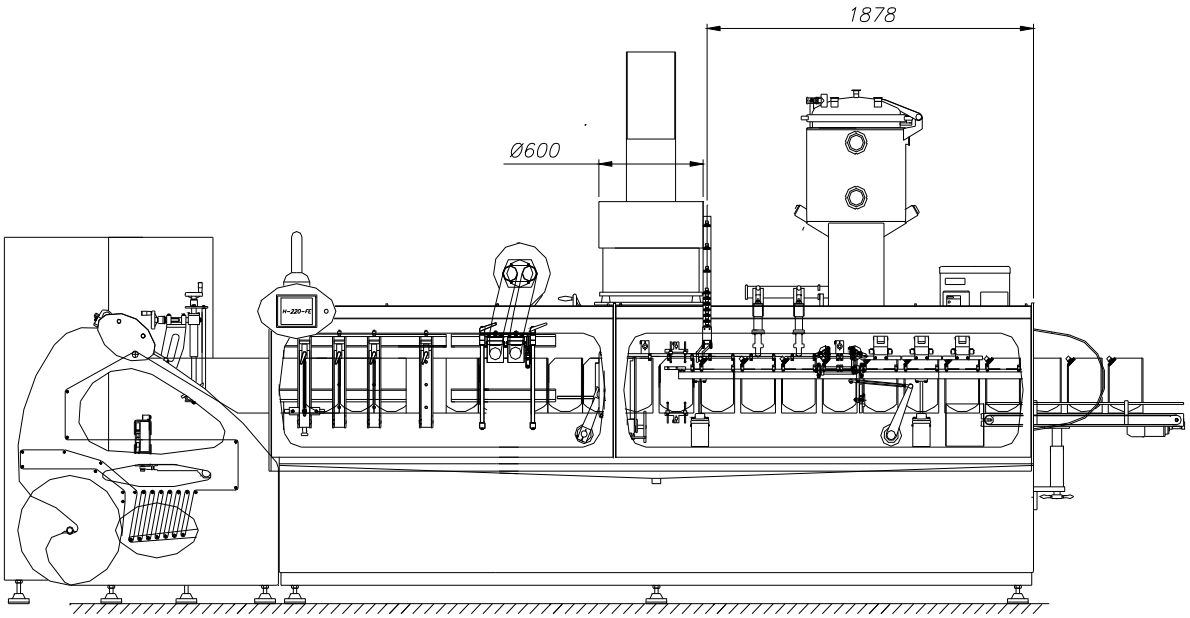
STAND UP POUCH WITH EDGE CAP

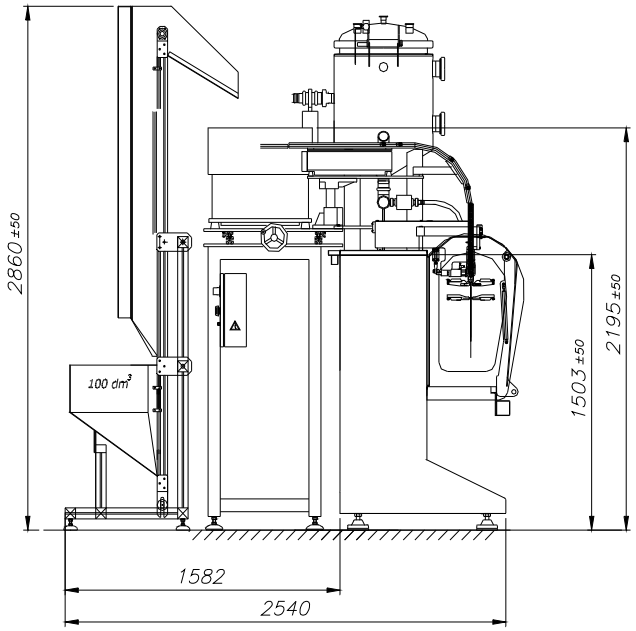


Positioning

Drawing nº 2

Diagram showing CAP APPLICATOR position on our H-210-FE machine (example)

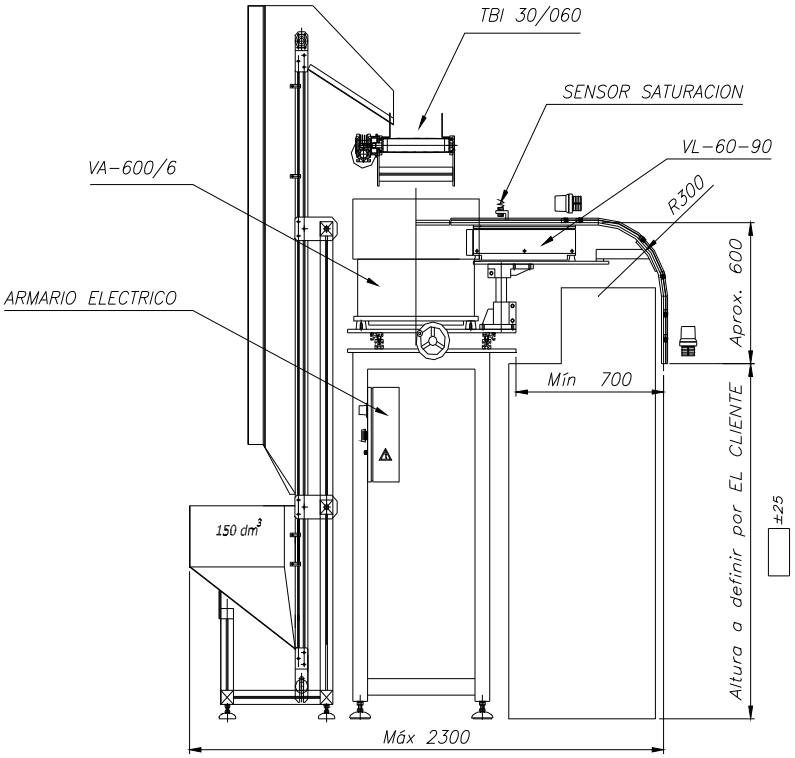


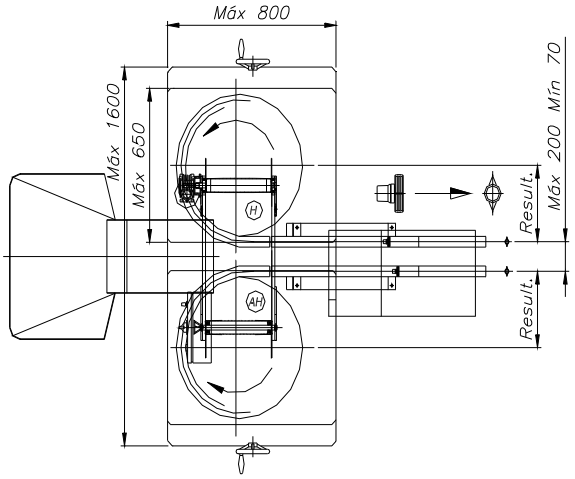


Drawing nº 3

Diagram of complete duplex cap applicator plus elevator (A.T.E.D 921.000):

Units layout

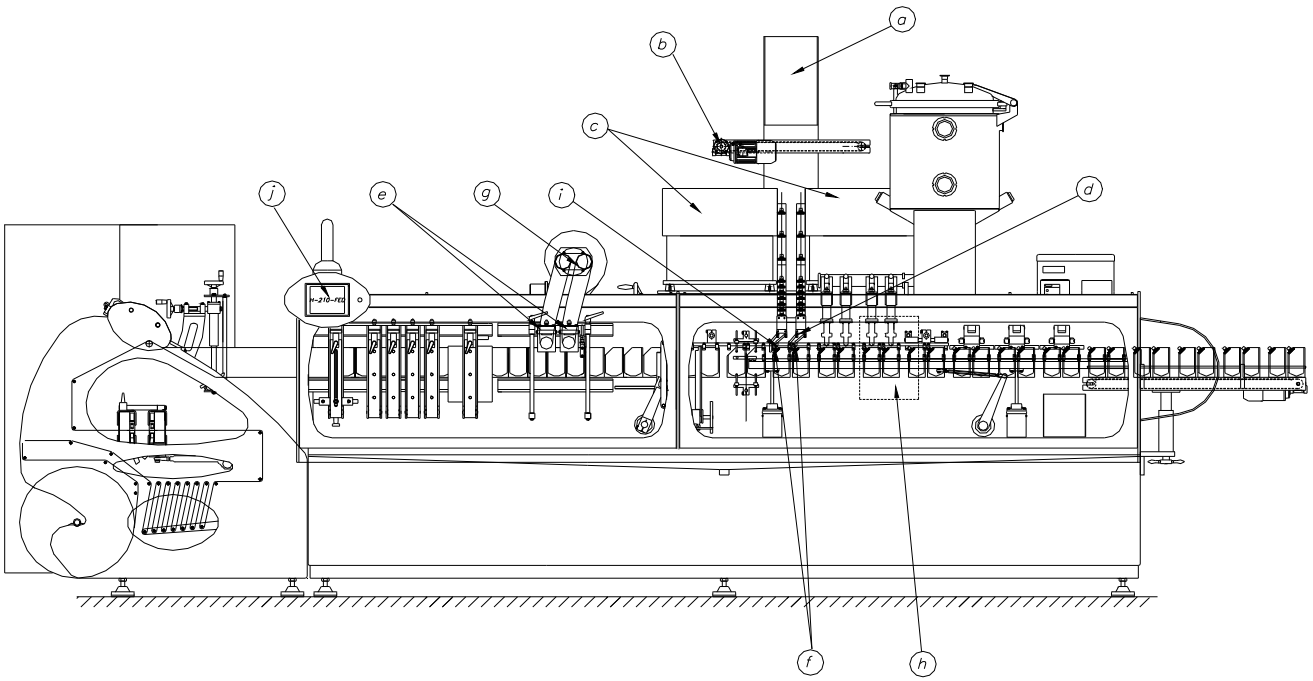




The AT cap applicator is made up of various units:

a) **Cap elevator (optional for the customer)**
b) **Cap sorter (optional for duplex machine with elevator)**
c) **Cap feeder**
d) **Cap inserter drive**
e) **Edge cap applicator die cutter (for edge caps)**
f) **Edge cap puncher sealer**
g) **Scrap remover**
h) **Cap applicator terminal**
i) **Cap applicator pouch opener**
j) **Touch screen**

Drawing nº 4 **(DUPLEX EDGE CAP APPLICATOR)**



Most cap applicator units can be adjusted to accommodate format changeovers or to adjust vibrations.
When we talk about format changeover we are referring to changes in width size, never to height changes because the height of the upper edge of the film never varies.

a) CAP ELEVATOR:

The cap elevator unit is optional. It is not an essential part of the applicator.
The elevator conveys the caps from the cap container which is at a lower level, to the cap hopper on a conveyor belt with scoops.

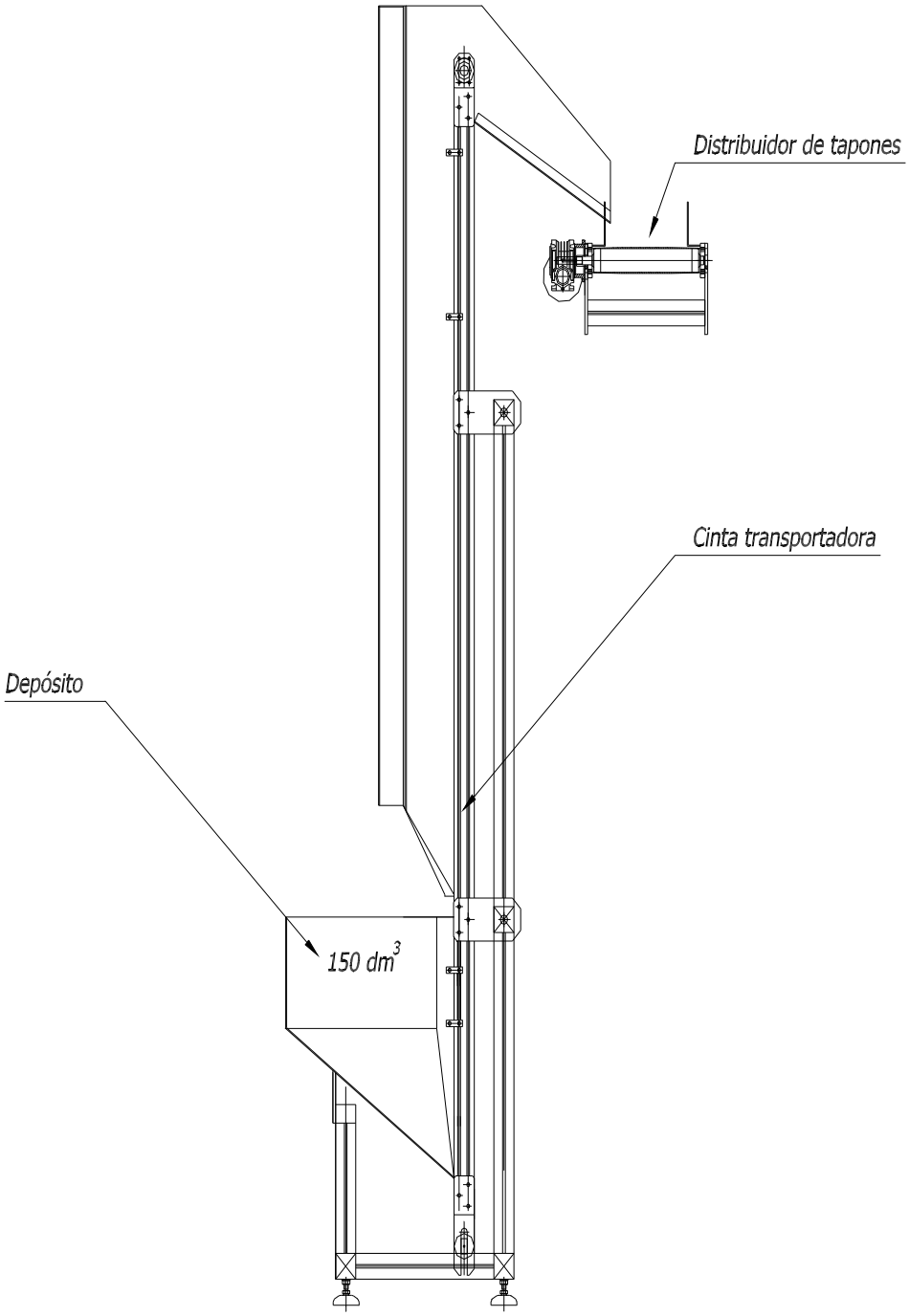
The hopper holds 150 litres.
The cap elevator unit does not require adjustment for format changeover.
See Drawing nº 5

b) CAP SORTER (Only duplex version)

The cap sorter unit is an optional attachment for the elevator. This unit is provided when the elevator comes along with a duplex cap applicator. The duplex cap applicator has two hoppers. The cap sorter distributes caps coming from the elevator to both hoppers.
The cap elevator unit does not require adjustment for format changeover.
See Drawing nº 5

Drawing nº 5

CAP ELEVATOR AND SORTER:



c) CAP FEEDER:

This unit feeds the caps by means of a hopper "**A**", to the position on the pouch along specially designed leads "**B**".

The unit is equipped with an adjustable support table "**C**".

Photograph nº 1

The unit requires the following adjustments:

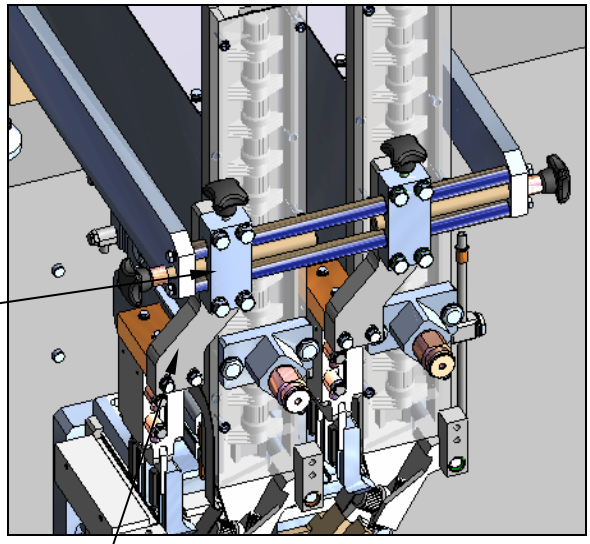
- Pneumatic adjustments (to increase or decrease vibration) depending on whether the caps move too quickly or block up the vibrating lead. Air flow can be increased or lowered by adjusting the pressure adapters "**D**". 4 bars is appropriate pressure.
- Format changeover for pouch width. The unit comes equipped with a lead on which the hoppers rest. Starting from flywheel "**E**" the vibrator and the lead move along until the cap is placed in the right position where the cap inserter unit deposits the cap on the pouch. Before this happens, lever "**F**" is loosened under the feeder support and the unit comes back into place after it has been positioned.

d) CAP INSERTER:

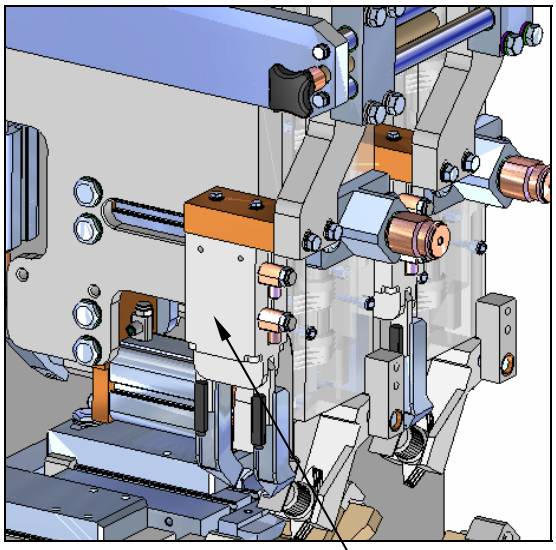
The cap inserter drive is the device that comes after the cap feeder unit. It is equipped with cap leads and it immediately grips the cap and places it in the right position for subsequent sealing it onto the film.

This unit requires a number of adjustments during pouch format changeover.

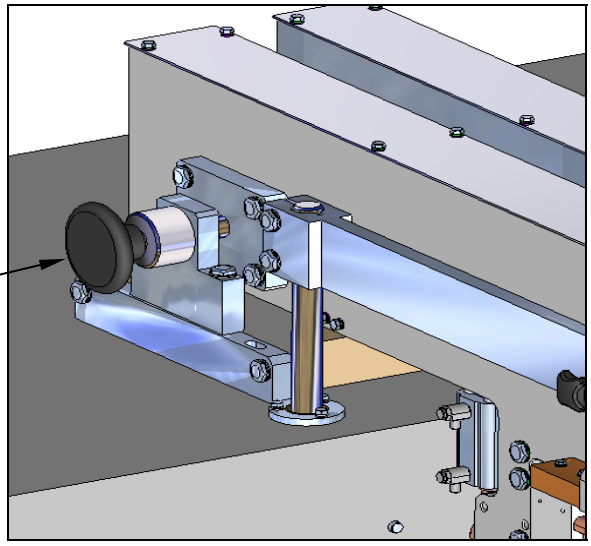
Drawing nº 6



Drawing nº 7



Drawing nº 8

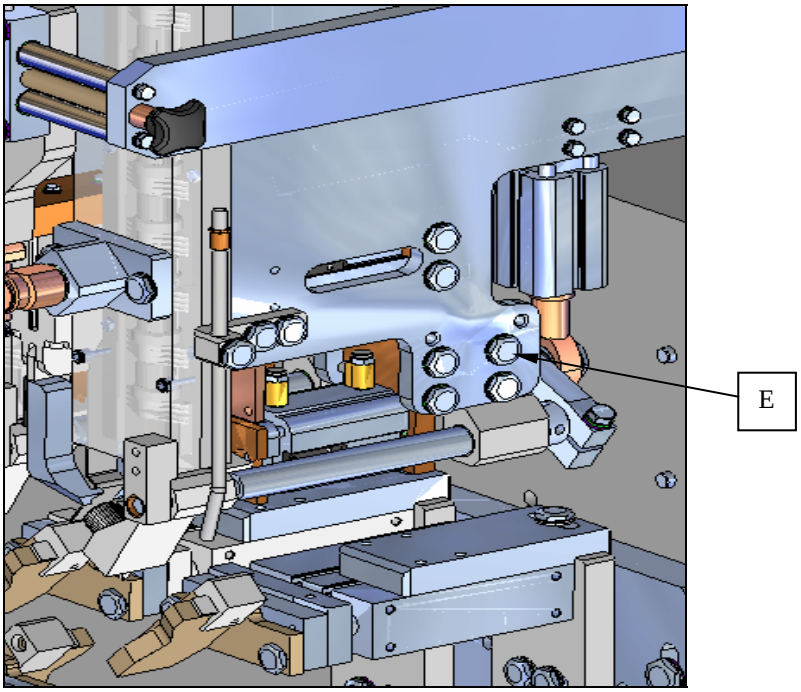


a) Adjust the cap inserter unit position with regard to the cap position the same as for the feeder unit. Both units require the same adjustment because they are connected by the cap leads. To adjust the position of this unit simply loosen the adjustable handle "**A**" which is attached to the unit on the leads on top of the machine bed. (See drawing nº 8)

b) The group also requires horizontal adjustment for minor adjustments, in order to ensure that the edge cap is properly positioned. In drawing nº 6 we see the pincers stand "**B**" that is attached to lead "**C**". By loosening the fastening screw we can move the cap pincers sideways until we achieve perfect edge cap sealing.

c) It is important to adjust the unit cylinders. The unit is equipped with 4 cylinders "**D**". For the pincers, for the cap grip valve, for the cap lead stop and the cap valve stop. These allow us to adjust the amount of air and the pressure of air entering into the cylinder.

Drawing nº 9



The unit also allows us to finely adjust the pincers and the cap grip valve by moving the guide slots "**E**".

By moving the guide slots up or down a few millimetres we can adjust the cap position and ensure proper sealing.

d) You can also adjust the drive to adjust the amount of vertical movement of the cap inserter unit. This unit performs the movement that moves the cap from the cap grip valve onto the pouch edge.

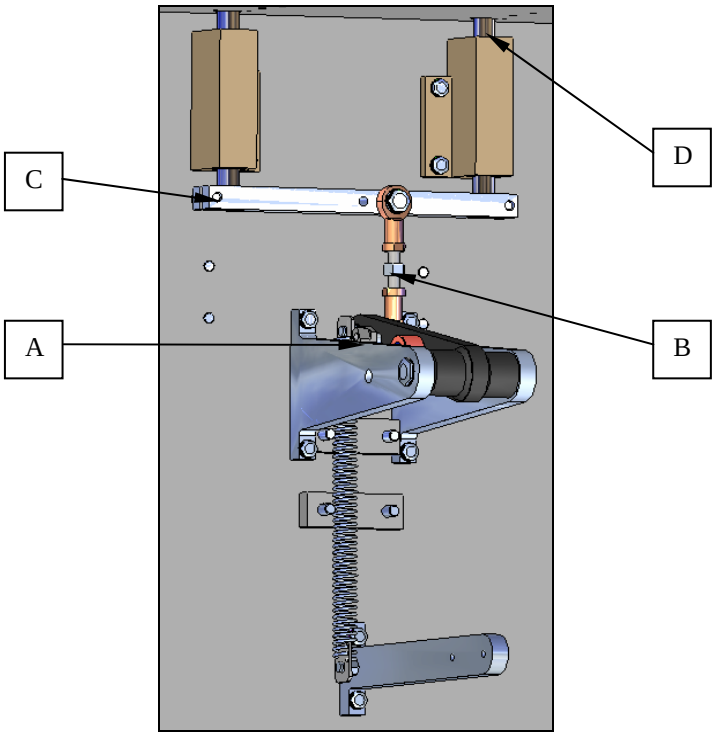
The drive enables us to adjust the level of movement adjustment levels at three different points.

- Adjustment at the lever guide slot "**A**". By loosening the fastening nut and moving the rod sideways.
- Adjust the nut "**B**" on the ball and joint socket of the rod and extend or shorten the rod.

It is important to keep in mind that these two adjustments vary the pincer height. To bring it in line loosen the screws "**C**" which fasten the support of the shafts "**D**" which give movement to the pincers.

It is important to keep the following in mind: The longer the rod the higher the pincer position. And the greater the adjustment of the guide slot the shorter the course of the pincers.

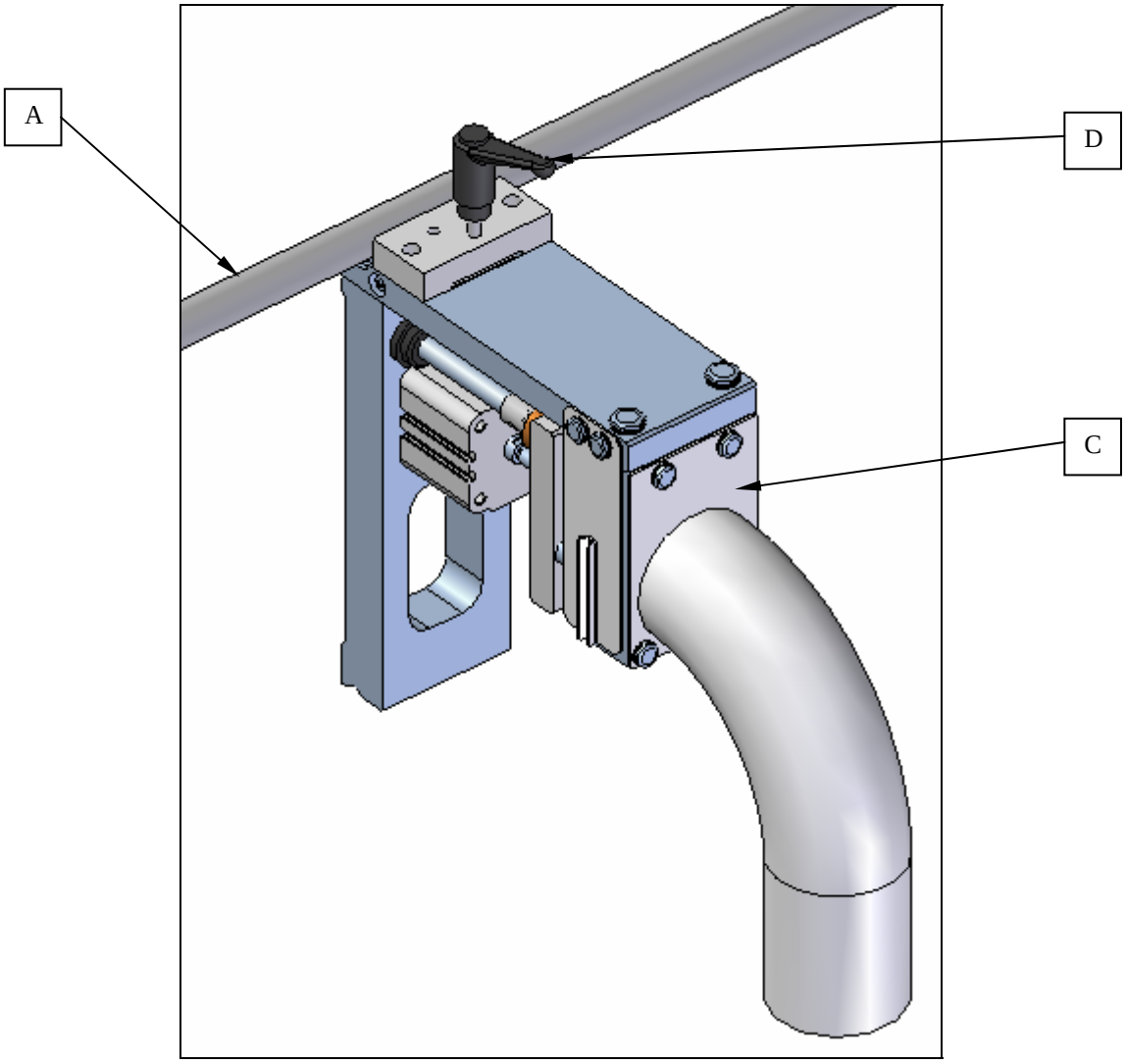
Drawing nº 10



e) DIE CUTTER:

The die cutter "**C**" perforates the film. It makes an incision "**B**" at 45º on the left edge, where the cap is then placed and sealed.

Drawing nº 11 (edge cap die cutter unit)

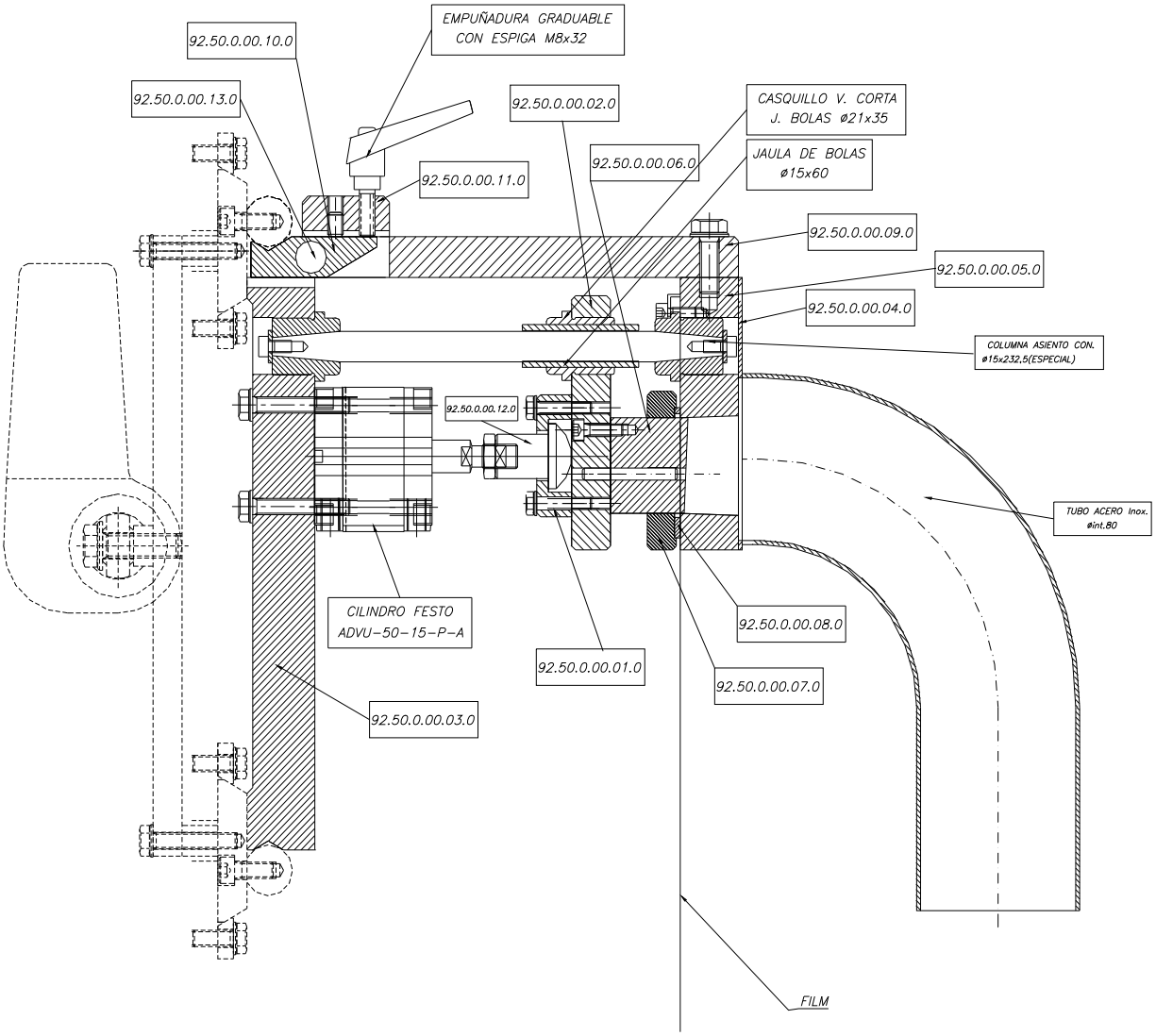


This unit requires adjustment for width format changeover.

For a format changeover simply loosen the adjustable handle "**D**", and slide the die cutter freely to the left and the right along the top and bottom leads "**A**", until it comes to the new cutting position. Once the die cutter has been positioned refasten the handle.

DIE CUTTER UNIT:

Drawing nº 12

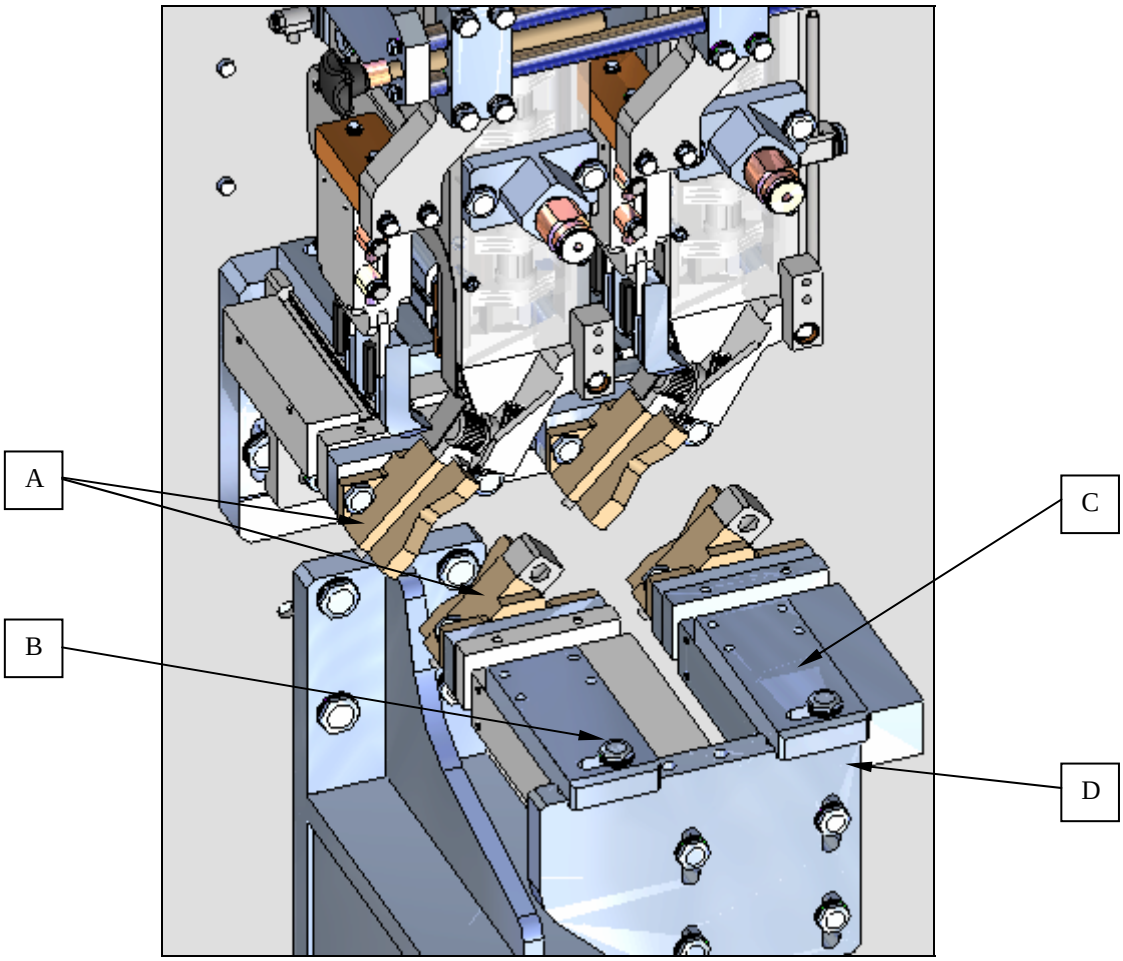


f) CAP PUNCHER SEALER:

The upper sealing unit seals the cam onto the film.

The sealers "**A**" vary depending on cap size.

Drawing nº 13



For width changeover loosen the fastening screw "**B**" which fastens the sealing support "**C**". This support has a guide slot which allows us to finely adjust the initial position. If the format changeover is larger we can set the support to one of the various positions on the base plate "**D**".

g) SCRAP REMOVER:

The scrap remover unit consists of a ventilator which sucks in the scrap from the die cutter, passes them through a tube and deposits them in a pouch. This prevents scrap from being scattered by the blower of the cutting piston.

Photograph nº 2

This unit does not require adjustment for format changeover.

h) CAP APPLICATOR TERMINAL:

The cap applicator terminal unit requires certain adjustments and an explanation of its control functions.

First we have the start – stop control "**A**". To start the applicator simply turn it 90º to the right. To stop the machines simply turn in the opposite direction.

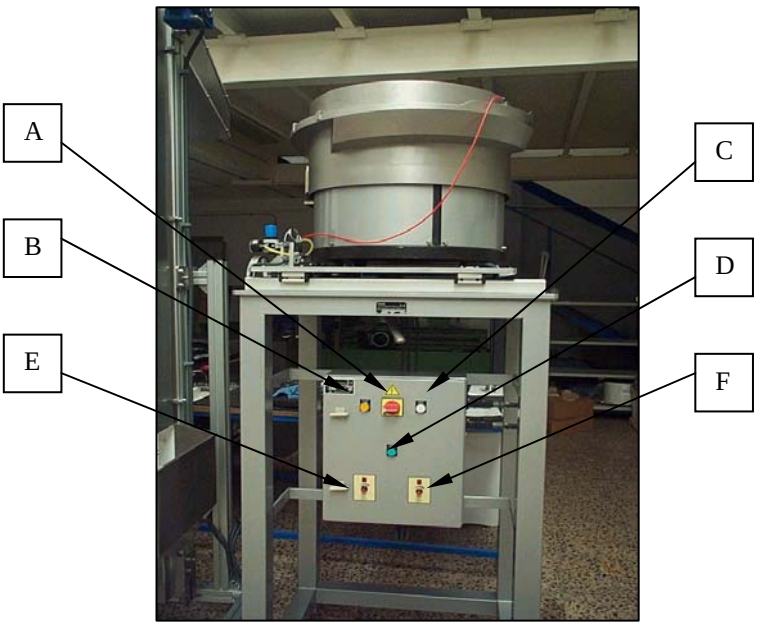
To its left is the RESET button "**B**", which powers the entire cap applicator. By default the unit always starts off with this button disconnected, i.e. without power.

To the right of the switch on - switch off control is the GENERAL pilot "**C**", which when lit indicates that the power is running. If it is not lit this means that there is no electrical power.

The elevator pilot "**D**" only appears on the panels of customers who have opted for our elevator. It is green and when lit it indicates that the elevator is in operation.

Finally we have the vibrator controls. There are two types of adjustments, one adjusts the amount of vibration on the cap hopper "**E**", and the other adjusts the amount of vibration on the cap lead "**F**". These are adjusted by turning them from left to right to increase vibration.

Photograph nº 3



i) CAP APPLICATOR POUCH OPENER:

The pouch opener unit of the cap applicator ensures that the pouch remains open once the cap has been sealed.

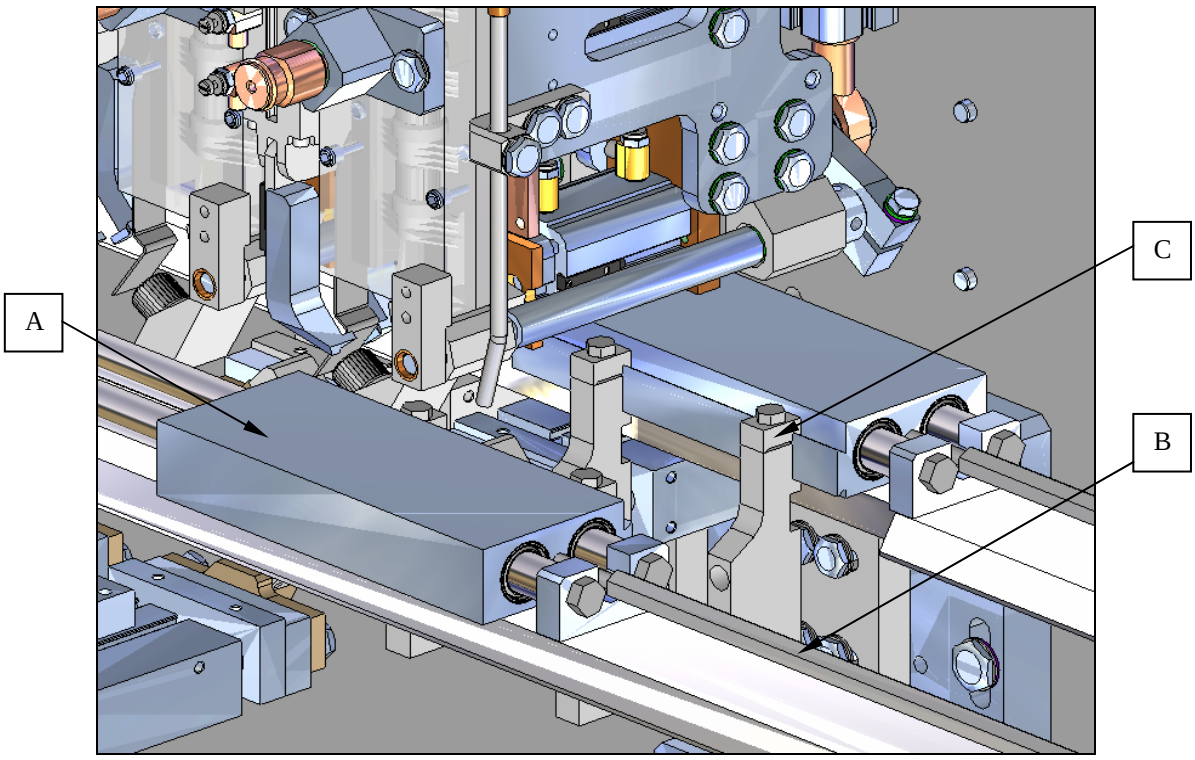
This unit requires adjustment for width format changeover. The system is activated by the "STATIC STRETCH" unit of the base machine. Every time it is activated the stretch function operates on the cap applicator pouch opener.

There are two types of adjustments:

For the amount of pouch aperture we need. Adjust by moving rod "**B**" along the lead supports "**A**", to produce pouch aperture with the pincers "**C**".

For the second type of adjustment place the pincers "**C**" 3mm away from the edge of the new format pouch and make sure they hold the pouch properly. Simply loosen the fastening screw of the pincer "**C**" and move it along the lead of the lead support.

Drawing nº 14



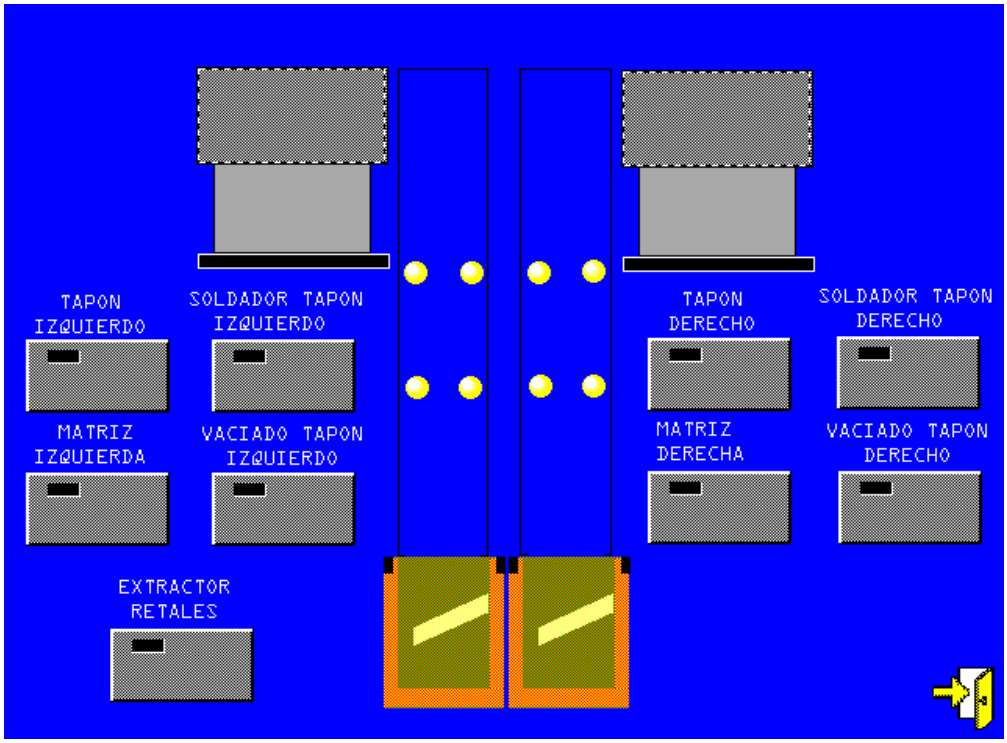
j) TOUCH SCREEN ADJUSTMENTS:

A number of explanations and adjustments are required in order to properly operate the edge cap applicator Touch Screen.

This unit is not included in the touch screen description because it is a non standard unit.

First enter the touch screen and select a language, then enter the main menu and select the EDGE CAP APPLICATOR menu. You can carry out all the cap applicator adjustments from this menu by activating or deactivating the desired application from different pouch forming options.

Drawing nº 15



Maintenance

This chapter presents an EDGE CAP APPLICATOR maintenance programme for LATEST GENERATION MESPACK MACHINERY. This programme should be adhered to in order to ensure proper functioning and work application.
The maintenance programme is divided into mechanical and electronic maintenance for daily, weekly, monthly, three monthly, six monthly and yearly time periods.

MAINTENANCE PROGRAMME

a) Mechanical maintenance:

Daily maintenance:

- Check the feeder case both on the inside and the outside for signs of rust, dents or cracks.
- Check that the applicator is in good working order (general overhaul).
- Check for proper cap sealing after every so many pouches or operating hours. If there are any irregularities pinpoint the problem and correct it promptly.
- Proceed to clean the machine and the work area at the end of every day's work or of every shift. We recommend you use compressed air to remove dust and residues from the machine.
- Clean the cap sealing rods every 8 to 16 hours with a metal brush to get rid of any traces of polyethylene. Check regularly whilst in operation. Cleaning must be carried out only when sealers are cold.
- Check that the operating pressure is between 4 and 6 bars or at 80 psi. If this is not the case adjust the feeder unit manometer on both the main machine and the cap feeder.

Weekly maintenance:

- Check the lubrication of cap inserter drive shafts. The oil comes from the central lubricator.
- Grease the edge cap pouch opener unit guides.
- Check the cap insertion pincers.

Three monthly maintenance:

- Check the pneumatic cylinders.

Six monthly maintenance:

- Check the entire cap applicator.
- Check the cap sealers.

Yearly maintenance:

- Check that all the screws and bolts on the edge cap feeder unit are properly fastened. If any of them are loose replace the rounded bolts. Use appropriate tools to tighten the allen and hexagonal screws.
- Check the state of all applicator components, i.e. springs, tensors, cams, etc. If any of these are not in proper working order ask for them to be repaired.

b) Electrical maintenance:

- Electrical faults are signalled on the touch screen. When this occurs take immediate action.

Damages surveillance

What follows is a list of the most common complications that may arise, their possible causes and solutions:

a) CAP OUT OF POSITION:

The cap may end up in the wrong position after being sealed on the pouch for various reasons:

- The cap positioning valve is in the wrong position.
- Stop plate is in wrong position.
- The insertion pincer does not grip the cap properly.
- Adjusting the different parts usually solves the problem of caps out of position.

b) AN IMPROPERLY SEALED CAP:

The cap may be improperly sealed on the pouch for various reasons:

- Too little or too much pressure on the edge cap sealing cylinders.
- Excessive temperature or lack of temperature on the edge cap sealers.
- A cap out of position.
- Not enough aperture on the pouch for the cap to be properly positioned.
- When the cap is improperly sealed simply adjust edge cap sealer pressure by regulating the air pressure.
- If the temperature is too high or too low, go to the edge cap MENU on the TOUCH SCREEN and increase or lower the temperature volume.
- If the cap is improperly positioned on the sealing position read the previous section “a) CAP OUT OF POSITION”.

c) NO CAP:

The cap may not reach the sealing position for a number of reasons:

- A jammed feeder.
- A jam in the step to step process (cap leads).
- The insertion pincer does not pick up the cap.

When the cap does not reach its destination you must check to make sure that there are no caps in the wrong place on the lead.
Also check for obstructions on the feeder lead and make sure that the vibration produced by the feeder is strong enough to move the caps along the lead.
If the insertion pincer does not pick up the cap this means that the cap is not reaching its final position or that the stop is simply in the wrong place and does not stop the cap so that it can be picked up by the insertion pincer.
The pincer may also not be functioning properly.

d) BADLY CUT FILM:

The film may be badly cut due to a number of reasons :

- Die cutter wear.
- The die cutter has not been properly adjusted to the format.
- Lack of die cutter piston pressure.
- If the punch or the die cutter are worn, then the customer must order the necessary spare parts.
- A wrongly adjusted die cutter will produce a faulty cut in relation to the cap position on the pouch.
- If there is not enough pressure in the piston this can be set right by moving the adjustment nut or the main pressure adjustment feeder.