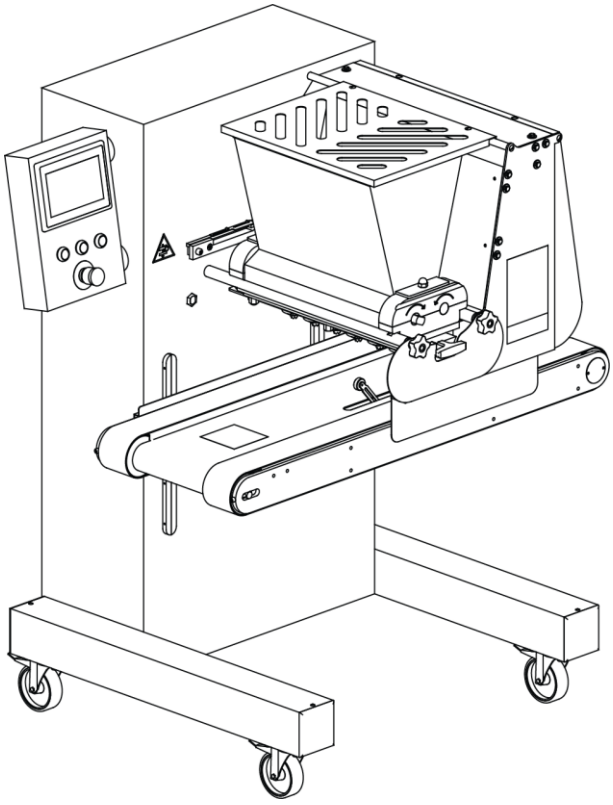
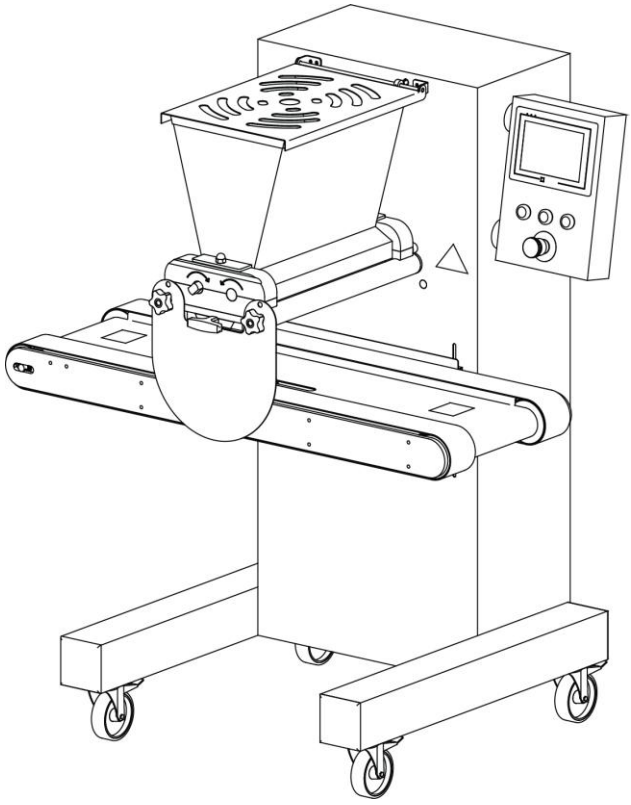
food processing equipment

# SUPREMA PLUS
# SUPREMA
# MINIDROP PLUS
# MINIDROP





## USE AND MAINTENANCE MANUAL

S/N: _____

Date: _____

Rev.: R2

ENGLISH

# INDEX

# 1. INTRODUCTION

## 1.1. OWNERSHIP OF THE MANUAL

This manual belongs exclusively to MIMAC ITALIA SRL.
Reproduction, even partial, is forbidden unless authorized by the Manufacturer.

## 1.2. PURPOSE OF THE MANUAL

The aim of this manual is to provide information necessary for the correct and safe use of the machine and for carrying out operation as contemplated in the design phase.

## 1.3. VALIDITY OF THE MANUAL

This manual reflects the machine state of the art at the time it is placed on the market.
The Manufacturer reserves the right to make changes to the machine at any time and without notice.
Any integration sent by the Manufacturer to users must be kept together with the manual and becomes an integral part of it.

## 1.4. SYMBOLISM


Useful information


Important communications regarding safety and caution when carrying out operations


Presence of risks and danger for health and safety


DPI use abligation


Notice regarding machine disposal and packaging elimination

## 1.5. IMPORTANCE OF THE MANUAL

This manual must be read before starting any operation. Good machine operation is guaranteed if all instructions contained in this manual are applied correctly.
The machine must not be used and no intervention must be carried out on it before having read this manual carefully and understood all its content.
It is also forbidden to use the machine for purposes other than those indicated, or to neglect operations that are necessary for safety.

## 1.6. INTENDED AUDIENCE

- Accident prevention and safety manager
- Operators in charge of transporting the machine
- Operators in charge of connection to the power source
- Operators in charge of testing the machine
- Operators in charge of the training
- Machine operators
- Operators in charge of maintenance
- Operators in charge of machine disposal

## 1.7. PRESERVATION OF THE MANUAL

The manual must be kept in good condition and in a suitable place that is known to all machine users.
If the manual is lost, deteriorated or if additional copies are necessary, please contact the Manufacturer directly.
The manual must be kept until the machine is disposed of.
If the machine is sold, the manual must be delivered to the new owner together with the EC standards conformity declaration and all other attachments.

# 2. PRELIMINARY INFORMATION

## 2.1. MANUFACTURER DETAILS

MIMAC ITALIA S.R.L.
Via dell'Industria, 22
36013 Piovene Rocchette (VI)
ITALIA
Tel.: +39 0445 576250
Fax: +39 0445 576112
E-mail: info@mimac.com

## 2.2. CUSTOMER SERVICE

Machine assistance is supplied by the Manufacturer or the authorized Retailer.
Please contact the Manufacturer or the authorized Retailer for any request and refer to the indications printed on the information plate of the machine.

## 2.3. EC STANDARDS COMPLIANCE DECLARATION

The machine indicated in the manual is manufactured in compliance with the relevant Community Directives that were in force when the machine was placed on the market. As the machine is not included in Annex IV of the 2006/42/EC Machinery Directive, the Manufacturer has supplied self-certification for placing the “EC” marking according to the reference directives.

## 2.4. NORMATIVE REFERENCES

- Machinery Directive 2006/42/EC
- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/E
- UNI EN ISO 12100:2010 - Safety of machinery - General principles for design - Risk assessment and risk reduction.
- UNI EN ISO 13850:2008 - Safety of machinery - Emergency stop - Principles of design.
- UNI EN 1088:2008 - Safety of machinery - Interlocking devices associated with guards - Principles for design and selection.
- CEI EN 60204-1 - Safety of machinery. “Electrical equipment of machines”.
- Regulation (CE) N. 1935/2004 of 27 October 2004

## 2.5. GUARANTEE

The machine is guaranteed for 12 months. The guarantee only covers those parts that present production faults and excludes the electric installation and the motors. The indicated period is valid for a machine that works eight hours a day and must be halved for heavier-duty conditions.
During the guarantee period the Manufacturer shall supply, free of charge, within the minimum technical periods, and ex factory, the parts or items that have evident manufacturing faults, and only under the condition that the machine was used following the regulations established by the Manufacturer (installation, use, maintenance and performance limits).
Items not manufactured by MIMAC ITALIA are excluded from the guarantee, for example motors and electrical apparatus, cylinders and pneumatic components, as well as all material not directly guaranteed by its own manufacturer. In addition, all parts damaged during the transport, or because of bad and/or incorrect installation or maintenance, or because of neglect or incorrect use, are not covered by the guarantee.
If the faulty parts are repaired or replaced in the premises of the customer, he will be charged with the cost of travelling, board and lodging and of the working hours of the technicians sent to repair or replace the parts. The hourly cost shall be quantified according to the Anima (Federation of the Italian Association of Mechanical and Engineering Industries) tables in force at the moment of the intervention.
If in the unquestionable opinion of our technicians it is not possible to intervene in the customer’s premises, the customer shall send the machine on DDP terms to MIMAC ITALIA who, after repairing the faulty part at no charge, shall return the machine on ex works terms.
When the previously indicated guarantee period has expired, the customer will be also charged with both the cost of the replaced parts and the cost of the labour.
The guarantee is valid only for the original purchaser; machine replacement is never foreseen.
The guarantee becomes null and void when the machine has been tampered with, or modified and/or repaired by people who have not been expressly authorized by MIMAC ITALIA.

## 2.6. SOFTWARE OWNERSHIP

The implemented software, which runs machine operations, belongs to MIMAC ITALIA SRL having its legal head office in Via dell'Industria, 22 - Piovene Rocchette (VI) - ITALY.
The Customer is licensed to use the software in compliance with the instructions in this manual.

The software cannot be altered, modified, copied and/or reproduced without written authorisation from MIMAC ITALIA.
Being the owner of the software used to run its machines, MIMAC ITALIA will not grant the source codes of its software for any reason and will persecute anyone or anything that copies, reproduces, decodes or modifies the same software.

## 2.7. PREPARATION OF THE WORK PLACES

Unless otherwise indicated in the contract, the following must be carried out by the Customer:

- preparation of the areas, including any building works and/or piping and conduit that are required;
- the power supply for the machine, in compliance with the laws in force in the user's country.

The installation area of the machine, being meant for production of oven-baked products, must have:

- openings that allow the bulkiest parts of the machine to pass;
- construction features that are in compliance with current standards;
- an electric system that is in compliance with current standards; special care must be taken with the earthing system and the main panel, which must have relative protection devices against overloads and short circuits. The nominal power installed on the machine is indicated on the identification plate.

The complete electric system must be realized and kept periodically under control by professionally trained technicians who can accompany each intervention with a declaration of conformity to "the rules of the trade".

## 2.8. RECEIVING THE MACHINE

**The Manufacturer is not liable for any accident, damage or machine fault that may occur if the indications that follow are not observed.**

Make sure no damage occurred during transport and that the packaging is whole. If this is not the case, inform the shipping agent and write "Accepted with a reservation" on the shipping document.
If any damage is caused during transport, the shipping company must be informed by the Customer, in writing within 8 days from receipt of the goods. Inform the Manufacturer immediately if serious damage has occurred.
Make sure the goods correspond to the items listed in the shipping document. Inform the Manufacturer immediately if pieces are missing.

### *2.8.1. PACKAGING*

The machine and its accessories can be delivered:

- without packaging, fixed to the loading surface, only protected by an outer film to prevent scratches;
- by container or in palletized wooden crates.

If transported by sea, the machine is inserted inside a sealed wrapping to protect it from atmospheric agents.

### *2.8.2. LIFTING AND HANDLING*

**All operations must be carried out by people who have been authorised and under the supervision of a person in charge.**

**Operators must wear all the personal protection equipment necessary for the operations to be carried out safely and must use suitable tools.**

Before starting operations, identify and make sure there are no danger points in the movement area, including the area where the means of transport is positioned and the installation area.
The transport and lifting means must be suitable for the weight to be lifted. Concerning this, read the weights printed on the packaging and/or indicated in this manual.
Inspect the cables before using them to make sure there is no damage or signs of wear. Do not twist or knot the cables and follow the Manufacturer's instructions; these instructions are valid also for chains or belts.
Be careful when positioning the lifting or slinging systems; make sure the load is perfectly balanced before lifting it.
It is forbidden to get onto the load, or to move and/or remain under it while it is being moved.
It is forbidden, for those people who are not involved in transporting and moving, to access the relative areas.
All operators must remain at a safety distance from the packages when they are lifted from the ground to avoid being hit if they fall.
Do not allow the load to oscillate during lifting.
Lift the machine using a fork-lift, inserting the forks under the lower surface at the baricentre point
Position the machine on a solid and even floor/worktop.

### *2.8.3. UNPACKING*

When installation has been completed, all the packaging material must be disposed of in compliance with the national regulations in force.
The equipment and material used for lifting should be positioned in a suitable place and stored carefully for possible machine transfer.

## 2.9. USERS TRAINING

The machine was designed and manufactured for professional use. Those who use the machine must be trained in order to become familiar with:

- all the functions of the control panel;
- all the installed protection guards and safety systems;
- commissioning and putting out of service;
- the possible work cycles;
- the various machine stop devices, including the emergency stops;
- loading the material to be processed;
- unloading the processed material;
- the contents of this Manual;
- the checks to be carried out periodically;
- all the routine maintenance operations.

Operators must also avoid doing anything on their own initiative; they do not have to carry out any interventions that are outside their competence and technical knowledge

If something wrong occurs the operators have to:

- intervene immediately and stop the machine, using the emergency push-button;
- immediately inform their supervisor, and request his timely presence.

When the training phase is completed, operators must undergo an evaluation test on their acquired level of awareness. The training phase and the result of the aptitude test must be documented within the company.

**The machine must not be used by people who have not been declared legally suitable for handling food products.**

## 2.10. TERMS OF USE

Permitted environmental values for good machine operation:

- temperature from +5 °C to +40 °C with an average not exceeding 35 °C over 24 hours;
- relative humidity between 30% and 95% (without condensation);
- absence of ionising and non-ionising radiation.

The environment around the machine must be kept clean. Remove the plug from the mains before moving the machine for cleaning.

The workplace lightning must:

- guarantee good visibility at every point;
- not create dangerous reflections;
- allow for the control panel and the emergency push-buttons to be read clearly.

## 2.11. INTENDED USE

MIMAC ITALIA is not liable for any injury caused to people or damage to things arising from any unauthorised changes made to the original operation software granted in use to the Customer.

It is forbidden to use the machine in conditions or for purposes other than those indicated in the manual and MIMAC ITALIA cannot be held responsible for faults or accidents caused by the non-observance of this rule.

Do not use the machine if the safety devices have been tampered with: before starting to work, the operator must make sure that the safety devices, such as the emergency push-button and the micro-switches connected to the mobile guards, are working correctly.

Do not hit the safety guards or place weights on them: even though the machine has solid guards, these are not suitable for holding heavy weights or being hit hard.

Machine must not be used by unskilled users: this manual must be read carefully before starting to work with the machine.

Do not direct jets of water directly towards the machine, especially towards the guards and the electrical and electronic parts, while washing the machine and the workplace.

The Manufacturer is not liable for damage if one of the following conditions occurs:

- incorrect installation;
- power supply faults;
- failure to comply with the instructions;
- incorrect machine use or machine used by unskilled users;
- using the machine in a manner that is not indicated in national regulations;
- negligent maintenance operations;
- unauthorised modifications or interventions;
- using spare parts that are not original or not specific for the model.

To guarantee maximum working reliability, MIMAC ITALIA has accurately chosen the materials and components used to produce the apparatus, which was accurately tested before delivery. Good machine performance over time also depends on correct use and suitable maintenance in line with the instructions given in this manual.

### 2.12. NOISE WARNINGS

The dropping machine does not exceed an equivalent continuous noise level of 85 dB(A).

**Considerations in compliance with Directive 2006/42/CE P.1.7.4.f**
No special precaution must be taken by the operator.
The indicated noise level is an emission level and does not necessarily represent a safe working level.
There is a link between the emission and exposure levels, but it cannot be used to determine if special precautions are necessary. Factors that influence the true level of exposure of the work force include the characteristics of the working environment, the other sources of noise, etc., for example the number of machines and the other processes close by. In addition, the permitted exposure level can vary from one country to another. This information allows the machine user to evaluate the danger and risks in a better manner.
The machine user and the employer must respect laws regarding operator protection against the daily personal exposure to noise, with the possible use of personal protection equipment (earmuffs, etc.) according to the total noise level present in the work area.

### 2.13. CLOTHING

As far as clothing is concerned, operators must adhere to food production standards that are current in the European community and/or in their own Country.
In a simple manner, it is obligatory to:

- wear clothing that is in compliance with health regulations (overalls and headgear that cover hair completely);
- wear disposable sterilized gloves;
- wear accident-prevention footwear that is suitable for the movements to be carried out;
- wear disposable masks that cover the mouth and nose.

# 3. SAFETY

## 3.1. GENERAL INFORMATION

The machine was designed to work safely. All commands are given using a touchscreen panel and the push-button present on the control panel.
The emergency push-button inhibits all machine functions; to reset them release the emergency push-button and press the re-establishment push-button. No component will start moving before the emergency push-button is released.
The stability of the whole machine is sufficient to guarantee use in the indicated operating conditions without risks of overturning, falling or moving unexpectedly.
Do not tamper with or eliminate the safety devices that are installed on the machine.
Periodically check the effectiveness of the safety systems.
Do not damage or eliminate the safety signals that are applied to the machine; if a safety signal is damaged or missing, immediately inform the person in charge of company safety and ask for its replacement.
If operators tamper with the safety devices, the Manufacturer is not liable for any resulting injury to people or damage to things. The operator becomes the only person responsible when facing competent bodies.
If danger arises for people or things, press the emergency push-button.

## 3.2. DESCRIPTION OF PICTOGRAMS


ATTENTION! Machine moving parts in action

BE CAREFUL to your hands

DO NOT remove safety devices

DO NOT clean, grease or adjust the machine elements while they are in action

DO NOT clean the machine using water jets

ATTENTION! Hand crush hazard

### 3.3. DESCRIPTION OF SAFETY DEVICES

*3.3.1. FIXED GUARDS*

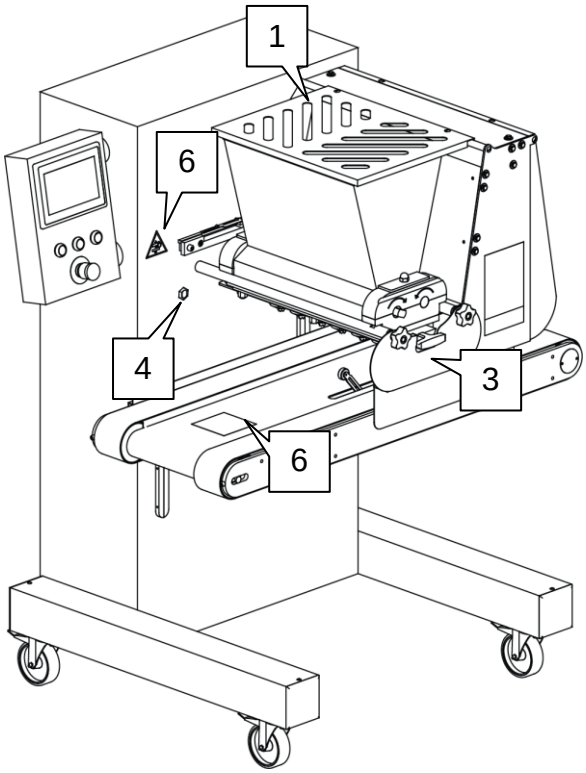
They are fixed with screws and can be removed only using the appropriate tools, which must only be used for maintenance operations; when maintenance is finished the guards must be correctly repositioned.

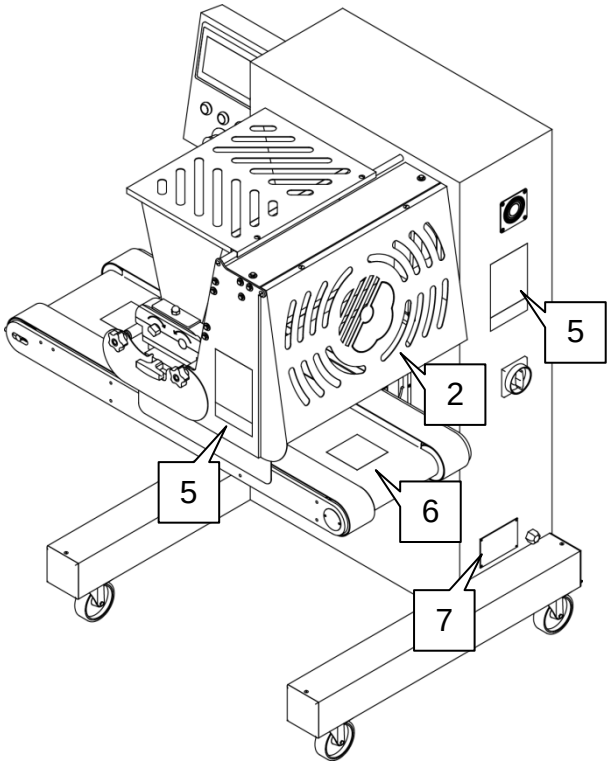
*3.3.2. MOVABLE GUARDS*

They are connected to safety micro-switches or photocells meant for cutting in automatically whenever the covers are opened. The machine can start production again when the movable guards are closed.

### 3.4. PLACEMENT OF SECURITY DEVICES AND SIGNALS

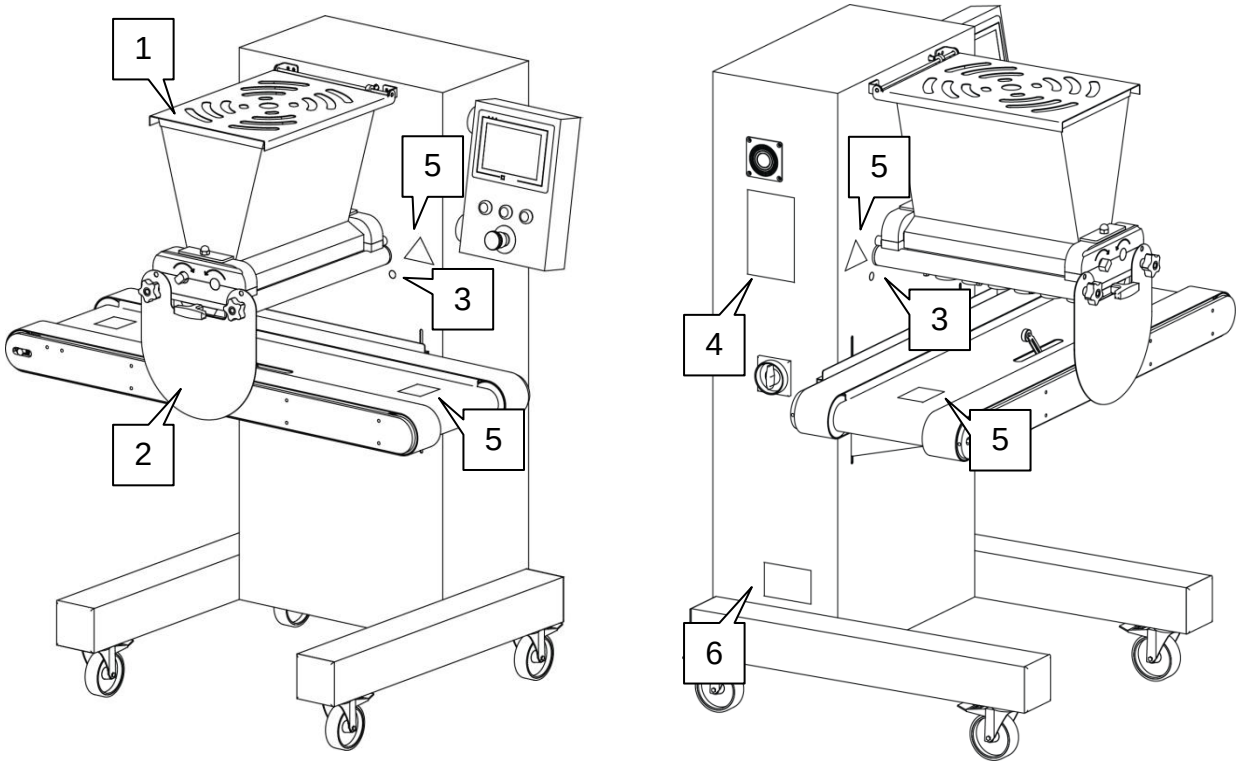
*3.4.1. SUPREMA / SUPREMA PLUS*




1. Hopper movable guard
2. Wire-cut device movable guard
3. Front guard
4. Photocell
5. Main pictogram
6. Pictogram “Hand crush hazard”
7. Information plate

*3.4.2. MINIDROP / MINIDROP PLUS*




1. Hopper movable guard
2. Front guard
3. Photocell
4. Main pictogram
5. Pictogram “Hand crush hazard”
6. Information plate

**3.5. RESIDUAL RISKS**

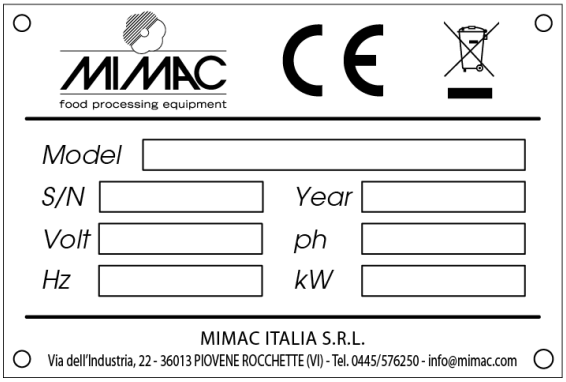
While using the machine for production or maintenance, the residual risks present are possible crushing of the hands between the die and the conveyor or between the die and the tray positioned above the conveyor.

# 4. MACHINE DESCRIPTION

## 4.1. GENERAL DESCRIPTION

Extremely flexible dropping machine for the production of cookies and pastry in general.
Thanks to its interchangeable dosing units and several moulds with nozzles, the dropping machine allows many great flexibility in the typology of product and in the choice of the shape.

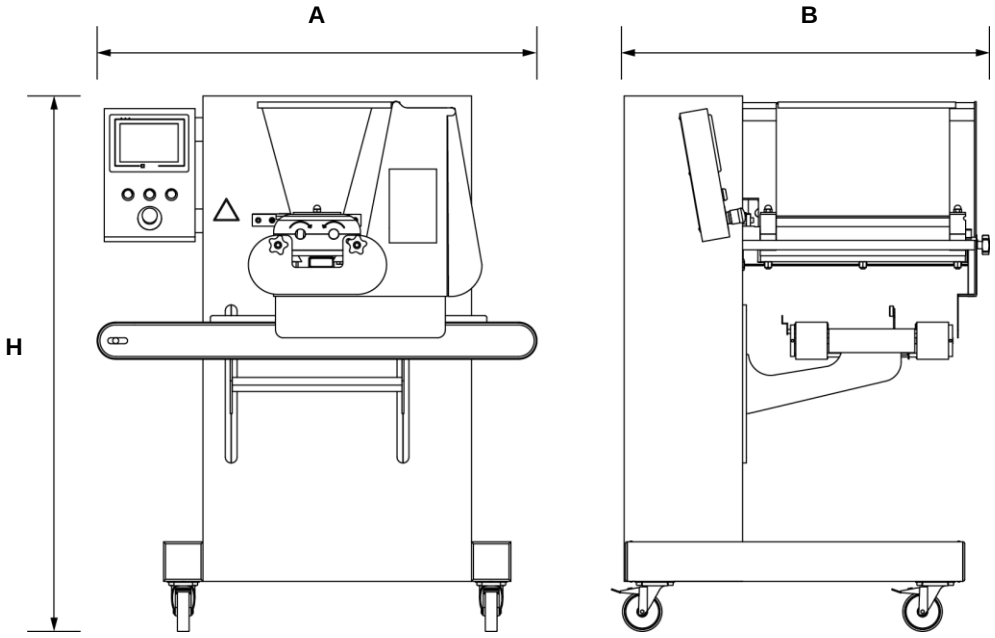
## 4.2. IDENTIFICATION




In each machine there is an identification plate containing information about the Manufacturer and the machine (model name, serial number, power supply, year of manufacture).

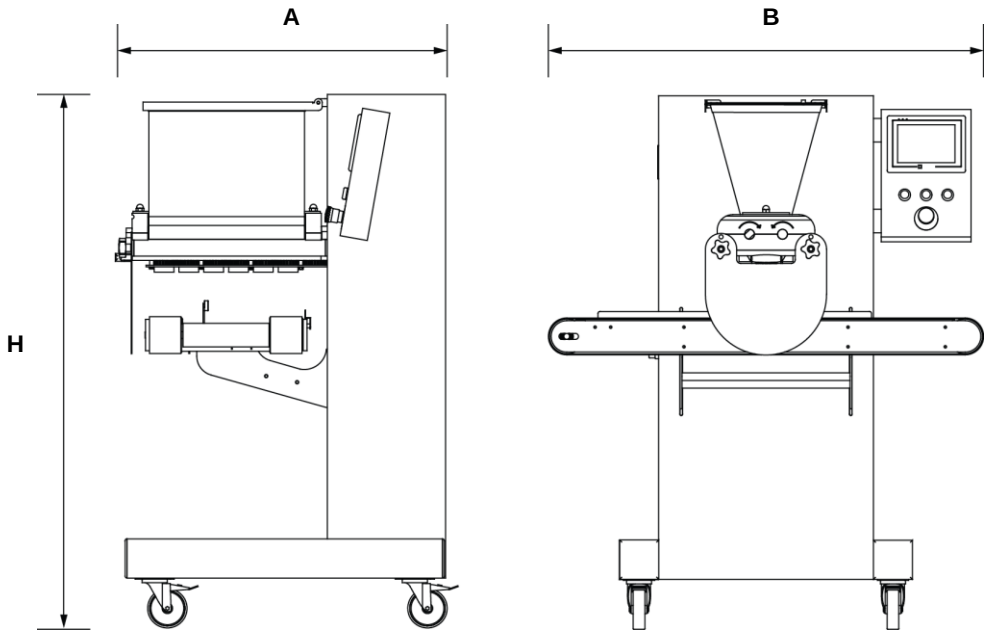
## 4.3. TECHNICAL SPECIFICATIONS

*4.3.1. SUPREMA / SUPREMA PLUS*



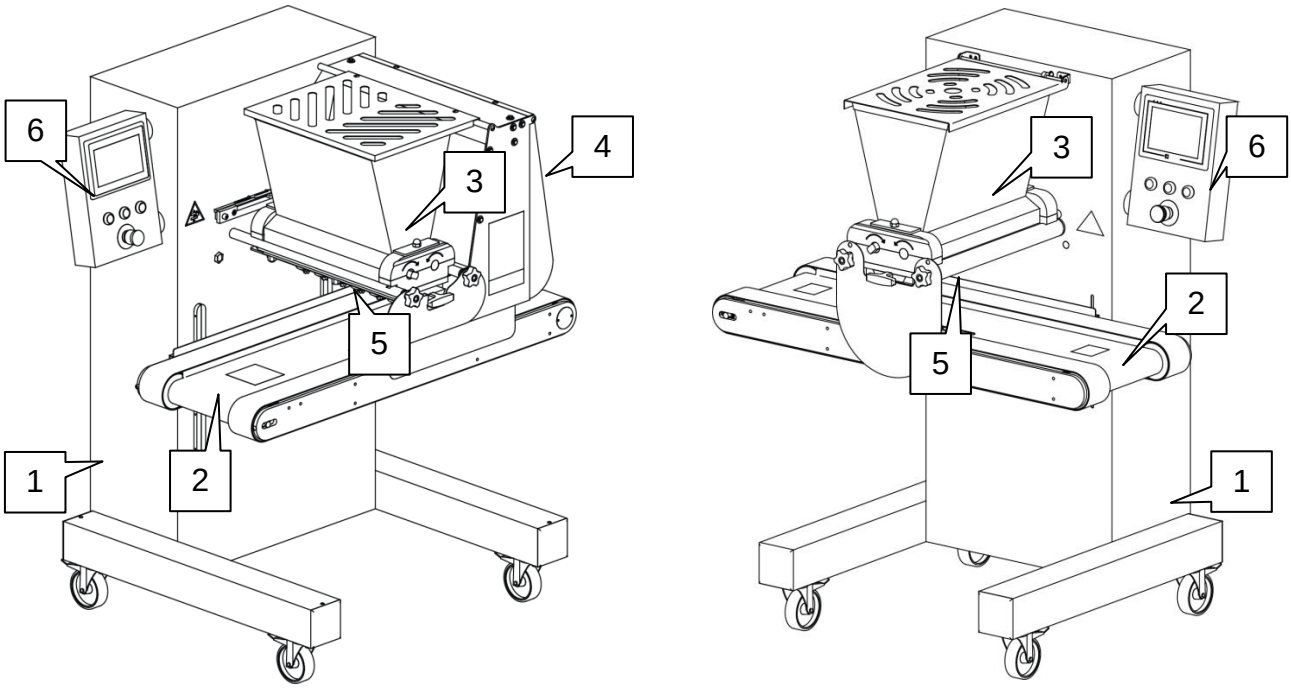

| | SUPREMA 400<br>SUPREMA PLUS 400 | SUPREMA 450<br>SUPREMA PLUS 450 |
|---|---|---|
| Dimensions<br>A<br>B<br>H | <br>1110 mm<br>895 mm<br>1360 mm | <br>1110 mm<br>895 mm<br>1360 mm |
| Weight | 240 kg | 245 kg |
| Hopper capacity | 24 lt | 27 lt |
| Power supply | 200-240 V - 50/60 Hz - 1ph | |
| Tray size | 400x600 mm | 450x660 mm |

*4.3.2. MINIDROP / MINIDROP PLUS*




| | MINIDROP 400<br>MINIDROP PLUS 400 | MINIDROP 450<br>MINIDROP PLUS 450 |
|---|---|---|
| Dimensioni<br>A<br>B<br>H | <br>840 mm<br>1110 mm<br>1360 mm | <br>890 mm<br>1110 mm<br>1360 mm |
| Peso | 190 kg | 195 kg |
| Capacità tramoggia | 24 lt | 27 lt |
| Alimentazione | 200-240 V - 50/60 Hz - 1ph | |
| Dimensione teglie | 400x600 mm | 450x660 mm |

## 4.4. MAIN COMPONENTS




*1 - Frame*

The frame is made of steel, aluminum alloy and stainless steel, covered by stainless steel panels that are fast and easy to clean and sanitize.

*2 - Conveyor*

The conveyor allows the tray to move forwards or backward for an accurate placement and for moving while the machine is dropping. The conveyor makes also vertical movement to detach the product from the nozzles and to adjusts the thickness of the products.

*3 - Dosing unit*

The dosing unit drops the dough put into the hopper. The machine can be equipped with two different type of dosing unit:

- roller type to handle soft dough (e.g. meringues and éclairs) or harder dough (e.g. shortbread of almond dough);
- pump type to handle fluid dough or semi-dense dough (e.g. sponge cake or cup cake).

*4 - Wire-cut device*

*The wire-cut device allows dosing of harder doughs in the desired thickness. Cutting is achieved by means of a steel wire fixed to a frame; the latter moves, making the wire rub against the plastic patterns that are placed on the die.*

*5 - Die*

The die, complete with nozzles, gives the wanted shape to the products.

*6 - Control panel*

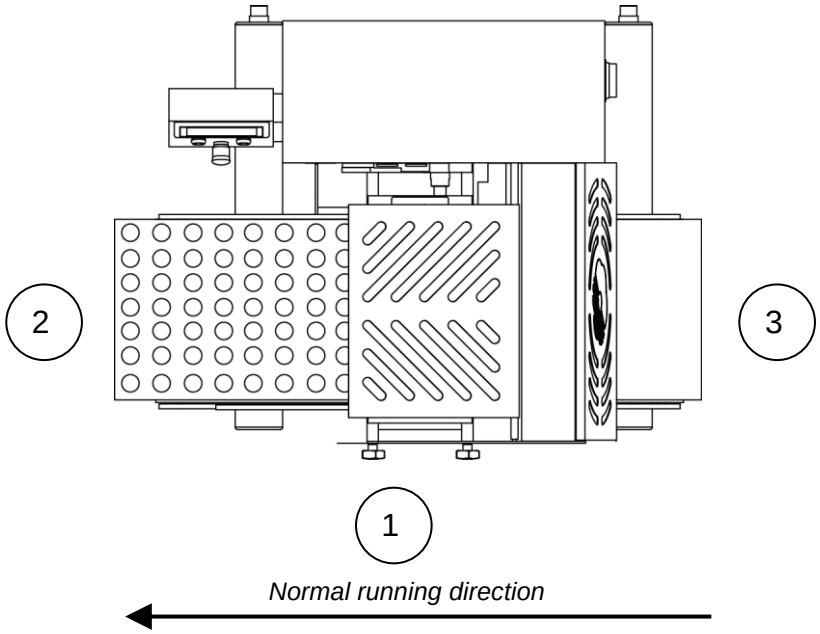
The control panel allows the operator to interface with the machine using the buttons and the touch screen control panel.

## 4.5. EQUIPMENT

The machine can be provided with different dosing units, moulds and nozzles in accordance with the need of the customer agreed at the time of the order. The standard equipment includes a kit of service wrenches.

## 4.6. WORKING AREAS

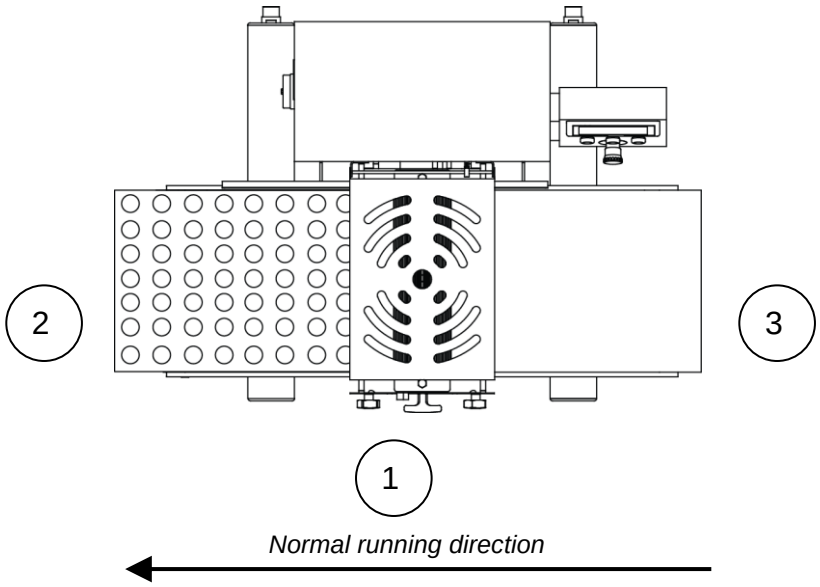
### *4.6.1. SUPREMA / SUPREMA PLUS*




The machine can be used by one operator only, who fills the hopper, feeds the trays and removes them.

1. Hopper filling area
2. Tray feeding area
3. Tray removing area and control panel

### *4.6.2. MINIDROP / MINIDROP PLUS*




The machine can be used by one operator only, who fills the hopper, feeds the trays and removes them.

1. Hopper filling area
2. Tray feeding area
3. Tray removing area and control panel

## 4.7. PRODUCTS OVERVIEW

The machine can make many type of products set by default. By choosing one of the products available the system loads specific parameters.
Available products may differ depending on the model and options included.

Fxed product

Long product

Drop shaped product

Fixed product in set steps

Long product in set steps

Sponge cake

Fixed product with rotation

Long product with rotation

Donut

Fixed product with rotation in set steps

Fixed product with wire-cutting(1)

Long product with wire-cutting(1)

Braid with wire-cutting(1)

Multilayer fixed product(2)

Multilayer long product(2)

Flame shaped product(2)

Multilayer fixed product with rotation(2)

Multilayer long product with rotation(2)

Flame shaped product with rotation(2)

(1) Available on SUPREMA and SUPREMA PLUS models only
(2) Available on MINIDROP PLUS and SUPREMA PLUS models only

# 5. START-UP AND OPERATION CHECKS

## 5.1. POSITIONING

The floor and/or supports on which the machine is positioned must be suitable for supporting the indicated weights.
Make sure enough space is left around the perimeter of the machine for using and carrying out maintenance on it safely.
When choosing the machine position, please consider these points:

- the machine size;
- the operator's working areas, the space necessary for loading / unloading the trays and the space necessary for accessing the control panel;
- the movements necessary for cleaning the work station and the machine;
- the space necessary for carrying out maintenance.

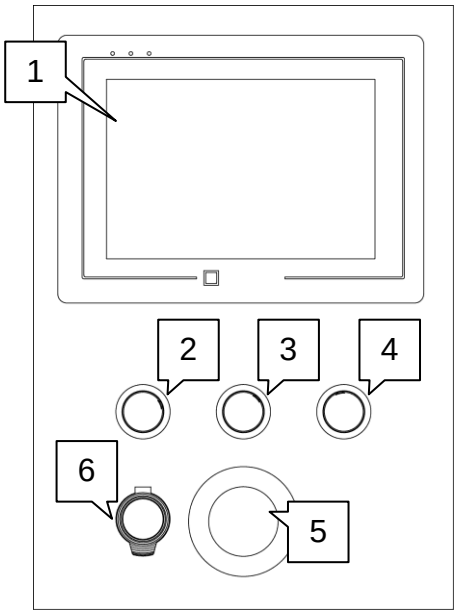
## 5.2. ELECTRICAL CONNECTION TO POWER SUPPLY AND EARTH

**The Customer is always in charge of, and responsible for connecting the machine to the electric power supply. The Customer is also responsible for power conductor protection and creating a suitable and reliable earthing system.**

The installing electrician must be specialised in work of this type. He/She must also be aware of all the technical notions and regulations for working in a professional manner.
The machine must be connected to the electric power system of the installation premises in compliance with standards (IEC-EN6 0204-I,IEC-EN 60349-I).
The power cable must be kept distant from parts that are hot, that can cut, or that move. It must also not obstruct operator and material movements in the installation area.
Make sure the machine voltage indicated on the identification plate corresponds to the line voltage of the laboratory; if it does not, DO NOT connect the machine to the power supply, instead contact the Retailer or Manufacturer immediately.
The machine must be connected to an earthing system which must be prepared by the Customer in compliance with what is indicated in current standards (LD 547/55 - IEC EN 60204-1 EN60445).
The connecting clamps are prepared inside the electric panel as specified in the attached wiring diagrams. Use the statutory earthing system, not pipes for gas, water or other unspecified metal holders.

## 5.3. CONTROL DESCRIPTION

*5.3.1. CONTROL PANEL*

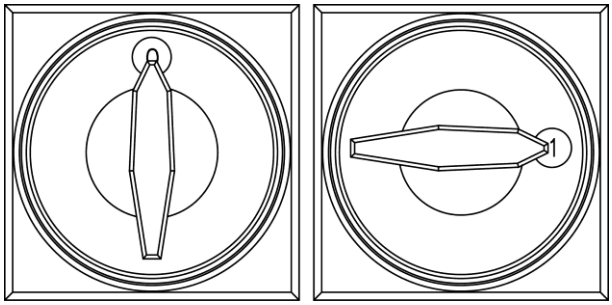



Operators have the control panel at their disposal, which can be used to carry out operations for setting up and controlling the machine.
The operator has a stop push-button to stop the machine, in addition to an emergency stop push-button and safety devices on the safety guards. Press the stop push-button to stop production temporarily. In danger situations, use the emergency stop push-button to immediately stop the machine.

| | Description | Colour | Function |
|---|---|---|---|
| **1** | Touch screen panel | - | Programming / selection of the product to be made |
| **2** | Enabling push-button | Blue | Enables the machine to start production |
| **3** | Stop push-button | Red | Interrupts the production cycle |
| **4** | Start push-button | Green | Starts the production cycle |
| **5** | Emergency stop push-button | Red/Yellow | Stops the machine in an emergency |
| **6** | External USB port (optional) | Black | Flash drive connection for program backup/resetting and HMI updating |

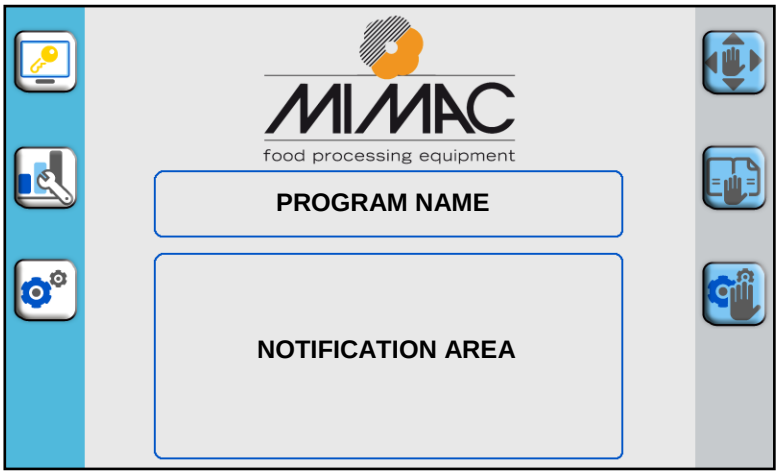
*5.3.2. MAIN SWITCH*

**MACHINE OFF**



**MACHINE ON**

*5.3.3. TOUCH SCREEN PANEL*




| | | | |
|---|---|---|---|
|  | Protection level |  | Manual movements |
|  | Diagnostics screen |  | Programs list |
|  | Machine parameters |  | Work display |

## 5.4. PRELIMINARY OPERATIONS

*5.4.1. INSERTING THE ROLLER TYPE DOSING UNIT*

1. Lay the head on the supporting rods

2. Delicately insert the two rollers

3. Carefully push the dosing group towards the structure, aligning the motor roller with the relative coupling

4. Insert the upper section of the head supports

5. Insert the hopper and fasten it using the relative stop nuts

6. Close the hopper guard

*5.4.2. INSERTING THE PUMP TYPE DOSING UNIT*

1. Lay the head on the supporting rods

2. Delicately insert the two rollers into the cavity

3. Position the front cap and fasten it using the relative stop nuts

4. Carefully push the dosing group towards the structure, aligning the motor roller with the relative coupling

5. Insert the hopper and fasten it using the relative stop nuts

6. Close the hopper guard

*5.4.3. INSERTING THE MOULD*

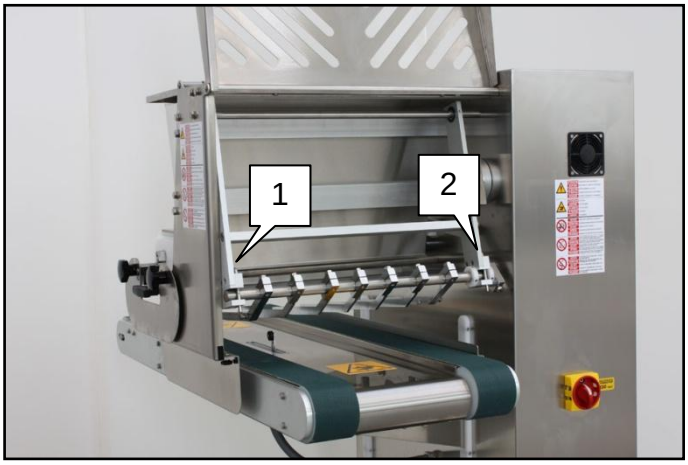
1. Loosen the gib nuts and insert the mould delicately

2. Push the mould in fully, making sure that the mould plate is against the machine structure or, with a rotary mould, that the rotating gear is inserted correctly

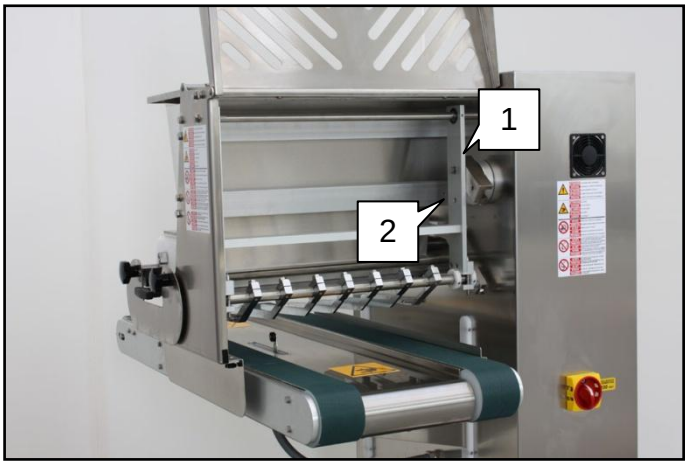
3. Position the front guard and fix it using the relative knobs

*5.4.4. INSERTING AND ADJUSTING THE WIRE CUTTING SYSTEM*

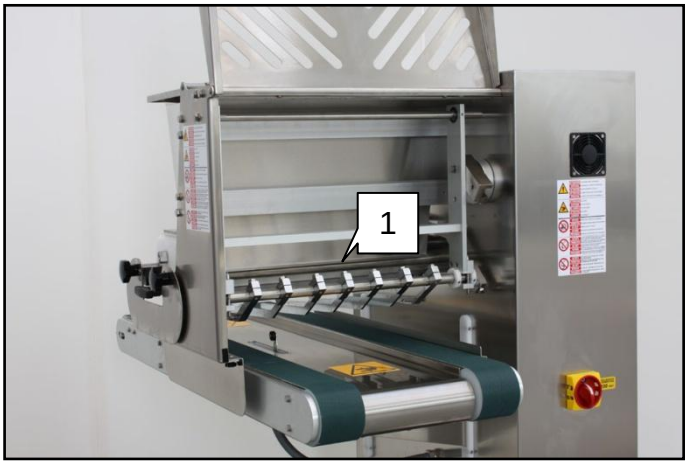
The motorized wire cutting system can be moved after having carefully assembled the relative die onto the roller type dosing group and the relative wire-cut frame.
When preparing for wire cutting, carefully and accurately position the frame arms against the die. Also make sure that the steel wire is tightened and fitted correctly. If the wire does not cut the dough that exits from the moulds simultaneously and with the same tightness, the product will not fall onto the trays in aligned rows. Make sure that the steel wire is placed and tensioned correctly.



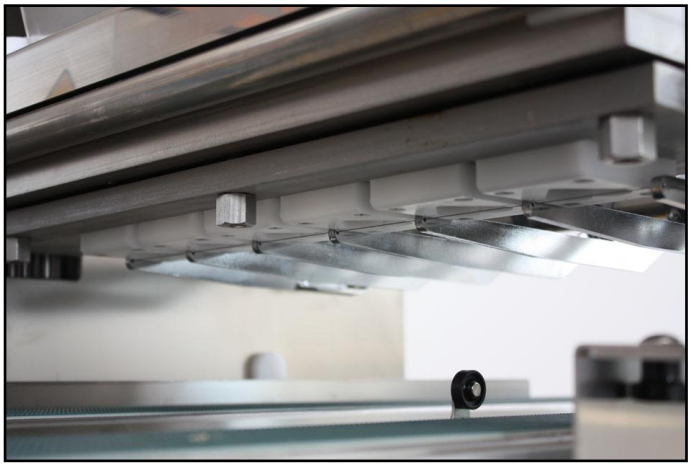

1. Pull the check pins up (parts 1 and 2), insert the tray into its seats and release the check pins.



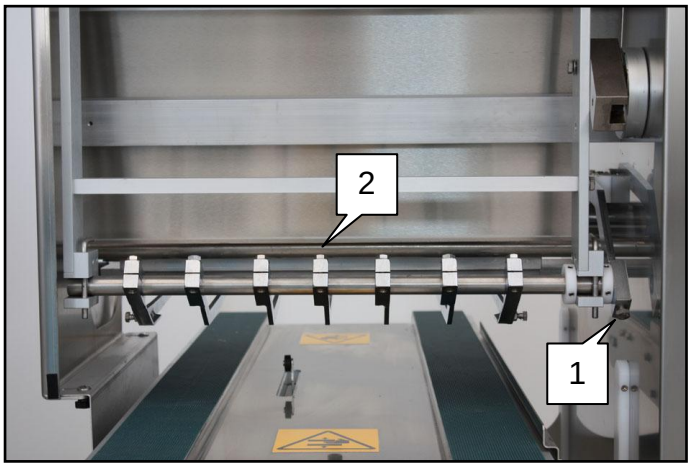

2. Fully unscrew screw No. 2 and loosen screw No. 1.




Make sure the arms are aligned with the die, carefully pushing the frame forward and backward manually.
To adjust the transversal position of each arm, loosen the relative rear lock screw (part 1), then adjust and tighten the screw again.



**6..** Make sure the wire is in contact with the plastic mould.




**6..** To adjust the vertical position of all the arms contemporaneously, loosen the guide arm lock screw (part 1), adjust and tighten the screw again.

To adjust the vertical position of the individual arms, loosen the relative rear lock screw (part.2), adjust and then tighten the screw again.

**While adjusting the frame, make sure that the guiding pin remains in contact with the metal plate of the guiding shoe.**

**Remove the wire-cut frame from the machine when it is not required for production.**

*5.4.5. INSERTING/REPLACING THE STEEL WIRE*

**Maximum care must be taken when carrying out this operation to prevent moving the arm position unexpectedly.**

1. Lift the rear mobile guard.
2. Pull the frame check pins up.
3. Remove the frame from its seat.
4. Delicately remove the worn/broken wire, making sure to have removed all of it, even from around the tightening screws.

5. Insert the replacement wire, passing it through the holes of the arms, being very careful not to bend it excessively.

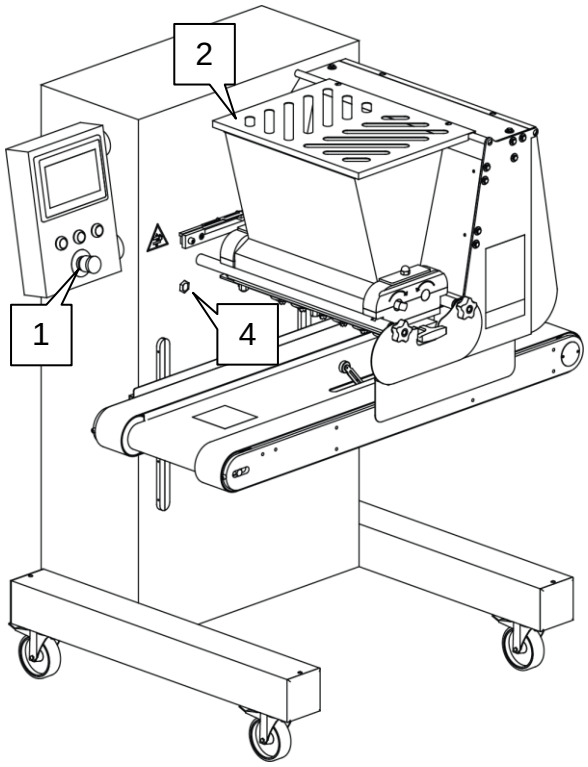
6. Fix the first end of the steel wire, inserting it into the adjustment screw hole and wind it around the screw a few times in order to guarantee a perfect hold.
7. Cut the wire to size and repeat the fixing operation at the other end of the frame.

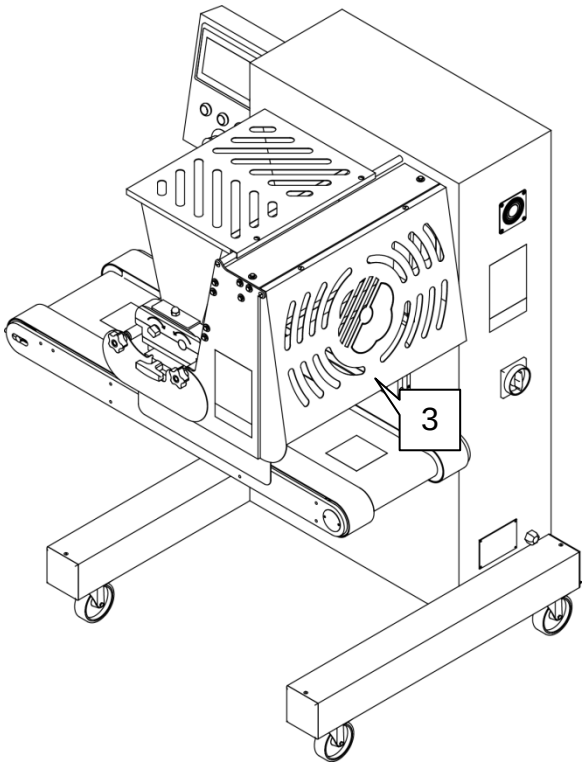
8. Use the second screw to tighten the steel wire suitably, and tighten the nut to lock it.
9. Reposition the frame on the machine.

**The wire-cut frame is carefully adjusted and tested during the inspection phase, which is carried out before shipping.**

## 5.5. CHECKING THE SAFETY DEVICES

*5.5.1. SUPREMA / SUPREMA PLUS*



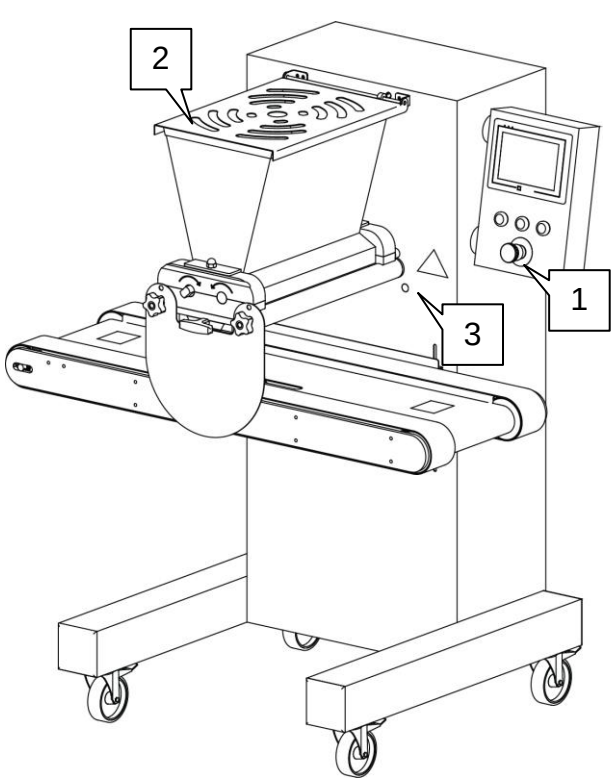



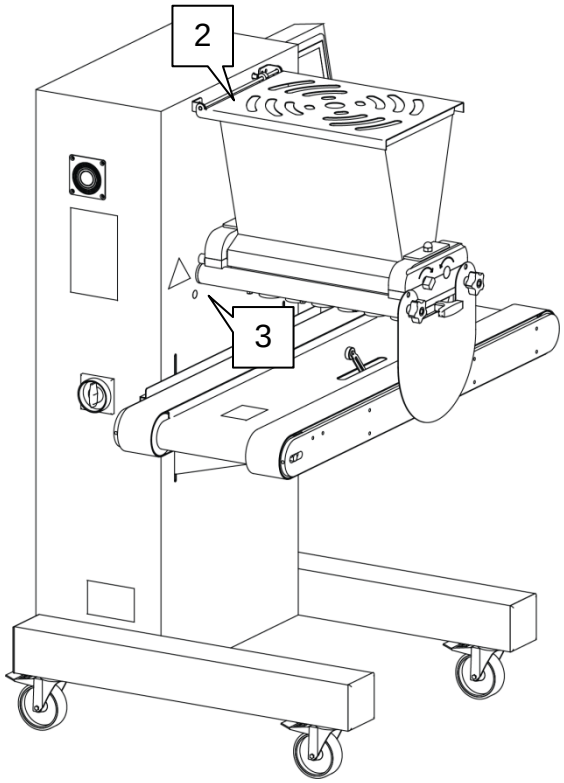

Always check the safety devices before using the machine:

1. press the emergency stop push-button on the control panel (part 1);
2. activate the safety micro-switches by lifting the mobile guards of the machine (part 2 and part 3);
3. interrupt the safety photocell beam by placing a solid object between it and the reflector in front of it (part 4).

Each of the listed tests must make all the machine movements stop, with the machine entering an emergency state; when in this condition the machine must be reset to start operating normally again.
If this is not the case, immediately inform the Safety Manager.

*5.5.2. MINIDROP / MINIDROP PLUS*




Always check the safety devices before using the machine:

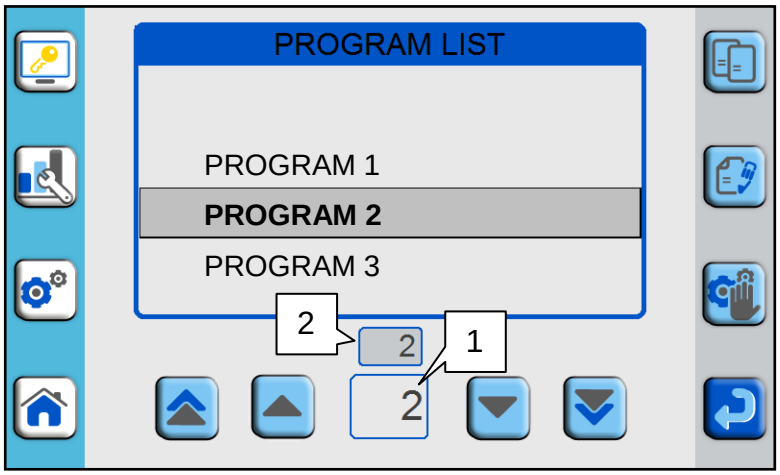
1. press the emergency stop push-button on the control panel (part 1);
2. activate the safety micro-switches by lifting the mobile guards of the machine (part 2);
3. interrupt the safety photocell beam by placing a solid object between it and the reflector in front of it (part 3).

Each of the listed tests must make all the machine movements stop, with the machine entering an emergency state; when in this condition the machine must be reset to start operating normally again.
If this is not the case, immediately inform the Safety Manager.

# 6. MACHINE USE

## 6.1. SELECTING A PROGRAM

Press the  icon to enter the Programs List.




Scroll the list by pressing:

 to go up by one position;

 to go down by one position;

 to go up by 10 positions;

 to go down by 10 positions;

Alternatively, directly insert the required position number by pressing on the lower panel (part 1) and using the numeric keypad that appears on the display.

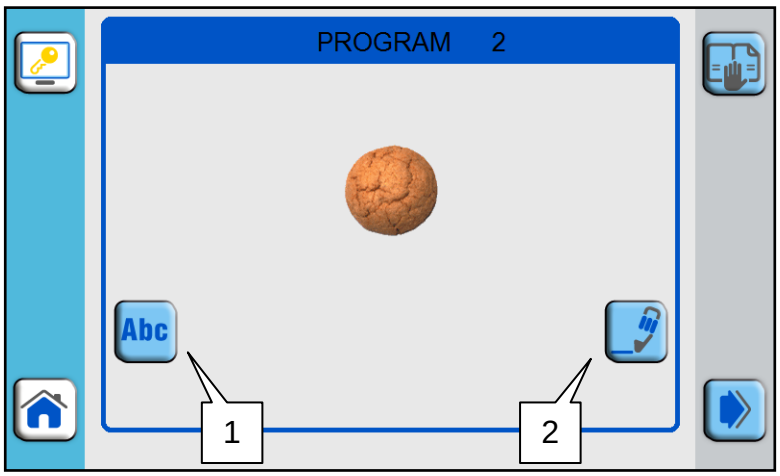
Once the required number has been keyed in, press 


Confirm program selection with the  icon

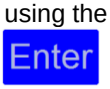
 **In confirmation of program selection, the chosen number also appears in the upper box (part 2).**

## 6.2. CREATING/MODIFYING A PROGRAM

After having selected the required position as described in the previous paragraph, press the  icon to see the first programming display.



Press the  icon to set or modify the program name, using the keyboard that appears on the display.

Key in the required name and confirm the operation with 

Press the  icon to select or modify the type of product to be made.


Select from among the proposed alternatives by pressing directly on the image of the product itself. A tick appears on the selected product to confirm the choice made.

End the operation by pressing the  icon to return to the first programming display, then press the  icon to return to continue defining or modifying the product parameters.

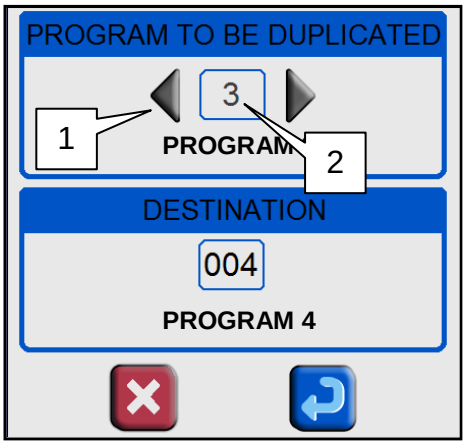
### 6.3. DESCRIPTION OF PRODUCT PARAMETERS

| Parameter | Description |
|---|---|
| **Conveyor distance** | Distance between the nozzles and the tray during dosing |
| **Conveyor speed** | Conveyor speed during the dosing phases |
| **Cycle speeding up** | - ON: the simultaneous movement of table and conveyor to reach the set row positioning is active thus allowing to increase the machine productivity<br>- OFF: speeding up of the work cycle is inactive<br>Operative only if *Table* movement is set on *Up/Down*. |
| **Direction** | - *Forward*: the tray moves in the normal running direction<br>- *Backward*: the tray moves in a direction that is opposite the normal running direction<br>- *Forward/Backward*: the tray is inserted and extracted from the tray feeding area; the machine works *Backward*.<br>- *Backward/Forward*: the tray is inserted and extracted from the tray removal area; the machine works *Forward.* |
| **Dropping speed** | Dosing roller rotation speed. Regulates the quantity of product to be dosed |
| **Dropping time** | Dosing roller rotation time. Regulates the quantity of product to be dosed |
| **Enable earlier dropping** | If *Table movement* is set on *Up/Down*:<br>- dosing starts when the table is at the set distance as to the height to be reached.<br>If *Table movement* is set on *Top stop/Low stop*:<br>- dosing starts when the tray is at the set distance as to the position to be reached. |
| **Enable table lowering at tray end** | Can be selected if Table movement is set at Top stop.<br>- ON: the table lowers after the last row and returns to the up position with the first row of the next tray<br>- OFF: the table remains up even during tray change |
| **Falling correction** | Has an effect on the true position of the tray to compensate forward movement during the product dropping phase when using the wire cutting system |

| Parameter | Description |
|---|---|
| **Final dropping speed** | Dropping speed reached at the end of dosing starting from the value set for the Dropping speed |
| **Final uniformity** | Duration of the final dropping phase carried out with steady belt and/or nozzles (according to the type of product selected) to even dosing ending |
| **Final vacuum** | Intake time at the end of the tray |
| **First row dropping time correction** | Added to or deducted from the dosing time (or the initial uniformity) of the first row of each tray |
| **Head type** | Allows the selection of the dosing unit to be used between Rollers and Pump |
| **Height** | Thickness of product layer |
| **Initial return** | With Sponges, backward movement made at the start of the tray, with dosing active, to even dosing at the start of the tray. |
| **Initial space** | Space between the tray edge and the initial dropping position of the first row |
| **Initial uniformity** | Duration of the initial dropping phase carried out with steady belt and/or nozzles (according to the type of product selected) to even dosing start |
| **Lowering speed** | Table lowering speed during depositing or during positioning between layers |
| **Nozzle rotation time** | Duration of the nozzle rotation phase, during which the product is also dosed |
| **Nozzle speed** | Nozzle rotation speed |
| **Number of rows** | Number of rows created on each tray |
| **Pre-vacuum pause** | Time elapsed between the end of the dosing phase and the beginning of the vacuum phase. |
| **Product height** | Total height of the chosen product |
| **Product length** | Length of the product to be made |
| **Rotating scrape** | Extra nozzle rotation at the end of dropping to prevent the formation of a peak |
| **Rotation on Final uniformity** | - ON: nozzle rotation active during the *Final uniformity*<br>- OFF: nozzle rotation not active during the *Final uniformity* |
| **Rotation on Initial uniformity** | - ON: nozzle rotation active during the *Initial uniformity*<br>- OFF: nozzle rotation not active during the *Initial uniformity* |
| **Rotation on Layer #[nr.]** | - ON: nozzle rotation is active during depositing of the indicated layer<br>- OFF: nozzle rotation is inactive during depositing of the indicated layer |
| **Rotation on Length** | - ON: nozzle rotation active during the forward phase<br>- OFF: nozzle rotation not active during the forward phase |
| **Rotation on Lowering** | - ON: nozzle rotation is active during depositing with conveyor lowering<br>- OFF: nozzle rotation is inactive during depositing with conveyor lowering |
| **Scrape** | Belt forward/backward movement at the end of dropping to prevent the formation of a peak |
| **Step length** | Distance between one row and the next one |
| **Table movement** | - Top stop: table stopped at the high position during the dosing cycle<br>- Up/Down: table with vertical up and down movements for each row<br>- Low stop: table stopped at the low position during the dosing cycle |
| **Tray length** | Length of the trays used |
| **Tray presence memorization** | - ON: the tray sensor is disabled after the tray has been detected<br>- OFF: the tray sensor is continually active |
| **Vacuum** | Intake time at the end of dosing |
| **Wire-cut speed** | Wire cutting system speed (optional) |
| **Wire-cut waiting time** | Time elapsed between wire cutting system starting and the belt conveyor forward command |

### 6.4. COPYING A PROGRAM

Access the Programs list, select the position where the already-created program to be copied is, and confirm the choice by pressing the icon

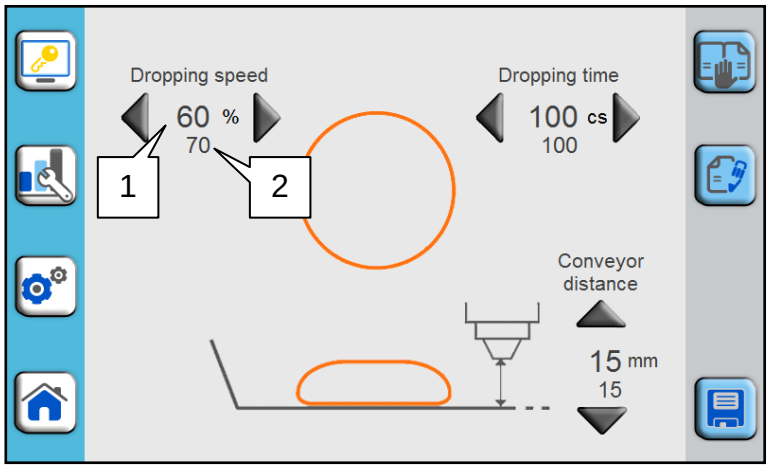



Press the icon to make the window appear from which to select the program to be copied. Make your choice using the arrows (part 1) or by entering the required position number using the numeric keypad that appears when the displayed number is pressed (part 2).
The underlying field shows the number and name (if present) of the destination position previously chosen as the destination program (which will be overwritten).

**Copying a program will overwrite the program name and all the parameters in the destination position. The overwritten data are lost and cannot be recovered.**

To begin copying, press the icon, otherwise press the icon to exit without making any modification.

### 6.5. MODIFYING PARAMETERS DURING OPERATION




During working, the display shows the work page of the selected program that gives the main product parameters. The current value (part 1) is shown for each parameter together with the value saved in the program (part 2). Temporarily increasing or decreasing the values does not modify the data saved in the program being used.

To save the modifications press the icon.

## 6.6. PROTECTING PROGRAMS WITH A PASSWORD

The user can enable a user password from the control panel to protect the programs in the list from unwanted modifications; only by inserting the user password is it possible to modify and save the product parameters.

### *6.6.1. ENABLING AND DISABLING THE USER PASSWORD*

**The machine is supplied with the user password disabled.**
**The factory-set user password is 2569.**

Access the machine parameters following the instructions given in paragraph "7.1 Machine parameters" and identify the Timeout password parameter.

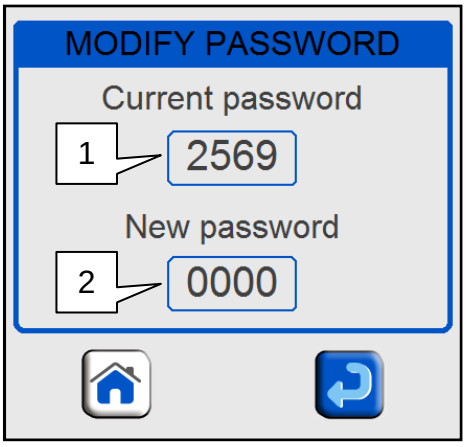
To disable the user password, press the Timeout password push-button and insert the value 9999 using the numeric keypad.
*This protection level can be disabled to create and modify programs freely.*

To enable the user password, press the Timeout password push-button and insert the value 0 using the numeric keypad.
*This protection level can be enabled to select and load programs freely, but the programming pages cannot be accessed and the modifications made during working cannot be saved.*

The user password can be timed by giving the Timeout password a value between 1 and 9998.
The inserted value is equivalent to the time in seconds during which the programming pages can be accessed or modifications during working can be made without the protection password being requested. Once this period of time has elapsed, the password must be re-inserted to carry out any of the actions described above.

### *6.6.2. MODIFYING THE USER PASSWORD*

Access the machine parameters following the instructions given in paragraph "7.1 Machine parameters" and identify the User password parameter.
Press this parameter on the field to make the *Modify Password* window appear.

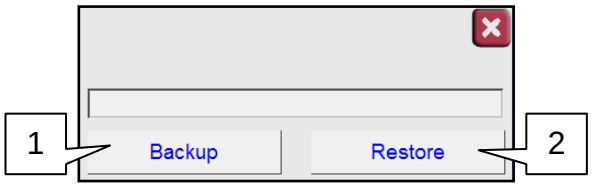



Press the top field (part 1) and key in the current user password.
Press the bottom field (part 2) and key in the new user password.
Confirm with and press to exit.

## 6.7. PROGRAM BACKUP/RESTORE

**Before starting a program backup or restore procedure, make sure the *Enable HMI update* machine parameter is set at OFF and that the machine is not working or is paused.**

If necessary, press the icon to return to the main page.
Insert the flash drive into the USB port on the control panel (optional) to make the pop-up shown below appear.




Press the *Backup* push-button to save all the programs that are present in the list on the flash drive.
Press the *Reset* push-button to reset the previously saved programs from the flash drive.
If the user password is enabled, insert the user password that is set.

**Backing up the program on the flash drive overwrites any saved data that are already present. The overwritten data will be lost and will not be recoverable.**

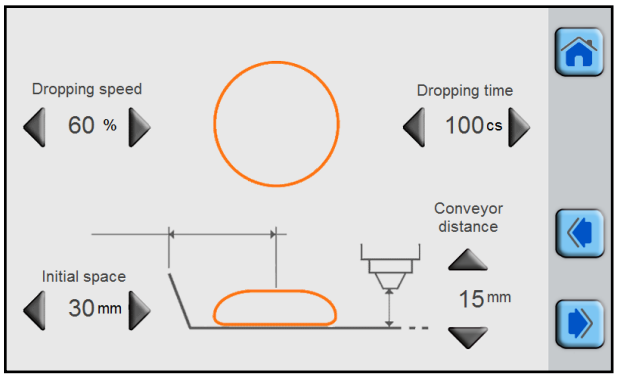
**Restoring the programs from the flash drive returns the Programs list to when the data on the flash drive was last saved.**
**All modifications made after this will be lost and will not be recoverable.**

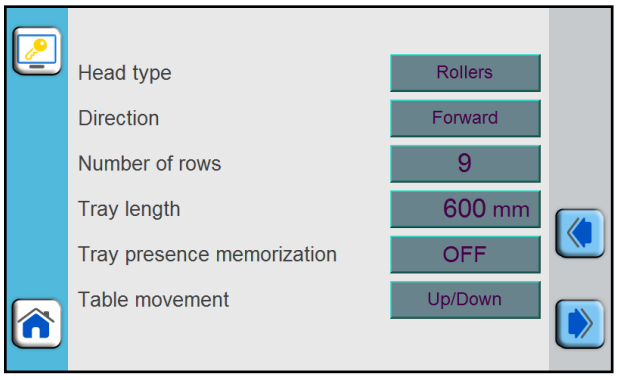
At the end of the procedure, remove the flash drive to close the pop-up.

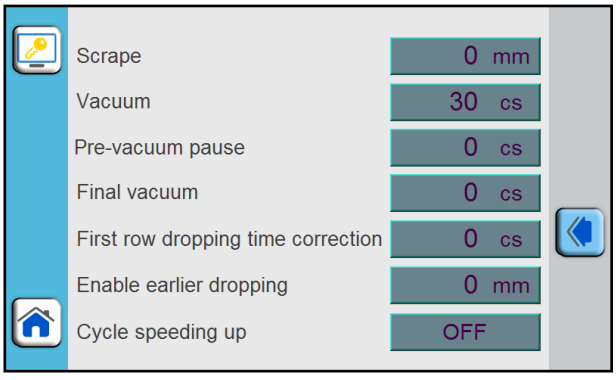
Press the icon to exit without starting the procedure.

## 6.8. PROGRAMMING EXAMPLES

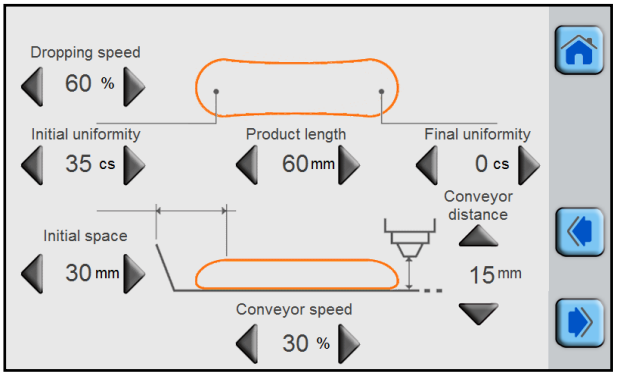
*6.8.1. FIXED PRODUCT*

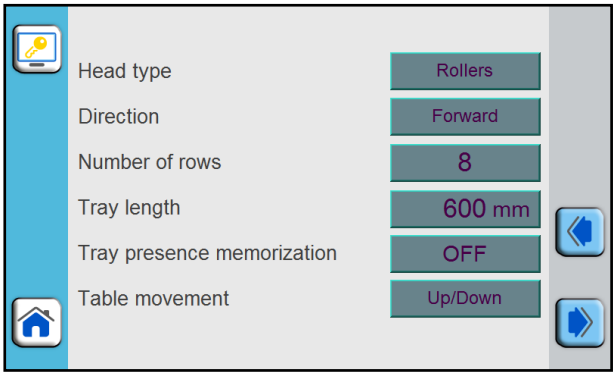


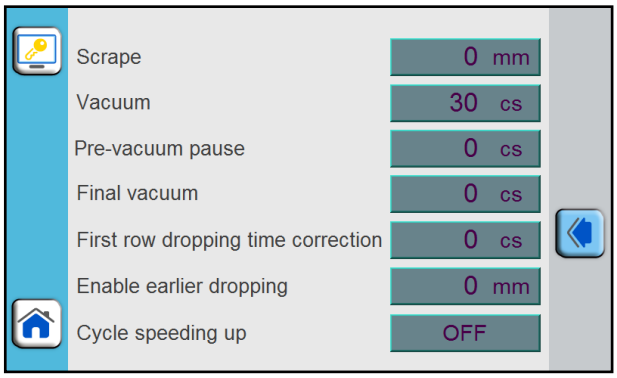



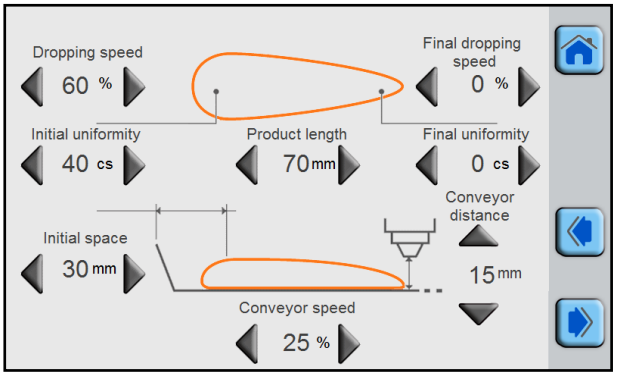
### 6.8.2. LONG PRODUCT

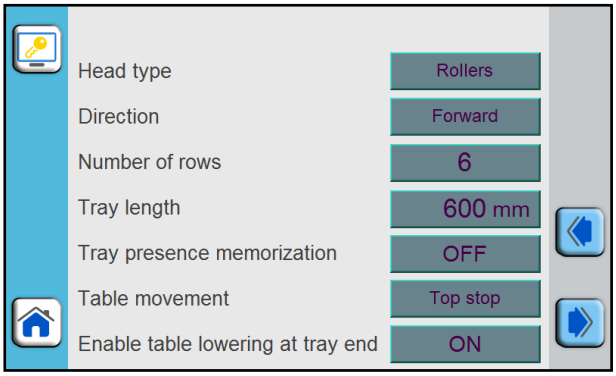


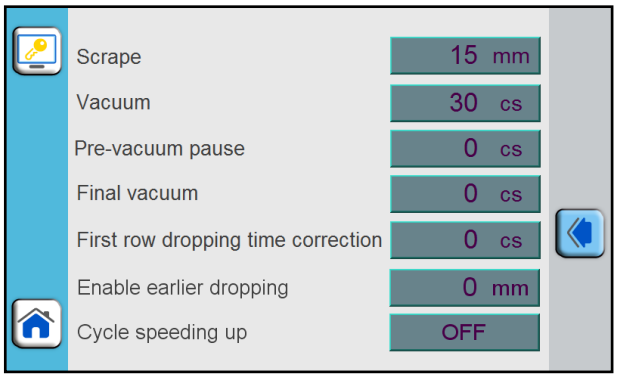



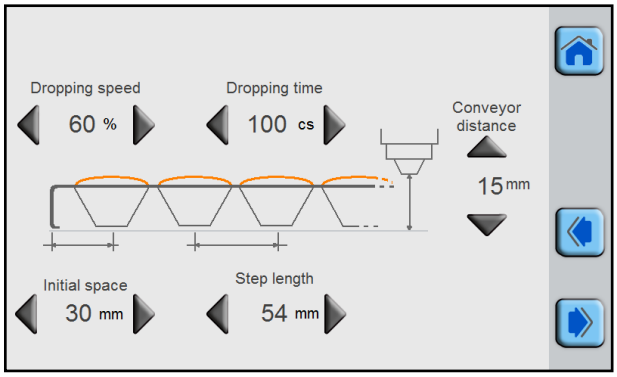

### 6.8.3. DROP SHAPED PRODUCT

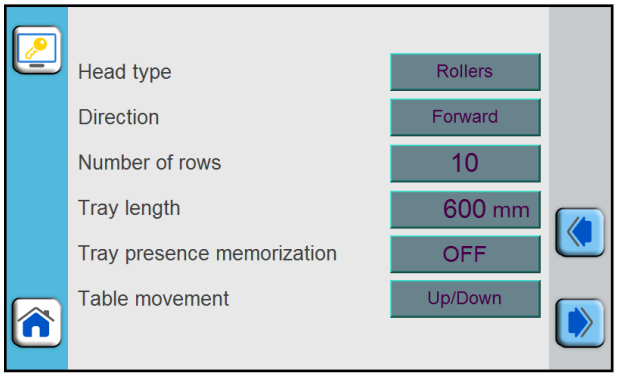


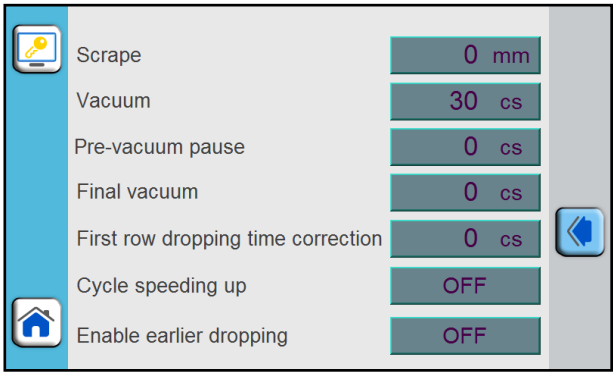



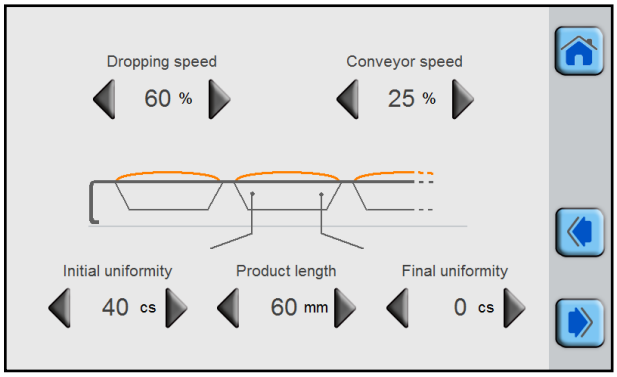
### 6.8.4. FIXED PRODUCT IN SET STEPS

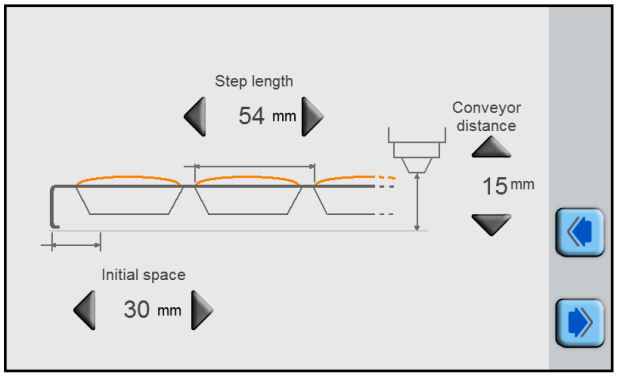


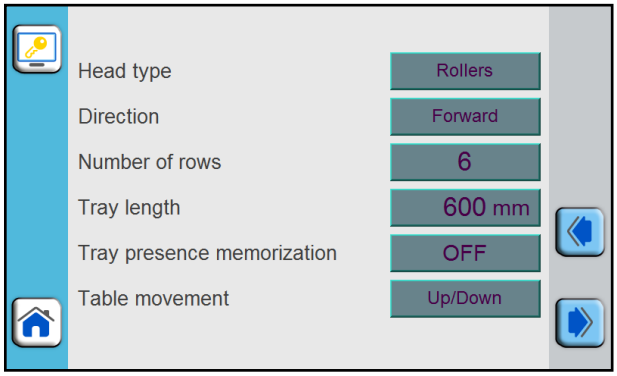



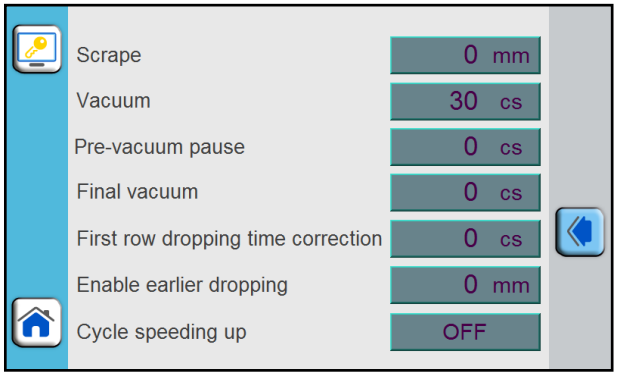




### 6.8.5. LONG PRODUCT IN SET STEPS

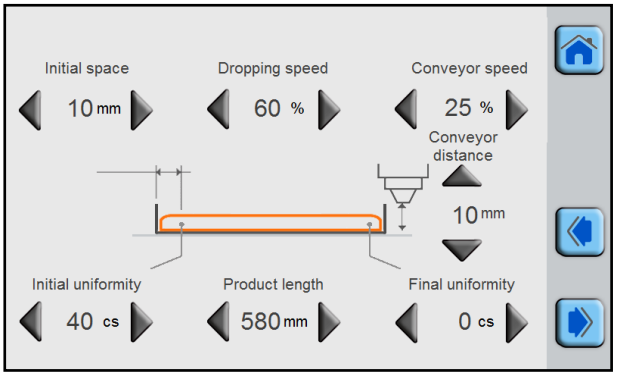


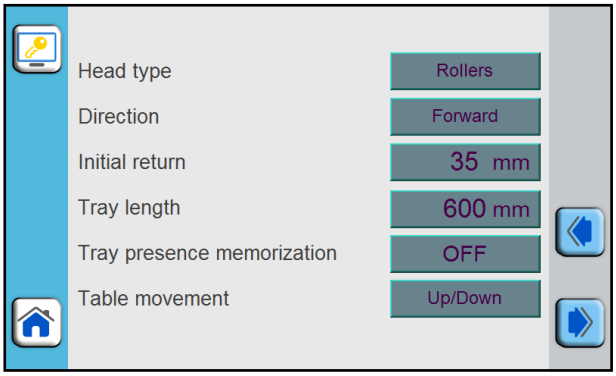



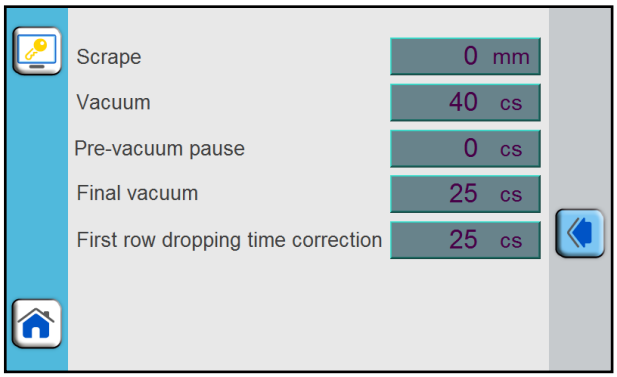



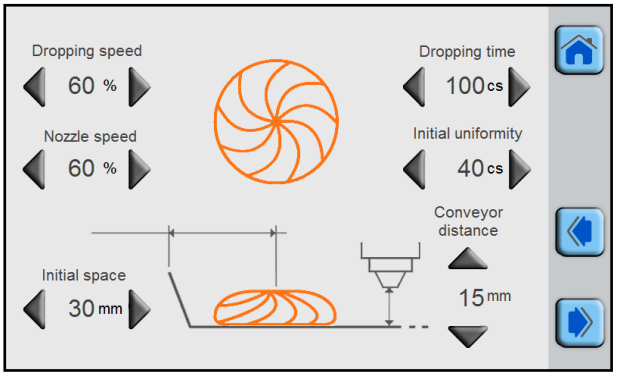
### 6.8.6. SPONGE CAKE

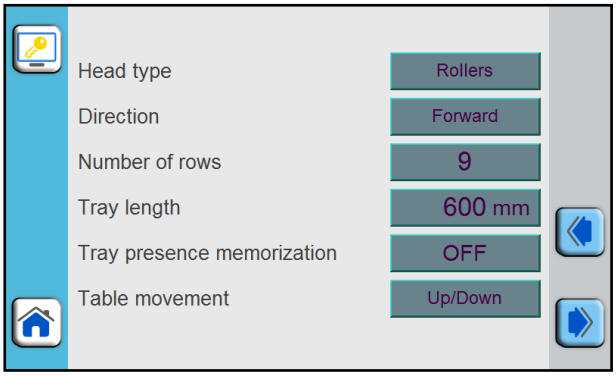


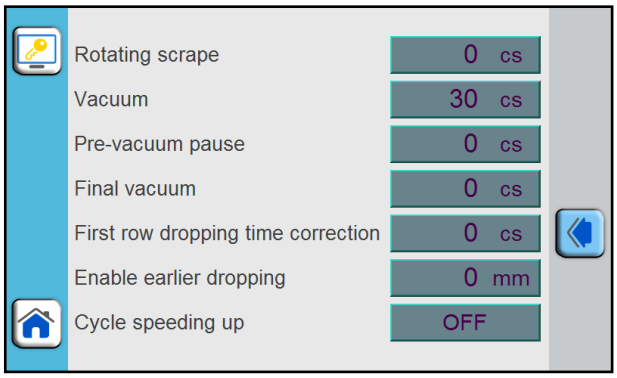



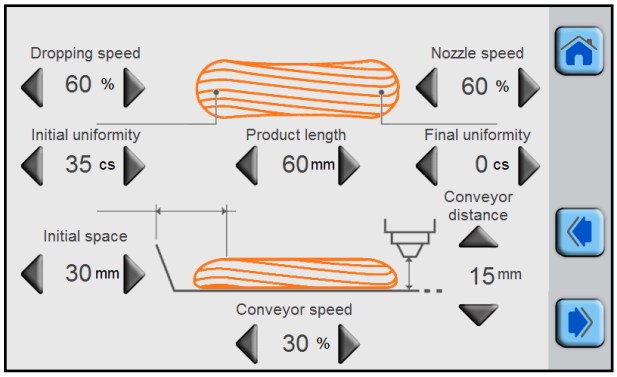

### 6.8.7. FIXED PRODUCT WITH ROTATION

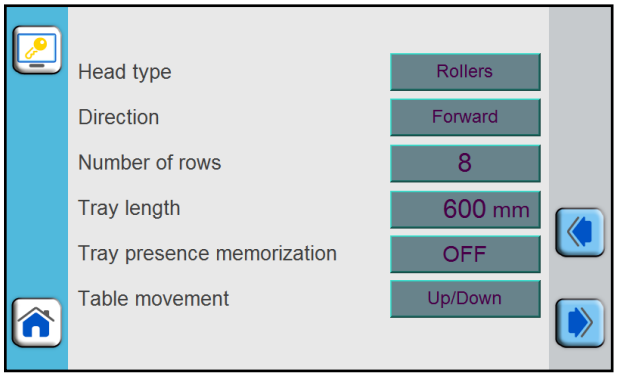


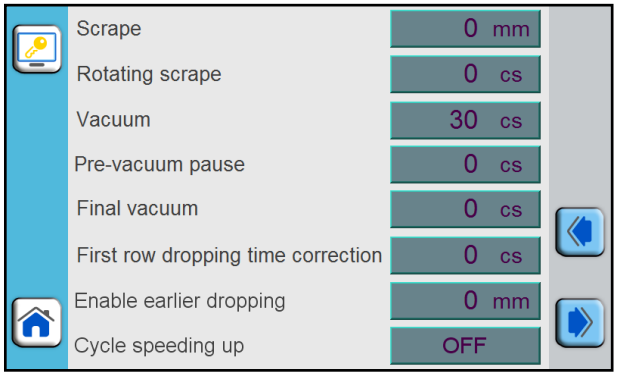



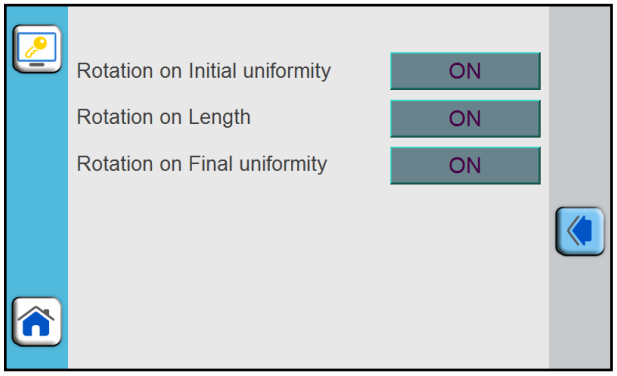



### 6.8.8. LONG PRODUCT WITH ROTATION

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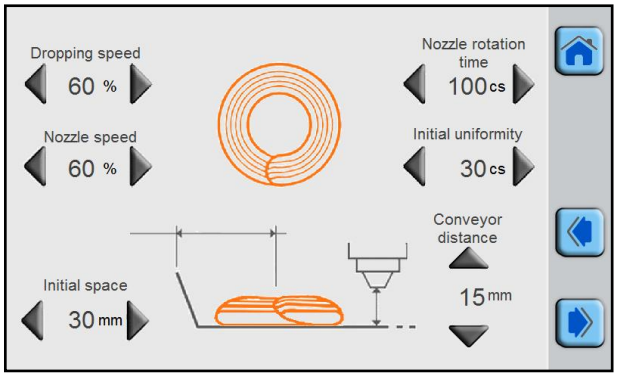
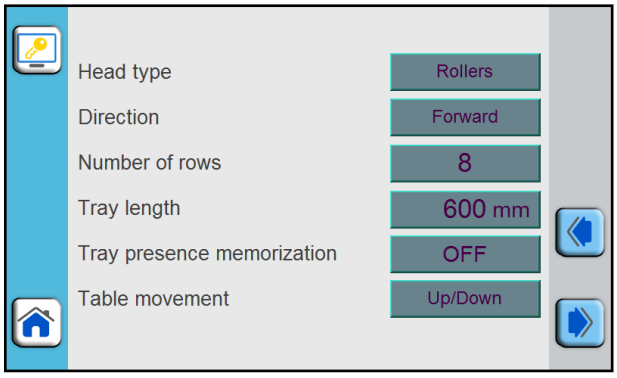
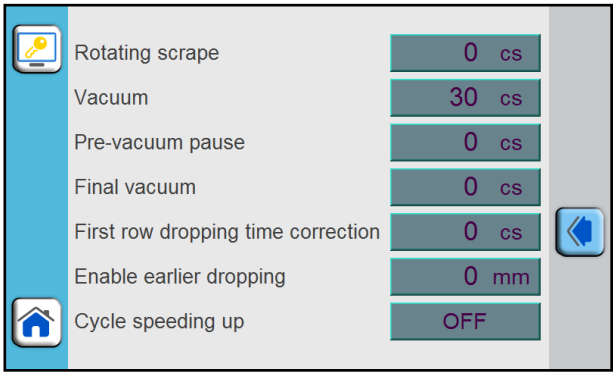
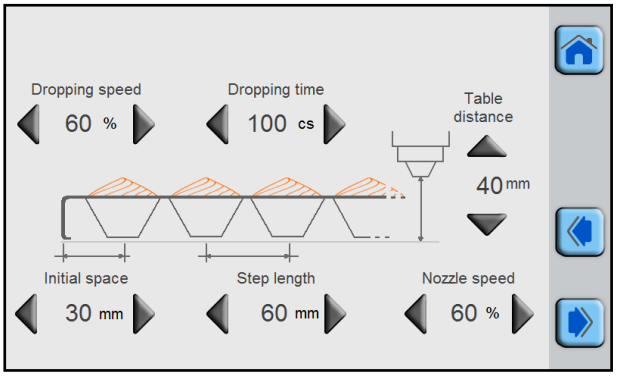
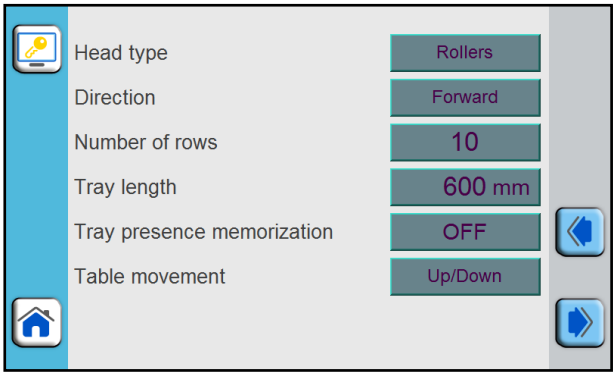


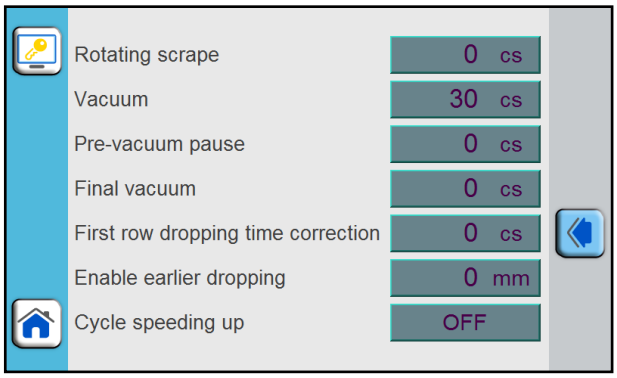



### *6.8.10. FIXED PRODUCT IN SET STEPS WITH ROTATION*

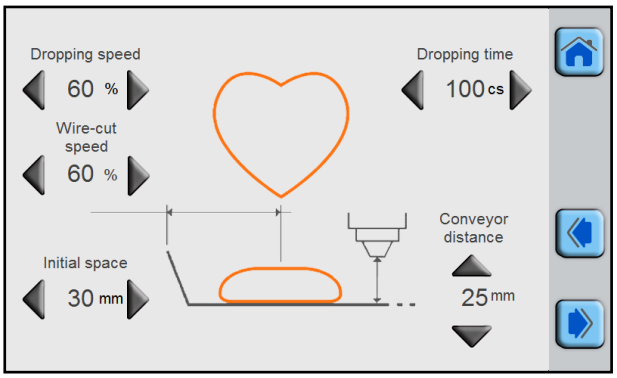


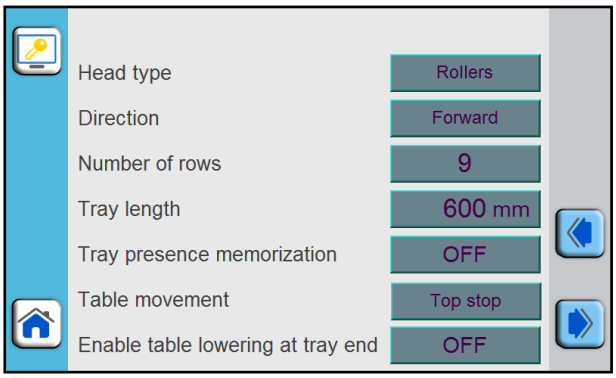



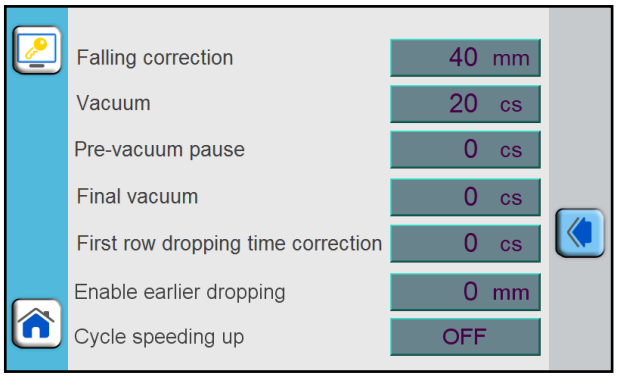




### *6.8.11. FIXED PRODUCT WITH WIRE-CUTTING*

Available on SUPREMA and SUPREMA PLUS models only

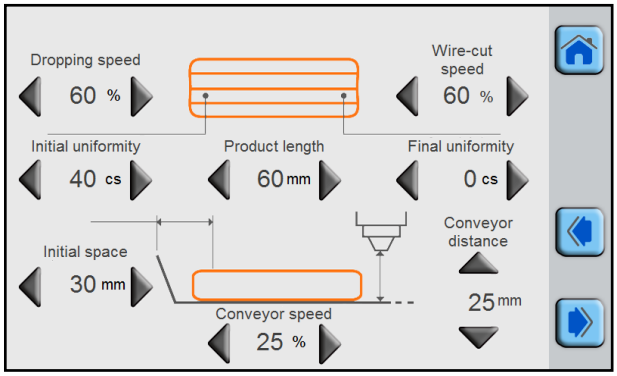


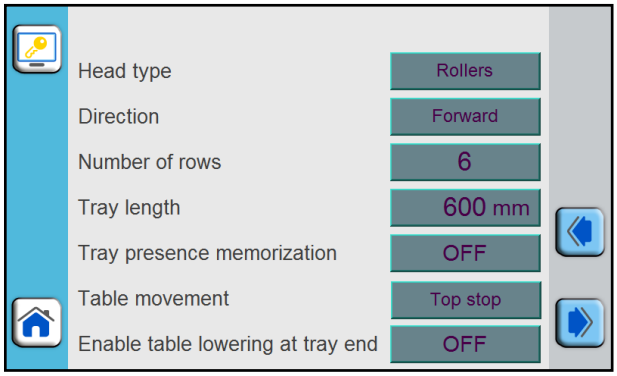



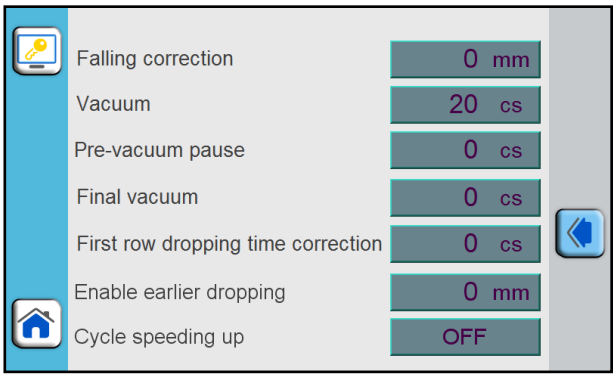



### 6.8.12. LONG PRODUCT WITH WIRE-CUTTING

Available on SUPREMA and SUPREMA PLUS models only

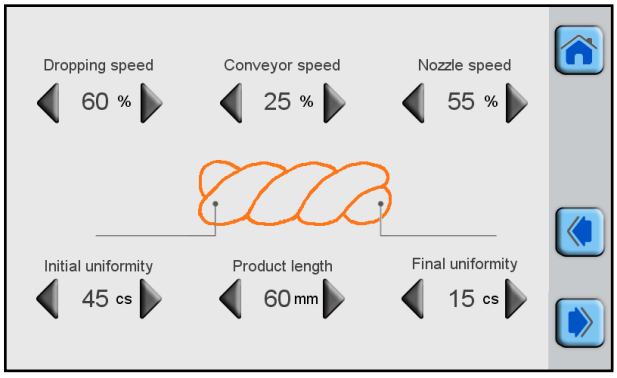


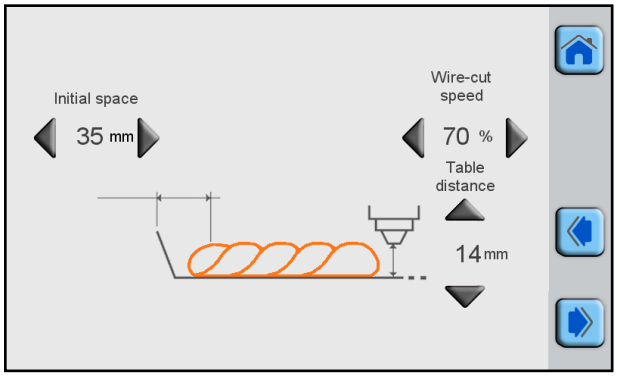



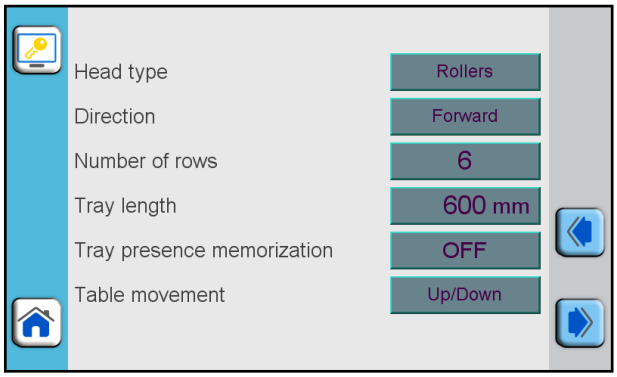



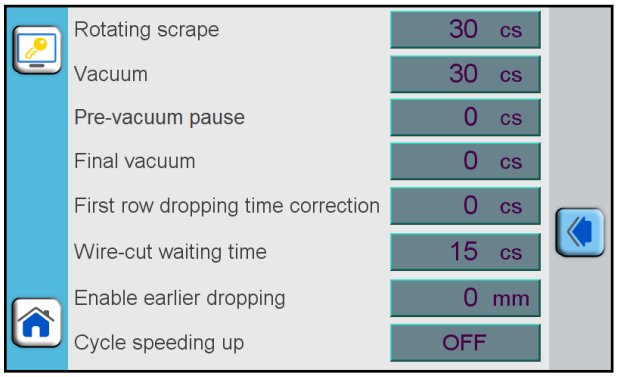

### 6.8.13. BRAID WITH WIRE-CUTTING

Available on SUPREMA and SUPREMA PLUS models only



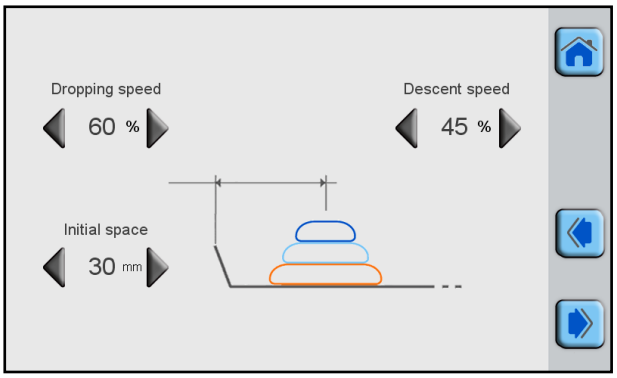



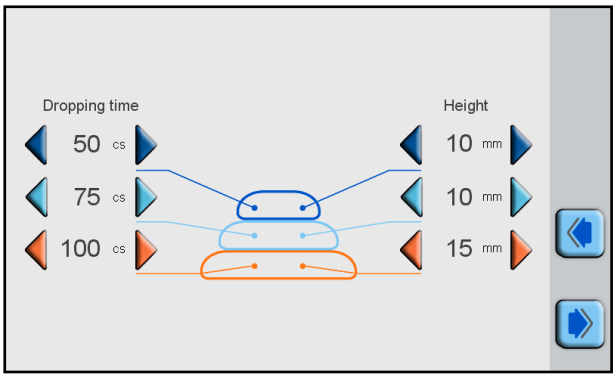



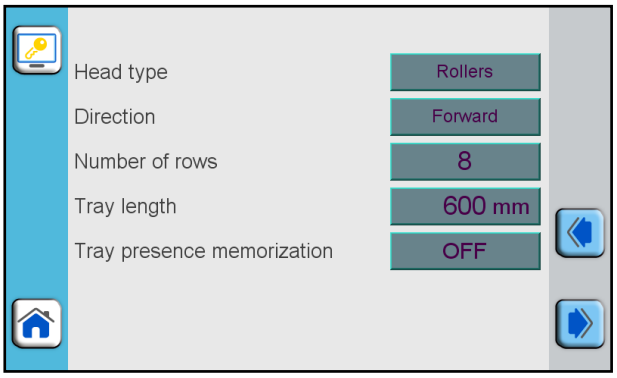



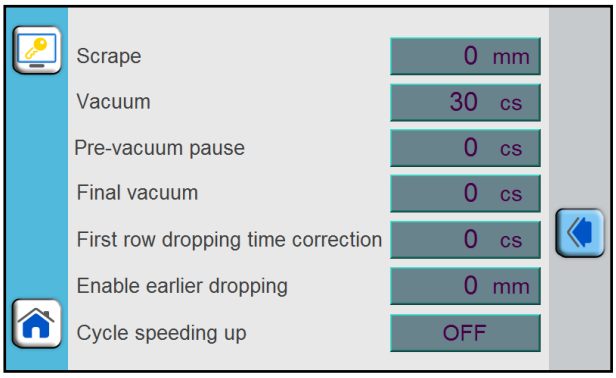
### *6.8.14. MULTILAYER FIXED PRODUCT*

Available on MINIDROP PLUS and SUPREMA PLUS models only



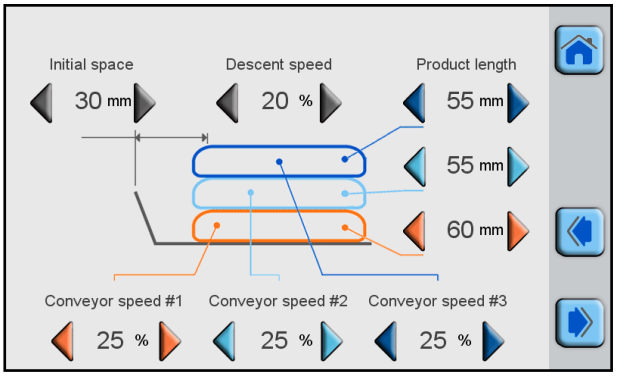



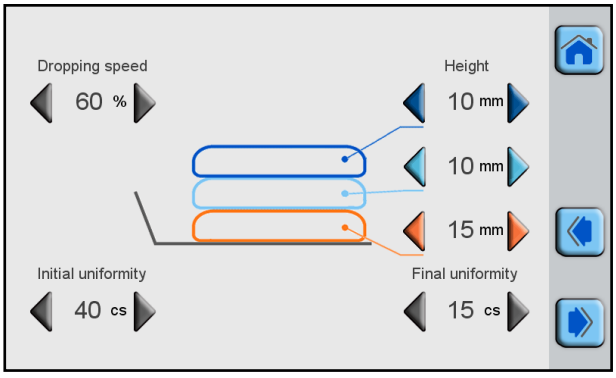



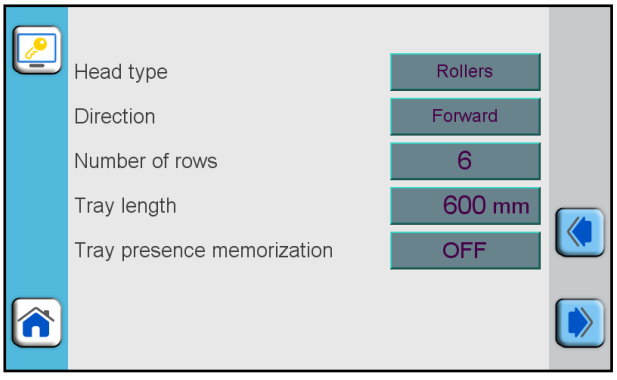



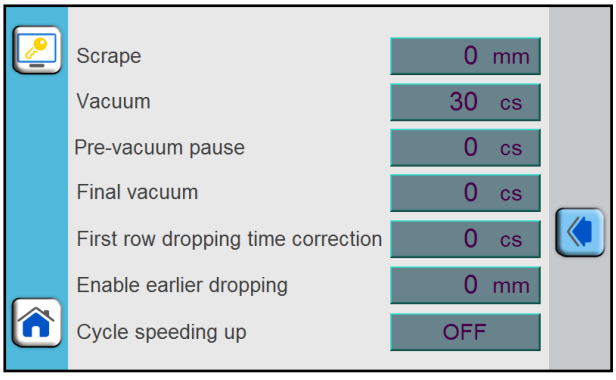

### *6.8.15. MULTILAYER LONG PRODUCT*

Available on MINIDROP PLUS and SUPREMA PLUS models only



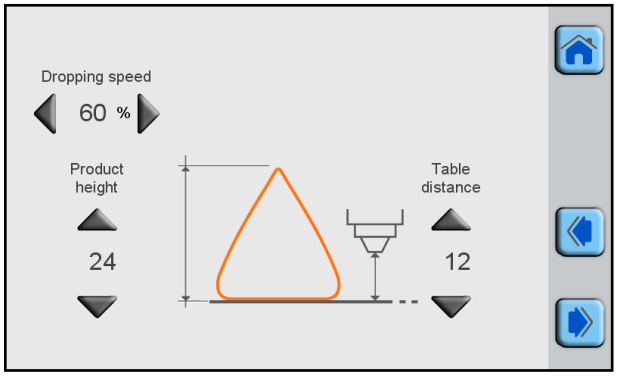



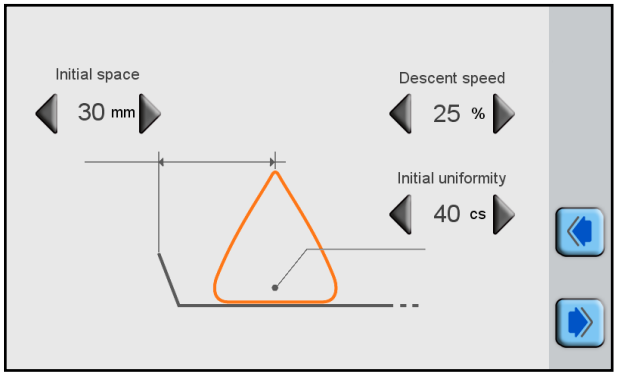



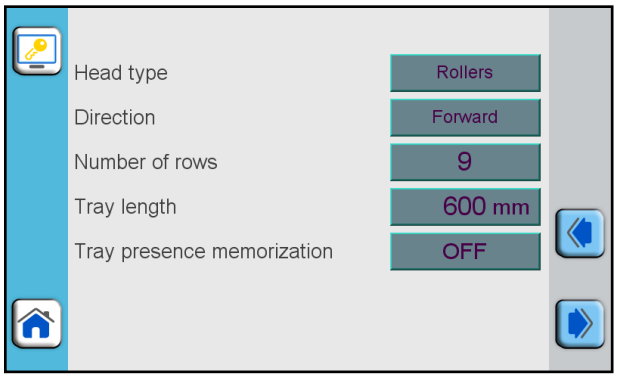



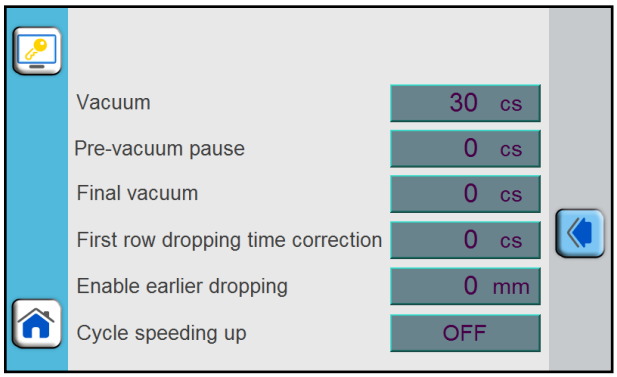
### *6.8.16. FLAME-SHAPED PRODUCT*

Available on MINIDROP PLUS and SUPREMA PLUS models only



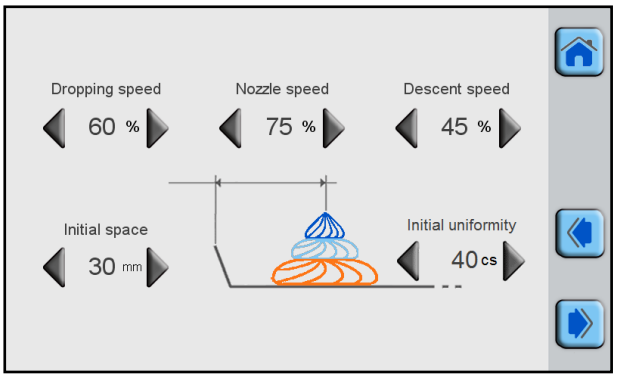



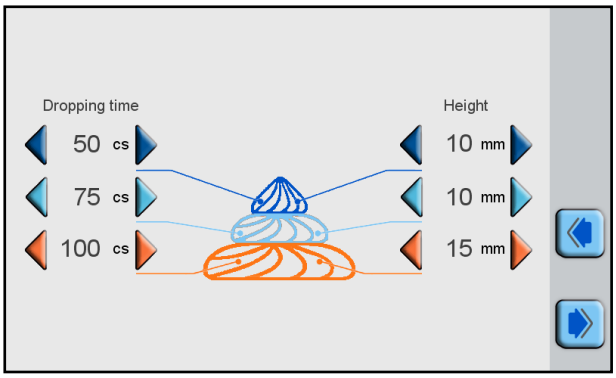



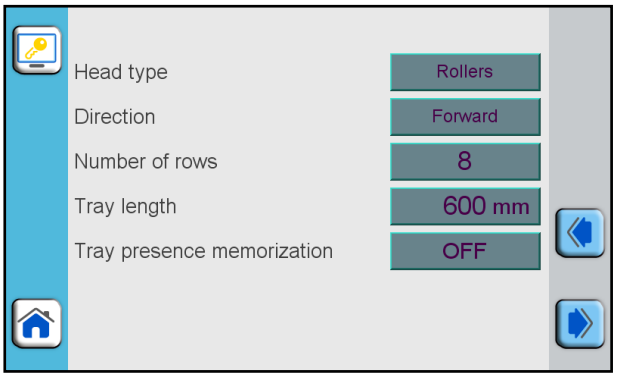



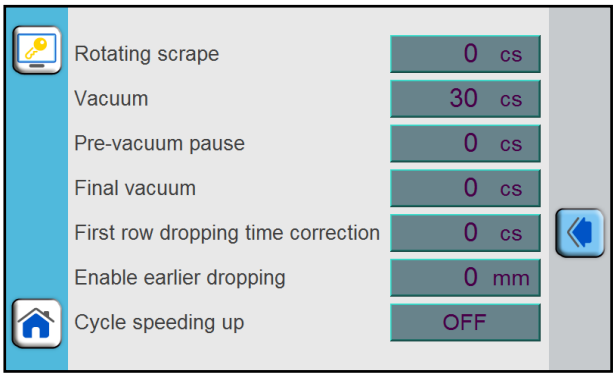
### *6.8.17. MULTILAYER FIXED PRODUCT WITH ROTATION*

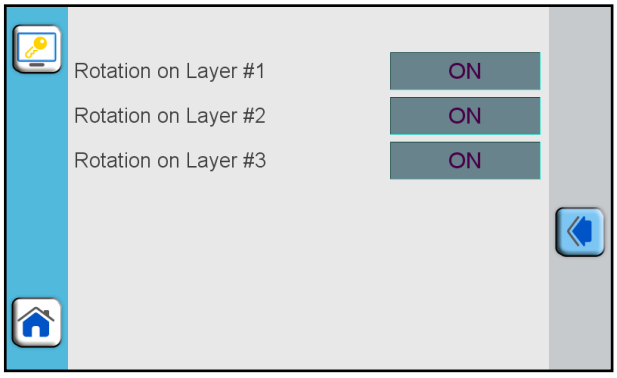
Available on MINIDROP PLUS and SUPREMA PLUS models only



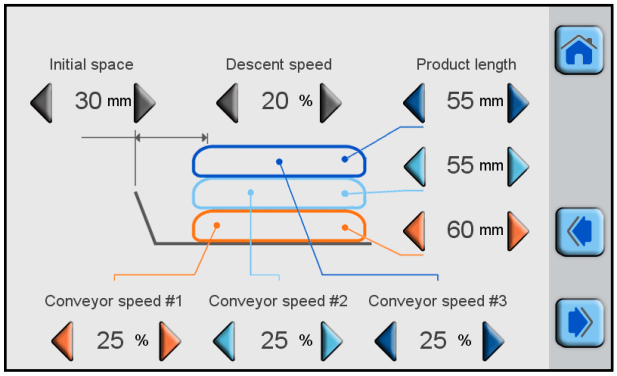



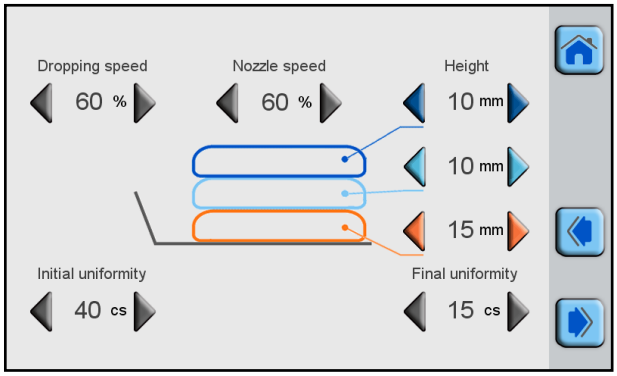



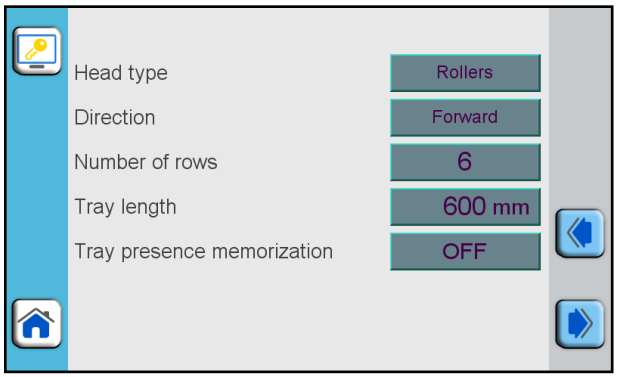



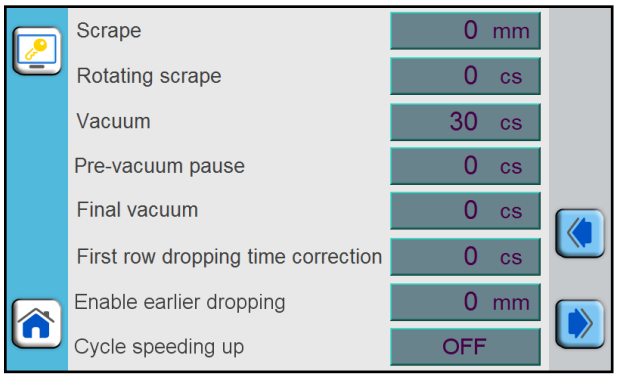
### *6.8.18. MULTILAYER LONG PRODUCT WITH ROTATION*

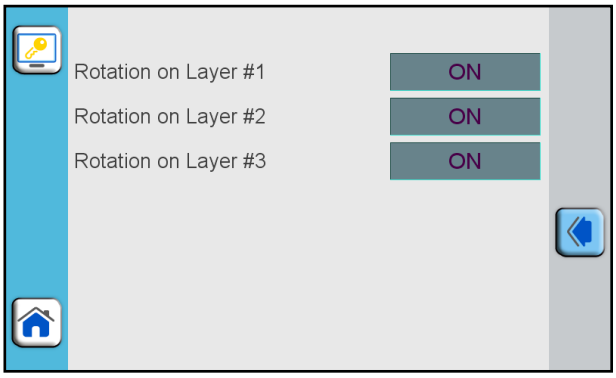
Available on MINIDROP PLUS and SUPREMA PLUS models only



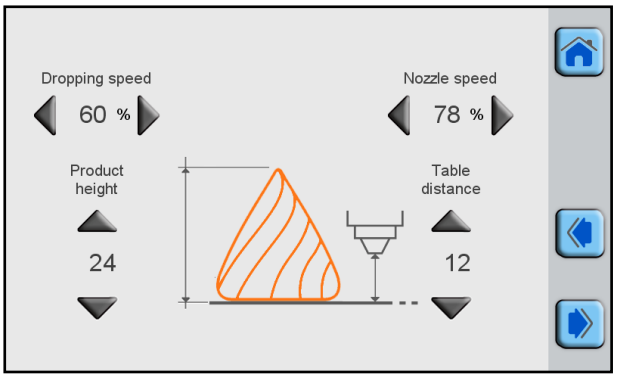



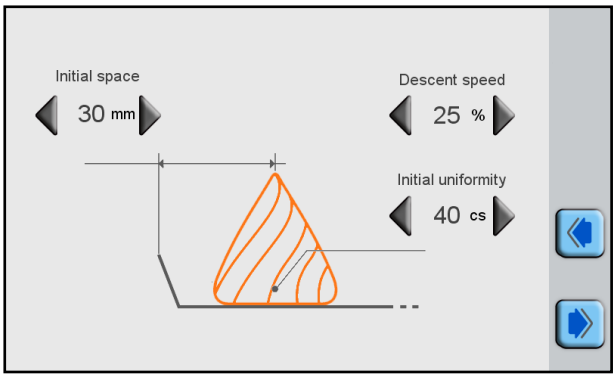



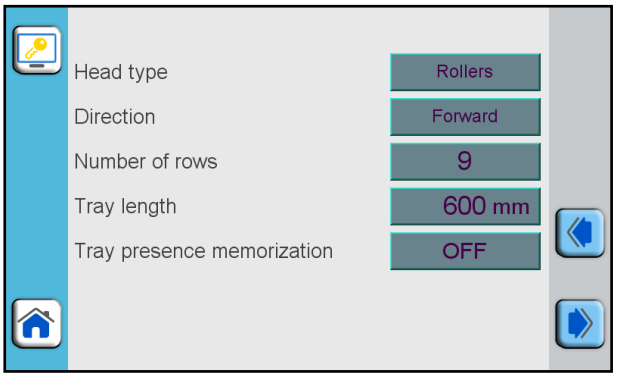



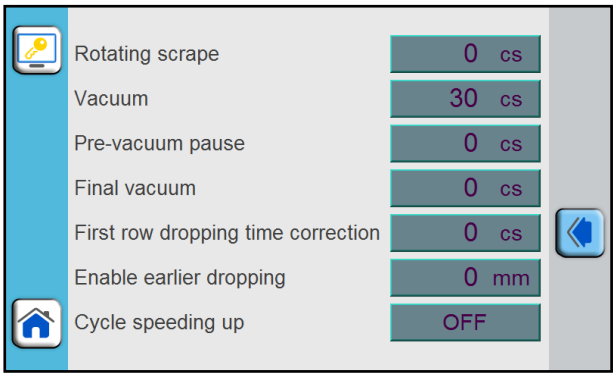
### *6.8.19. FLAME-SHAPED PRODUCT WITH ROTATION*

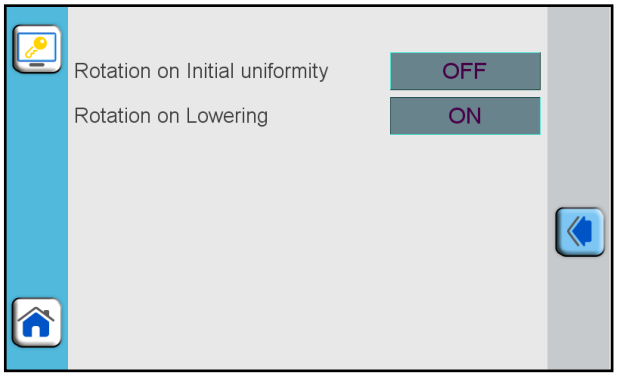
Available on MINIDROP PLUS and SUPREMA PLUS models only



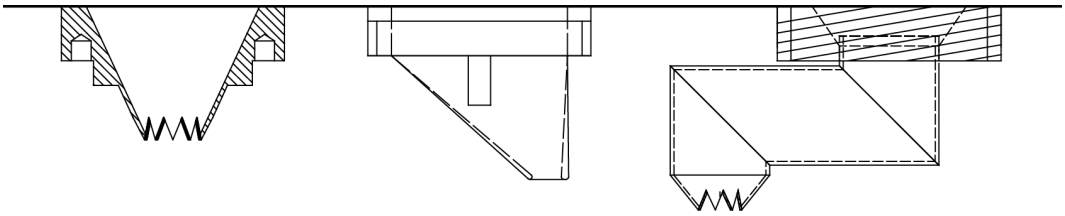



## 6.9. WARNINGS ON PROGRAMMING



**The *Conveyor distance* parameter may not represent the real distance between the nozzles and the tray because of the type of nozzles used.**
**Before starting production, make sure that the set value does not cause the nozzles and the tray to collide.**

**Before starting production, make sure that the *Initial Space* parameter makes it possible to have the correct distance between the nozzles and the tray edge, above all if the nozzles used are of the off-centre type.**

**MIMAC ITALIA S.r.l. is not liable for any damage caused by incorrect machine programming.**

## 6.10. STARTING PRODUCTION

1. Connect the power cable to the mains.
2. Fit the dosing unit, die and selected nozzles.
3. Turn the main switch to "ON".
4. Place the dough in the hopper.
5. Make sure the emergency stop push-button has not been pressed and that the guards are not open.
6. Pressurise.
7. Select or create the work program.
8. Start production by pressing the enabling push-button, followed by the start push-button.

**The machine works continuously with the automatic start command; the operator must load and unload the trays, considering that a distance of at least 5 cm must be kept between them during loading.**

**If the next tray is loaded onto the belt conveyor at a distance that is higher than the value set for the Tray Exiting Space parameter, belt movement stops automatically and the user must press the Start push-button to restart production.**

### *6.10.1. PLACE THE DOUGH IN THE HOPPER*

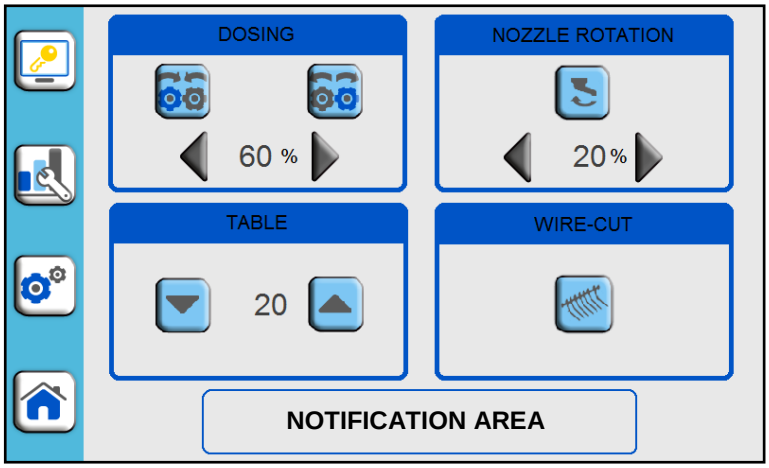
1. Press the stop push-button to halt the machine.
2. Lift the hopper guard.
3. Place the dough in the hopper.
4. Close the hopper guard.

**For better machine operation we recommend loading the hopper to a maximum of 60-70% of its volume.**

*6.10.2. PRESSURISING THE SYSTEM*

In order to adjust the dosage from the first rows, pressurise the dough before the start of each production cycle.

Press the  icon to access the manual movements page.




Manually insert a tray under the dosing unit.
Press the enable push-button.
Press the start push-button.

Keep the  icon pressed if using a roller type dosing unit.

Keep the  icon pressed if using a pump type dosing unit.
Release the icon when the product in the hopper begins exiting from the nozzles.

To prevent unwanted product drips at the end of the procedure, keep the  icon (with the roller type dosing unit) or the  icon (with the pump type dosing unit) pressed for a few seconds.

After pressurising, manually remove the tray and press the  icon.

**6.11. MACHINE STOPPING DURING AN EMERGENCY**

The machine stops immediately when the emergency stop push-button is pressed.

**This control must only be used in emergency situations!**
**Do not use the emergency stop push-button for stopping the machine normally!**

Before restarting production, make sure the emergency situation has stopped, then reset the emergency stop push-button, press the enabling push-button and after this the start push-button.

**Stopping the machine with the emergency stop push-button resets the production cycle.**

# 7. SETUP AND DIAGNOSIS

## 7.1. MACHINE PARAMETERS

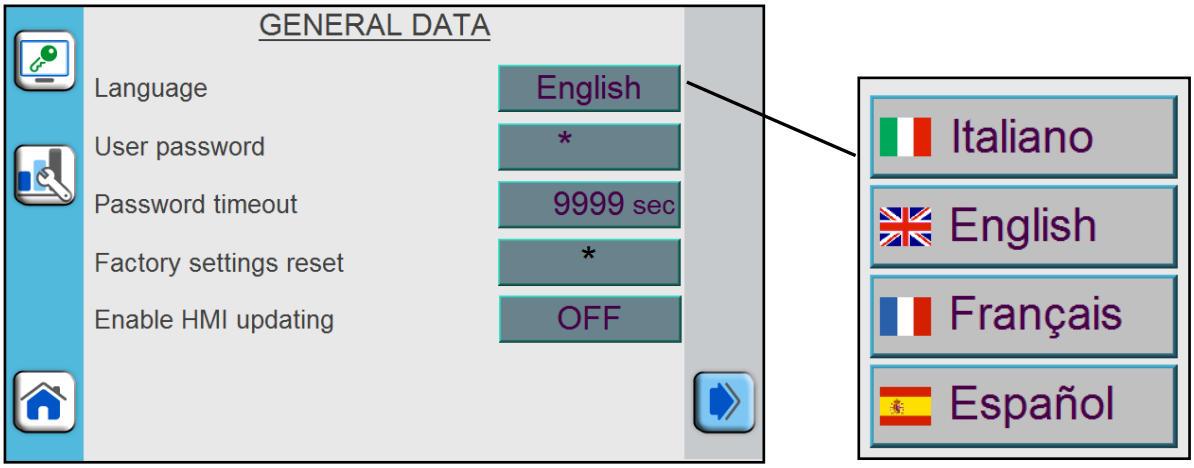
**The machine parameters are inserted during the test phase by our qualified technicians. Unauthorised people must NOT modify these parameters for any reason whatsoever. The Producer is not liable for any faults, breakages or damage that are traceable to the unauthorised modification of these parameters.**

Press the  icon to access the machine parameters.


To gain access to the machine parameters, key in

- User 2
- Password 2507

Confirm with  or press the  icon to close the pop-up without accessing the machine parameters.



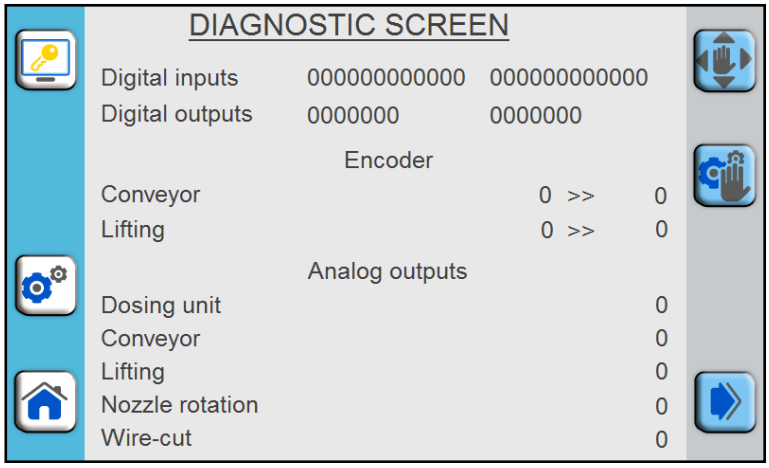
### *7.1.1. DESCRIPTION OF THE MACHINE PARAMETERS*

| Parameter | Description |
|---|---|
| **Coveyor delayed starting** | If *Cycle speeding up* is set on ON, distance the table must run before the conveyor starts moving |
| **Conveyor encoder coefficient** | Number of encoder pulses per unit of movement |
| **Critical speed #1** | Wire cutting speed below which the maximum delay in sending, the stop command is applied |
| **Critical speed #2** | Wire cutting speed above which the stop command is sent without applying any delay |
| **Enable HMI updating** | - ON: the touch screen panel updating procedure is enabled and the program backup or restore procedure are disabled<br>- OFF: the touch screen panel updating procedure is disabled and the program backup or restore procedure are enabled |
| **Language** | It allows to change the system language |
| **Lifting encoder coefficient** | Number of encoder pulses per unit of movement |
| **Lifting speed** | Speed used for table positioning |
| **Low table distance** | Lifting system maximum run |
| **Max. wire-cut delayed stop** | Maximum waiting time before the wire cutting system stop command is sent |
| **Maximum encoder pulses** | Maximum number of encoder pulses per unit of time |
| **Maximum table speed** | Maximum speed used for table in movements |
| **Maximum tray speed** | Maximum speed used for tray in movements |
| **Minimum table distance** | Minimum settable value of the Table distance parameter |
| **Minimum table speed** | Minimum speed used for table in movements |
| **Minimum tray speed** | Minimum speed used for tray in movements |
| **Product detachment** | If enabled, table lowering distance at end of dosing |
| **Pump head offset** | Distance (in height) between the pump type head and the *machine zero* |
| **Pump head offset (backward)** | Distance between the tray edge and the centre of the mould at tray detecting when the roller type dosing unit is being used and the running direction is set at *Backward* |
| **Pump head offset (forward)** | Distance between the tray edge and the centre of the mould at tray detecting when the roller type dosing unit is being used and the running direction is set at *Forward* |
| **Roller head offset** | Distance (in height) between the roller type head and the *machine zero* |
| **Roller head offset (backward)** | Distance between the tray edge and the centre of the mould at tray detecting when the pump type dosing unit is being used and the running direction is set at *Backward* |
| **Roller head offset (forward)** | Distance between the tray edge and the centre of the mould at tray detecting when the pump type dosing unit is being used and the running direction is set at *Forward* |
| **Scrape pause** | Waiting time between the end of the dosing phase and the *Scrape* movement |
| **Scrape speed** | Belt conveyor speed during the *Scrape* movement |
| **Table inertia** | Table stopping space with no braking |
| **Timeout password** | It allows to enable, disable or time the user password |
| **Tray feed speed** | Speed used for tray positioning |
| **Tray inertia** | Belt conveyor stopping space with no braking |
| **Tray loading speed** | Speed of the belt conveyor while waiting for the tray at work starting |
| **Tray stopping space** | The machine ends production if the entry of a new tray is not detected within the set distance |

| Parameter | Description |
|---|---|
| **User password** | It allows to modify the user password |
| **Wire-cut die offset** | Distance (in height) between the wire-cut mould and the *machine zero* |
| **Wire-cut waiting time** | Time elapsed between wire cutting system starting and the belt conveyor forward command |

### 7.2. DIAGNOSTICS SCREEN

The machine state can be monitored from this screen.




| | |
|---|---|
| **Digital inputs** | Indicates the state of the signal of each PLC digital input.<br>Refer to the *Digital input* table |
| **Digital outputs** | Indicates the state of the signal of each PLC digital output.<br>Refer to the *Digital outputs* table |
| **Encoder** | The *Encoder* section gives the current and also the destination quotas of the devices with a controlled position (e.g. conveyor) |
| **Analog outputs** | The *Analog output* section gives the current voltages set for each analog output that controls the speed of the relative listed device. |

| DIGITAL INPUTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** |
| **1** | PLC1 - DI/AI 2 | **2** | PLC1 - DI/AI 3 | **3** | PLC1 - DI/AI 4 | **4** | PLC1 - DI 5 |
| **5** | PLC1 - DI 6 | **6** | PLC1 - DI 7 | **7** | PLC1 - DI 8 | **8** | PLC1 - DI 9 |
| **9** | n.d. | **10** | n.d. | **11** | n.d. | **12** | n.d. |
| **13** | ESP1 - DI/AI 1 | **14** | n.d. | **15** | n.d. | **16** | ESP1 - DI/AI 4 |
| **17** | ESP1 - DI 5 | **18** | ESP1 - DI 6 | **19** | ESP1 - DI 7 | **20** | ESP1 - FDI 8 |
| **21** | ESP1 - DI 9 | **22** | n.d. | **23** | n.d. | **24** | n.d. |

| DIGITAL OUTPUTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** | **Position** | **Wiring diagram reference** |
| **1** | PLC1 - DO 1 | **2** | PLC1 - DO 2 | **3** | PLC1 - DO 3 | **4** | PLC1 - DO 4 |
| **5** | PLC1 - DO 5 | **6** | PLC1 - DO 6 | **7** | PLC1 - DO 7 | **-** | - |
| **8** | ESP1 - DO 1 | **9** | n.d. | **10** | ESP1 - DO 3 | **11** | n.d. |
| **12** | n.d. | **13** | n.d. | **14** | n.d. | **-** | n.d. |

### 7.3. ALARMS AND SIGNALS

**The indications that follow are an aid for identifying and possibly eliminating the causes of machine faults or problems. Remember, however, that the electric and electronic equipment can only be repaired by qualified and authorised technicians. Repairs carried out incorrectly can create risks to user safety and undermine good machine operation.**

| Message | Causes, checks and possible solutions |
|---|---|
| *Conveyor encoder malfunction* | The PLC is not receiving any count from the encoder.<br><br>Check encoder operation.<br>Make sure the connection between the PLC and the drive, or between the PLC and the inverter, is correct. |
| *Conveyor drive alarm* | A mechanical block has occurred.<br>The drive is faulty.<br><br>Make sure all the mechanical components can move freely.<br>Check drive and motor operation. |
| *Conveyor motor timeout* | The final position was not reached within the established lapse of time.<br><br>Make sure all the mechanical components can move freely.<br>Check drive and motor operation. |
| *Conveyor overrun* | The belt conveyor has stopped beyond the preset position. |

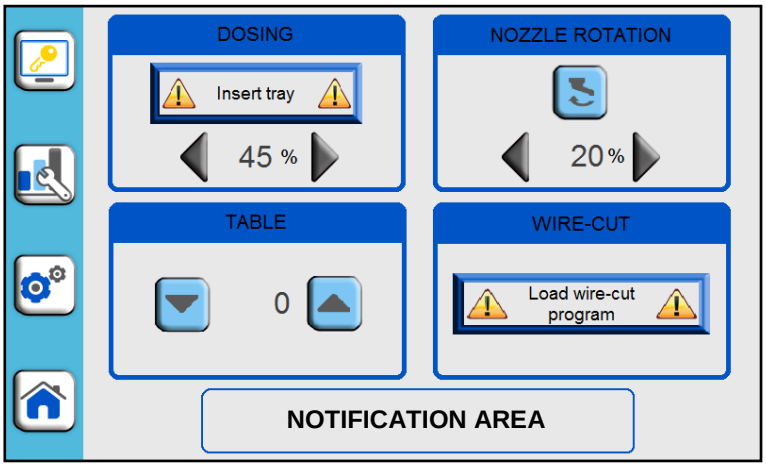
| Message | Causes, checks and possible solutions |
|---|---|
| *Dropping inverter alarm [error details]* | A mechanical block has occurred.<br>An inverter malfunction has occurred.<br>There is no communication between the inverter and the PLC.<br><br>Make sure all the mechanical components can move freely.<br>Check the connection between the inverter and the PLC.<br>With the error description visible, consult the inverter instruction manual supplied with the machine for more information. |
| *Emergency button pressed down* | The emergency stop push-button has been pressed.<br><br>Release the emergency stop push-button. |
| *Hopper safety guard alarm* | The guard is open or was not closed correctly.<br>The safety micro-switch is not operating correctly.<br><br>Close the guard.<br>Make sure there are no obstructions that prevent the guard from closing.<br>Check safety micro-switch operation and connection. |
| *Inverter malfunction* | The cause of the inverter alarm state has not been found.<br><br>Make sure the connection between the inverter and the PLC is correct. |
| *Nozzle drive alarm* | The rotary mould is not inserted correctly.<br>The mould is dirty.<br>The dough being used is too hard.<br><br>Make sure the rotary mould has been inserted correctly.<br>Clean the rotary mould thoroughly.<br>Soften the dough. |
| *Pause* | The machine is paused.<br><br>Press the start push-button to begin production.<br>Press the stop push-button to reset the work cycle. |
| *Photocell alarm* | The photocell beam has been interrupted.<br>The reflector is dirty or worn out.<br>The photocell is dirty or positioned incorrectly.<br>The photocell is worn out or positioned incorrectly.<br><br>Make sure there are no objects between the photocell and its reflector.<br>Clean or replace the reflector.<br>Clean the photocell.<br>Make sure the photocell and the reflector are aligned.<br>Check photocell operation and connection. |
| *Push enabling push button* | The machine is waiting for the enabling push-button to be pressed. |
| *Push Start* | The machine is waiting for the start push-button to be pressed. |
| *Safety circuit malfunction* | The cause that brought the machine to a halt in an emergency state has not been found.<br><br>Check guards, photocells and emergency stop push-button operation. |
| *Slave module communication timeout* | One or more expansion modules has/have not been detected within the established lapsed of time.<br><br>Make sure all the expansion modules are properly connected. |
| *Table encoder malfunction* | The PLC is not receiving any count from the encoder.<br><br>Check that the encoder operation is correct.<br>Make sure the connection between the PLC and the drive, or between the PLC and the inverter, is correct. |

| Message | Causes, checks and possible solutions |
|---|---|
| *Table inverter alarm [error details]* | A mechanical block has occurred.<br>An inverter malfunction has occurred.<br>There is no communication between the inverter and the PLC.<br><br>Make sure all the mechanical components can move freely.<br>Check the connection between the inverter and the PLC.<br>With the error description visible, consult the inverter instruction manual supplied with the machine for more information. |
| *Table motor timeout* | The final position was not reached within the established lapse of time.<br><br>Make sure all the mechanical components can move freely.<br>Check drive and motor operation. |
| *Table overrun* | The table has stopped beyond the preset position. |
| *Table overtravel alarm (top/bottom)* | The table has gone beyond the permitted minimum or maximum quota.<br><br>Place the table back into its work position, following the instructions given in the next paragraph. |
| *Table preset…* | Table preset in progress |
| *Tray absence alarm* | The tray is not detected by the sensor during the work cycle.<br><br>Make sure the tray is perfectly flat.<br>Check tray sensor operation. |
| *Tray malfunction alarm* | A problem has occurred during tray detection.<br><br>Make sure the tray is perfectly flat.<br>Check tray sensor operation. |
| *Tray timeout* | No tray was detected within 60 seconds from production starting.<br><br>Start production and insert a tray within 60 seconds. |
| *Wire-cut inverter alarm [error details]* | A mechanical block has occurred.<br>An inverter malfunction has occurred.<br>There is no communication between the inverter and the PLC.<br><br>Make sure all the mechanical components can move freely.<br>Check the connection between the inverter and the PLC.<br>With the error description visible, consult the inverter instruction manual supplied with the machine for more information. |
| *Wire-cut motor timeout* | The final position was not reached within the established lapse of time.<br><br>Check wire cutting device operation.<br>Check wire cutting device end cycle sensor operation. |
| *Wire-cut safety guard alarm* | The guard is open or was not closed correctly.<br>The safety micro is not operating correctly.<br><br>Close the guard.<br>Make sure there are no obstructions that prevent the guard from closing.<br>Check safety micro operation and connection. |

**Press the stop push-button to reset the alarm situation and cancel the message shown on the screen.**
**If the alarm persists, contact servicing.**

### *7.3.1. TABLE OVERTRAVEL ALARM: RESETTING INSTRUCTIONS*

- Press the  icon to access the manual movements page.




- Press the enable push-button.
- Identify the *Table* field.
- If the "Table overtravel alarm (top)" cuts in, press the icon  together with the start push-button.
- If the "Table overtravel alarm (bottom)" cuts in, press the icon  together with the start push-button.
- Keep the icon and the start push-button pressed until the alarm message disappears from the notification area.

# 8. CLEANING

## 8.1. GENERAL INFORMATION

Operators in charge of cleaning must wear hygienically sterile protective clothing that covers all parts of the body.
Cleaning and hygienization must be carried out in a room that is equipped in compliance with current hygiene regulations.

**Do not use cutting tools, knives, scrapers, etc. unless it's specifically indicated..**

**We advise using hot water (50 °C), and avoiding where possible the use of detergents and degreasing agents; carefully dry each component after cleaning. Washing the die elements at high temperatures is not recommended.**
**MIMAC ITALIA is not liable for any damage and/or deformation that may be caused by temperatures above 50 °C. If parts are washed in a part washer, wait until they cool or cool them manually under cold running water.**

### *8.1.1. FOOD HYGIENE REQUIREMENTS*

The machine indicated in this manual is, legally, suitable for working with food at the date on which it is delivered by the Manufacturer. It only remains suitable in time if care is taken with cleaning, which must be carried out daily, and with machine maintenance and checks. Any machine part that comes into contact with an item of food (dough, flour, water, margarine, etc.) has to be replaced if it appears altered, worn out or if it is no longer suitable for the correct and hygienic treatment of food.
The Manufacturer is not liable for any damage caused if the machine is not cleaned, or if it is cleaned incorrectly, and/or if maintenance is not carried out or is carried out incorrectly.

### *8.1.2. CLEANING OF PARTS WHICH DO NOT COME INTO CONTACT WITH FOOD*

Frame, panels and in general all visible parts that do not come into direct contact with the product should be cleaned daily at the end of the working day using a cloth and a degreasing and sanitizing detergent.
These operations can be carried out by unqualified staff, who nevertheless must be familiar with the possible residual risks and with the cleaning methods.

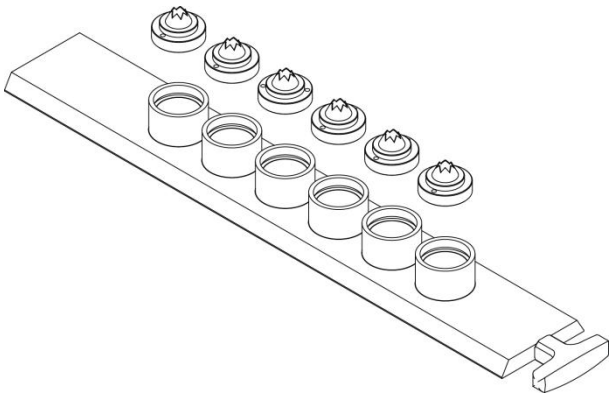
**Do not use water jets to clean the machine.**

To clean steel surfaces use water or denatured alcohol, rub with a clean cloth, then pass over the cleaned area with a jet of compressed air or a dry cloth.
To clean the control panel, touchscreen included, use a soft and dry cloth.
If it is necessary to clean electric or electronic parts use only a vacuum cleaner. Do not use compressed air and/or water for any reason.

### *8.1.3. CLEANING OF PARTS WHICH COME INTO CONTACT WITH FOOD*

A daily, thorough cleaning is mandatory, at the end of the work shift; this frequency is necessary because batter and other products for filling can go off within a short period of time.
Cleaning operations, which require removal of parts, must only be carried out by qualified and authorized technicians.
Unless otherwise indicated, cleaning must be carried out with the machine stopped and disconnected from the mains.

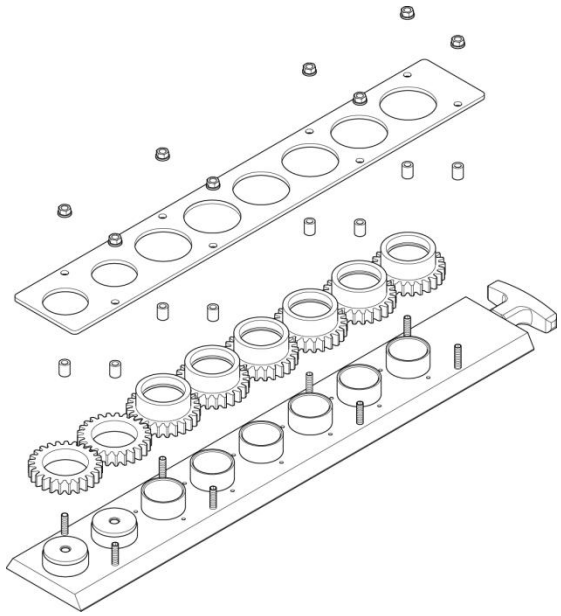
## 8.2. STATIONARY MOULD DISASSEMBLING AND CLEANING



Wash the die thoroughly after every work change proceeding as follows:

1. Loosen the gib stop nuts and slip the mould out.
2. Unscrew all nozzles from the mould using the supplied tool
3. Clean the nozzles in all their parts.
4. Clean the mould in all its parts.
5. Dry and wait for the die and nozzles to cool down.

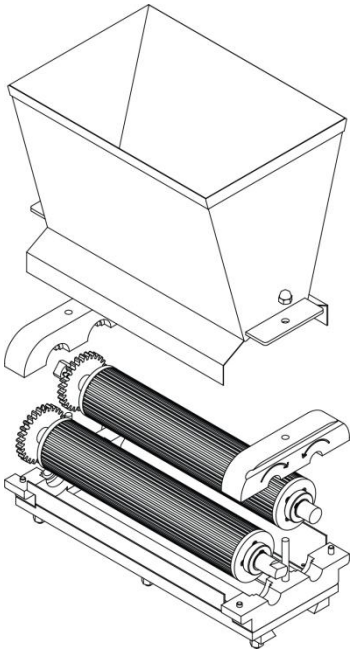
## 8.3. ROTARY MOULD DISASSEMBLING AND CLEANING



Wash the rotary mould thoroughly before starting any new process following the following steps:

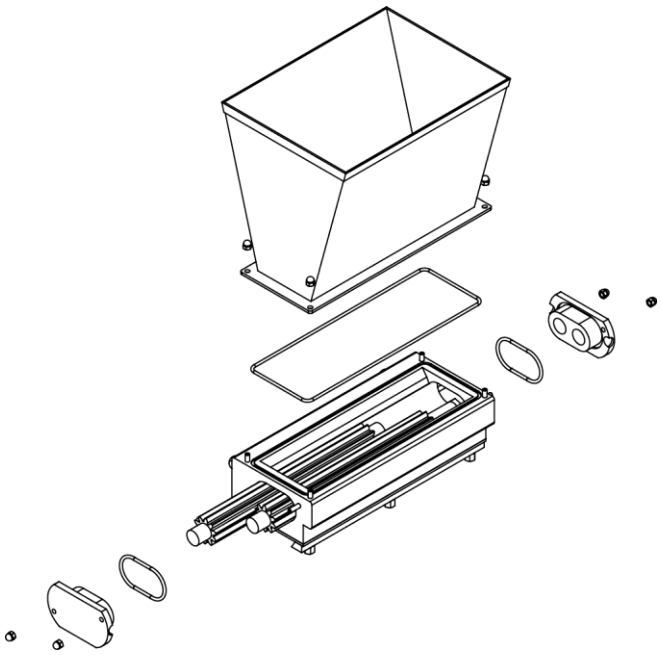
1. Loosen the gib nuts and slip the mould out
2. Unscrew all nozzles from the die using the supplied tool
3. After unscrewing the blocking nuts, remove the upper plate
4. Remove the spacers
5. Remove the gears
6. Clean the nozzles thoroughly
7. Clean each one of the mould components
8. Dry and wait for all parts to cool down

## 8.4. ROLLER TYPE DOSING UNIT DISASSEMBLING AND CLEANING



1. Remove the front guard after removing the blocking nuts.
2. Lift the hopper guard.
3. Slightly withdraw the dosing unit.
4. Lift and remove the hopper after unscrewing the locking nuts.
5. Remove the upper part of each head support.
6. Delicately remove both rollers.
7. Remove the head from the machine.
8. Carefully wash all components using hot water.
9. Before reassembling the dosing unit, dry all parts and wait for them to cool down.

## 8.5. PUMP TYPE DOSING UNIT DISASSEMBLING AND CLEANING



1. Remove the front guard after removing the blocking nuts.
2. Lift the hopper guard.
3. Slightly withdraw the dosing unit.
4. Lift and remove the hopper after removing the locking nuts.
5. Loosen the locking nuts, remove the front cover of the cavity of the rollers and remove the gasket
6. Delicately remove both rollers.
7. Remove the head from the machine.
8. Remove the back cover of the cavity of the rollers after removing the fixing screws and remove the gasket.
8. Carefully wash all components using hot water.
9. Before reassembling the dosing unit, dry all parts and wait for them to cool down.

# 9. MAINTENANCE

## 9.1. GENERAL INFORMATION

Maintenance operations must only be carried out by qualified and authorised technicians only.
Unless otherwise indicated, maintenance must be carried out with the machine stopped and disconnected from the mains (machine in a safety condition).
If it is necessary to start the machine with the guards removed to make maintenance/adjustment the technician must keep unauthorized persons away.
Before starting maintenance, a sign with “MAINTENANCE BEING CARRIED OUT” must be exposed.
Wear goggles and mask when using compressed air for cleaning, and do not direct the jet towards skin or eyes.
Use gloves and goggles when handling detergents or lubricants.
Do not dispose of liquid lubricants in the environment. Dispose of toxic substances using the regular recovery channels made available by the local administration.
After any pertinent activity and before preparing the machine for operation, the maintenance technician must:

- make sure there are no foreign bodies inside the machine;
- restore safety devices and/or guards that may have been removed during maintenance;
- make sure the mobile guards and relative alarms work correctly.

## 9.2. SUBJECT TO WEAR PARTS

In the machine all those parts that move or undergo friction are subject to mechanical wear. By way of example parts subject to wear are gaskets, bearings, conveyor belts, safety microswitch and gears.

## 9.3. STANDARD MAINTENANCE

Routine maintenance program includes inspections, checks and verifications that can be carried out directly by the operator and/or by people in charge of normal company maintenance.
Usually routine maintenance operations can be performed without using specific instruments or tools.
Routine maintenance includes:

- general visual check of the integrity of the machine;
- testing of the machine functioning (motor, push-buttons and safety devices);
- checking the correct assembly and fixing of the equipment;
- cleaning wastes deriving from work process.

## 9.4. SPECIAL MAINTENANCE

Special maintenance program includes replacement, adjustment and lubrication operations carried out by trained technicians in order to avoid irregularities and malfunctions.
As a rule special maintenance operations can be performed using specific instruments or tools.
Special maintenance includes:

- checking the machine efficiency;
- lubrication of moving parts;
- cleaning of the electrical system.

## 9.5. MAINTENANCE OF ELECTRICAL AND ELECTRONIC DEVICES

Usually neither ordinary nor special maintenance operation are required on electrical and electronic devices.
Should it be necessary to perform any maintenance work on electrical or electronic equipment, including engines, gearboxes and motors, this must be done by trained people that have technical skills and are aware of all the regulations in order to carry out all operations properly.

## 9.6. SPARE PARTS REQUEST

To request spare parts, please contact the customer service by communicating all the information about the machine (serial number, model name, year of manufacture) and the code of spare parts needed referring to the tables attached to this manual.

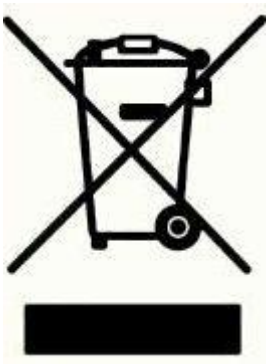
## 9.7. STORAGE

If for some reason it is necessary to store the machine with or without its packaging, proceed as follows.

- Place the crates in a covered area and protect them against humidity, dust and heat sources; also make sure the area is not subject to jumps in temperature.
- Make sure that the movement means inside the premises cannot come into accidental contact with the machinery.
- Periodically check the protected parts.
- Never stack the cases one on top of the other.
- If the machine is not packed, keep it lifted from the ground using pieces of wood and cover it with sheets to prevent dust and dirt from accumulating.

## 9.8. DISMANTLING AND DISPOSAL

**In compliance with art. 13 of Italian Legislative Decrete no. 151 dated 25 July 2005 Actuation of Directives 2002/95/EC, 2002/09/EC and 2003/108/EC regarding reduction in the use of dangerous substances in electric and electronic apparatus and the elimination of refuse", the symbol of the barred waste container that can be found on the apparatus or on the packaging means that the product, at the end of its lifetime, must be separated from other waste.**



The separate collection of this apparatus when it has reached the end of its lifetime is organized and managed by the Manufacturer. Users who wish to dispose of this apparatus must personally contact the Manufacturer and follow the system used by same for the separate collection of the apparatus when it has reached the end of its lifetime.
Separating waste correctly helps avoid possible negative effects on the environment and health, and encourages the reuse and/or recycling of the materials used to produce the apparatus.
Administrative sanctions foreseen by the laws in force are applied to holders who dispose of the product in an unlawful manner.

food processing equipment

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