Bisky

DELAN

Instruction manual

CE

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Dear Customer,

Thank you for having chosen our machine. We take the pleasure to supply you with this instruction manual, with the objective to help you operate our machine efficiently and safely.
We invite you to read the contents with utmost care and make sure that all the personnel that operate, maintain, repair and eventually dismantle the machine fully understand the contents.
We are at your disposal for any further information that you may require on the machine or on any idea to improve the machine functions, safety and manual.
We remind you that we have at your disposal our technical assistance office for any questions you may have for repairs and maintenance, this to ensure the maximum security to the personnel and to ensure a long machine life.

Kind regards

The Manufacturer

Chapter 1 General Information

1.1 List of documents

- **Instruction manual (this instruction manual).**

1.2 This instruction manual

Manual's datas

Instruction manual: ***Bisky***

- **Edition : 2.0**
- **Year and month it was printed : August 2009**

Addressees

- **Transport of the machine.**
- **Installation.**
- **Operator.**
- **Maintenance.**

1.3 Property

The information in this manual is reserved property, all rights are reserved.

This manual cannot be reproduced or photocopied in any of its parts without having requested written permission to the Manufacturer.

This instruction manual is addressed to the owner, user of the machine, to managers or employees with appointed responsibility, to personnel in charge of handling, installing, operating, watching, maintaining, dismantling ect. the machine.

The Manufacturer declares that the information contained in this manual are relative to the technical specifications and safety devices of this machine.

The Manufacturer is not responsible for direct or indirect injury to persons, things or domestic animals subsequent to the incorrect use of the machine or due to conditions other than recommended in this manual.

The Manufacturer reserves the right to update this manual and the machines of the same model but with different serial numbers without any prior notice.

The information contained in this manual refer to the machine specified

Machine identification data on page 5.

1.4 Conventions

Meanings and symbols

- **Left, right: refers to the operators position when standing in front of the operating panel.**
- **Qualified personnel: people with experience, and specific training, in depth knowledge of the safety regulations and all the relative instructions of how to avoid injury to people, or any other danger.**

Typogrphical conventions

Writings with big characters and dark black characters: Indicates the title of a chapter or a paragraph of a chapter, or a table or a drawing identification

DPI: Individual Protection Device.

[N] Represents a number, for example [3], indicates the start button on the control panel.

[L] represents a letter, for example [B] indicates a part on the machine.

NOTE	**The notes contain very important information, evidenced in a separate paragraph and in dark letters.**

BEWARE	**Are important information that help avoid damage to the machine or other equipment connected to the machine.**

DANGER	**Are important information the can avoid injury to the personnel responsible for the machine in all its life span..**

1.5 Manufacturer's identification detail

Delfin Srl

Plant: Via Keplero, 18
36034 Malo (VI) ITALY
Tel. 039/0445/580688
Fax. 039/0445/587112
E-mail: delfin@witcom.com
Internet: http://www.delfin.it

1.6 Machine identification data

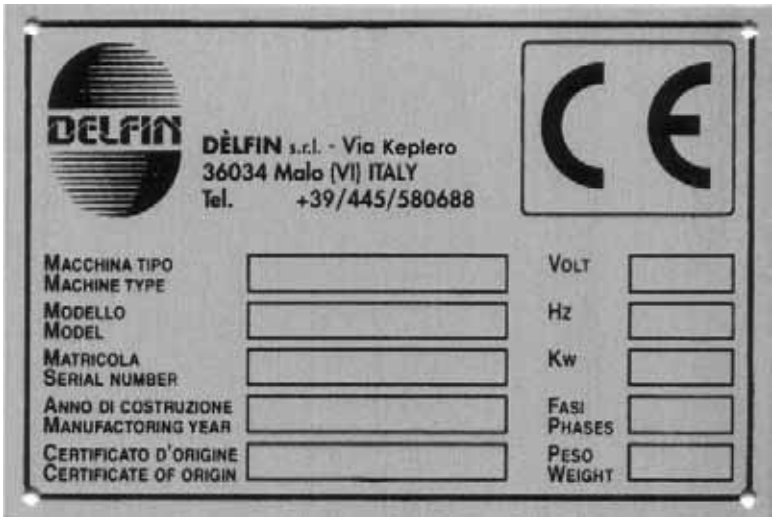
Type:

Model: Bisky

Serial number:

Year of construction:

Fig. 1.1 Identification plate



Machine type_____ Volt_____

Model_____ Hz_____

Serial number_____ Kw_____

Year of construction_____Phase_____

Certificate of origin_____ Weight_____

1.7 EC conformity declaration

Vedere *Attached list of documents Document 1 EC Conformity declaration* on page 95.

1.8 Warranty

General conditions

1. The warranty is 12 months from the effective delivery date of the machine. Any defects are to be notified in writing to the manufacturer within 8 days from there being.
2. If during this period structural defects or faults on material appear, the defected parts will be replaced or repaired free of charge.
3. We do not acknowledge damages due to overloads, improper use, wear or tear due to climatic conditions.
4. All transport charges, costs and custom taxes due to the replacement of defected parts are at the buyers expense.
5. Replacement and repairs are subject to the execution of the payment terms by the buyer. In no case we accept responsibility for paid out salaries, wages, decrease in profit, loss of time and claims by third parties.
6. Our warranty does not include worn out parts, replacement or repairs due to improper use, bad maintenance or lack of expertise. We will in no way be considered responsible for direct or indirect damages.
7. For parts assembled on this machine, but not manufactured by us, such as electrical/ electronic equipment ext. are not included in the warranty. The warranty does not cover parts subject to wear and tear.
8. Any returns of goods must be previously authorized by us in writing. The goods must be perfectly packed and returned CIF to our company.

NOTE **Should the machine be repaired in the same place where it was fitted, the warranty coupon must be shown to the technician in charge of assistance. Be careful because the warranty will be effective only it the coupon has been completely filled in.**

BEWARE **Any particular warranty terms are to be specifically expressed in writing in the buyers/ sellers contract**

The following conditions will cause the warranty to be invalid.

- **Unforeseen use of the machine.**
- **Use of tools other than those specified in** *Chapter 7 Maintenance*.
- **Assembly of the machine in conditions other than those specified in** *Chapter 7 Maintenance*.
- **Electrical and pneumatic connections other than those specified in** *Chapter 7 Maintenance*.
- **Use of non original spare parts.**

Request for spare parts or maintenance under warranty

Modalità
Request for spare parts, or request for maintenance for machine under warranty must be made in writing to the Manufacturer or the nearest authorized agent, immediately after the defect or problem has come to being. General conditions a page 5. When requesting spare parts always inform the manufacturer or agent the machine serial number and model, this data is written on the identification plate fixed to the machine.

NOTE **The in observance of the information in this manual will exclude the Manufacturer from any responsibility in case of accidents to persons and or property or malfunctioning of the machine.**

1.9 Technical assistance

This manual must be considered an integral part of the machine, however it can never replace the proper training and work experience of the user, who should read this manual before starting to work on the machine.

Requests for service visits

Technical assistance service
You can contact our technical assistance office by contacting us at the following address:

DELFIN S.R.L.

Plant: Via G. Kepler o n° 18
36034 Malo (VI) ITALY
Tel. 039/0445/580688
Fax. 039/0445/587112
E-mail: delfin@witcom.com
Internet: http://www.delfin.it

When requesting assistance or spare parts, you must specify the machine model and serial number.

Requests for spare parts
When requesting spare parts, please state the following information:

- **Type of machine.**
- **No. of production order marked on the relevant label.**
- **Year of construction.**

1.10 Use of the manual

Read the manual carefully, *Chapter 1 General Information*, *Chapter 2 Information on the safety features*, *Chapter 3 Machine Characteristics*, *Chapter 4 Operator interface*, *Chapter 5 Machine programming*.

For any information regarding the installation, use, maintenance and demolition of the machine, consult the relative chapters.

1.11 Machine description

Foreseen uses

Foreseen operation:
The machine is intended for the production of biscuits/cookies of different shapes and sizes.

Dough used on the machine:
Semi-hard and soft dough used for the production of biscuits.

Working place
The machine was designed and constructed for use in an indoor ambient, repaired from atmospheric agents.

Power supply nature foreseen
The machine is powered by external electrical supply that converts into mechanical movement, necessary for the machine functioning.

The machine is not to be used in the following conditions :
All uses not explicitly specified in the list on page 6 are considered unforeseen uses, and in particular:

- **Use of the machine in an area with explosives.**
- **Use of the machine in a flammable area.**
- **Washing of the machine zone where the control apparatus are fitted with water jets;**
- **Use of dough other than those foreseen.**
- **Handling of material to be extruded with weight higher than that specified in Envisaged uses on page 6.**

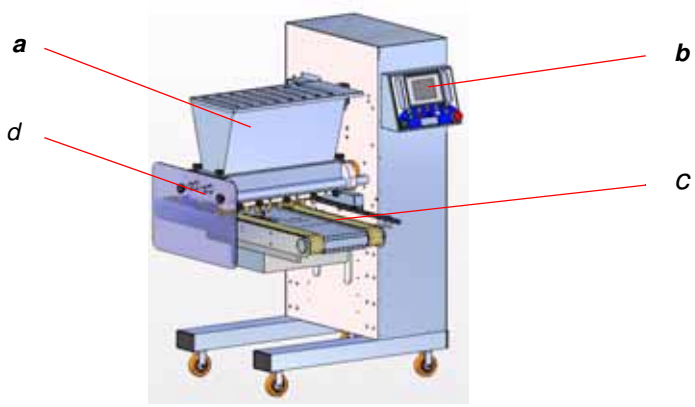
Machine composition
In this section the main parts of the machine and their functions within the production cycle are described.

Main parts of the machine

The machine is composed of the following main parts:

a. Stainless steel hopper in which the dough is introduced
b. Control panel with screen in order to program the machine
c. Conveyor belt that transports the tray in which the dough is deposited
d. Extruding head that contains the extruding rollers and on which the moulds and nozzles are assembled

Fig. 1.2 Main parts of the machine



Chapter 2 Information on the safety features

2.1 Safety criteria

In the design and construction of this machine standards and suitable precautionary measures were adopted to satisfy the essential safety requirements of Machine Directive 2006/42/EC, Low Voltage Directive 2006/95/EC and Electromagnetic Compatibility Directive 2004/108/CE and its successive amendments.

The accurate analysis of the risks carried out by the manufacturer has eliminated the main obvious risks connected to the correct operation of the machine. The complete documentation of the standards applied to the machine to ensure its safety are contained in a technical manual of the machine deposited by the Manufacturer.

The Manufacturer recommends the final user to carefully follow the instructions, procedures and recommendations contained in the manual, and to observe the safety features, hygienic, and ambient regulations and laws in the working area of the machine. The protective mechanisms foreseen are to be integral for the entire technical life of the machine.

DANGER **Do not wear large clothes, ties, neck laces, watches which might get entangled in the moving parts of the machine.**

NOTE **The Manufacturer is not responsible for injury caused to people, domestic animals or property, due to negligence, or for disregarding the contents on the safety features and recommendations in this manual.**

2.2 Personnel qualifications

Stage of machine technical life	Qualifications of the responsible personnel
Transport	The personnel transporting the machine must have read, understood and applied the contents in: *Chapter 2 Information on the safety features*, *2.3 Safety rules* a pag. *11* of this manual.
Installation	An experienced and qualified electrician or technician that have understood and applied the contents in: *Chapter 2 Information on the safety features*, *Chapter 3 Machine Characteristics*, *Chapter 5 Machine programming*, *Chapter 7 Maintenance*.
Testing and fine tuning	Qualified technical personnel thoroughly trained on this specific machine, that have understood and applied the contents in: *Chapter 2 Information on the safety features*, *Chapter 3 Machine Characteristics*, *Chapter 5 Machine programming*, *Chapter 7 Maintenance*
Use	**Operator trained for the daily use of the machine must have understood and applied the contents in:** *Chapter 2 Information on the safety features*, *Chapter 3 Machine Characteristics*, *Chapter 5 Machine programming*, *Chapter 7 Maintenance*.
Maintenance	There are three type of maintenance personnel that can carry out repairs on the machine: • Mechanical maintenance personnel: Qualified mechanical technician that is capable of carrying out maintenance with the guards open and in normal working conditions, capable of intervening on mechanical parts that need adjustment, maintenance and repair. It is forbidden to intervene electrically whilst the machine is under electrical tension. • **Electrical maintenance personnel**: Qualified electrical technician that is capable of carrying out electrical maintenance with the guards open and in normal conditions, capable of intervening on electrical parts that need adjustment in the electrical panel even when the machine is under tension. • **Construction technician :** Qualified technician put at disposal by the Manufacturer to carry out repairs and maintenance of complicated nature and in particular situations, in accordance with the owner of the machine.
Demolition	Qualified mechanical technician that have understood and applied the contents in: *Chapter 2 Information on the safety features*.

NOTE **The Manufacturer is not responsible for injury caused to people, domestic animals or property, due to negligence, or for disregarding the contents on the safety features and recommendations in this manual.**

2.3 Safety rules

The following safety information specifically refers to the use of a dropping machine model Bisky.
Before starting up the machine, the operator must be fully aware of the location and functioning of all the commands to operate and adjust the machine.

The operator must know how to carry out the adjustments described in this manual. Make sure that the following safety rules are read and understood. They must be observed every day, even during maintenance operations to the machine in order to avoid injuries to the personnel and damage to the machine. The keys for the keylock switch (Fig. 2.1 Keylock switch) for safety guards deactivation and machine start-up enabling must never be left on the machine. They must be kept by the person in charge of the machine maintenance operations or by the shop superintendent.

NOTE **The Manufacturer cannot be held responsible for possible injuries to the personnel in charge of machine and/or production line operation arising from the non-observance of these safety rules and/or the tampering with the machine and/or the production line safety devices.**

Fig. 2.1 Keylock switch

2.4 Protections

DEFINITION

Safety guards are all those safety measures adopted which involve the application of specific technical mechanisms (guards, safety devices) to protect people from dangers which cannot be neutralized completely through design.

Fixed guards

- **All the fixed parts are fixed by means of bolts, screws ext. and must be unscrewed with a tool in order to be removed**
- **Steel guard (A) protects against the mechanisms, the electrical/electronic components.**

Fig. 2.2 Fixed guards

NOTE **The manufacturer will not be liable for injuries to persons or animals or for damages to properties caused by the tampering with the machine safety devices.**

2.5 Interlocking devices

DEFINITION

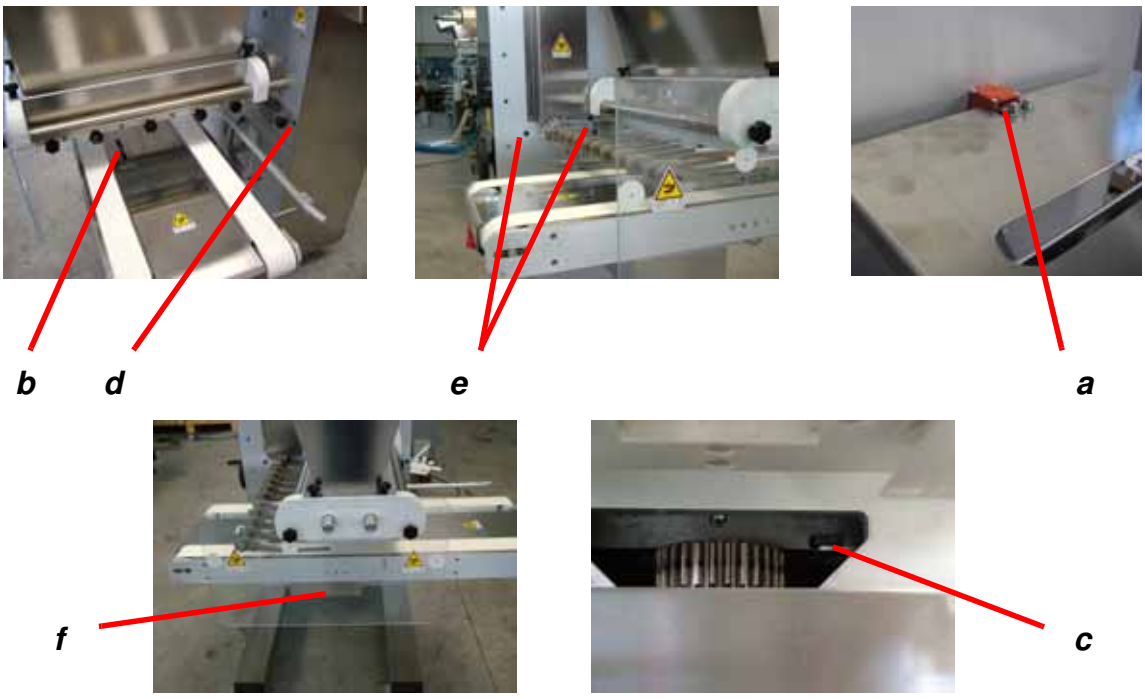
Emergency blocks, are switches that cause the machine to stop immediately when activated, and do not allow the machine to start again until the emergency has been re-activated, and the re-set button (on control panel) is pressed.

For instance, end of stroke micro-switches are considered interlocking devices because they are used to detect when any mobile safety guard is opened. The photocells are also considered interlocking devices. On the machine the following end of stroke micro-switches are found and are used to stop the machine:

- **a micro-switch "a" stops the machine when the steel grill (3) that cover the stainless steel hopper is opened. The micro-switch is activated by a cam attached to the shaft on which the grill pivots and is under the machine body;**
- **a micro-switch "B" stops the machine in case a tray is not found in the deposit position above the conveyor-belts;**
- **a micro-switch "C" stops the machine in case the plate is extracted from its working position;**
- **a photocell "D" is located at the tray infeed to stop the motion in case its reading area was interrupted;**
- **two photocells "E" have been fitted at the tray outfeed to stop the motion in case their reading is interrupted.**

NOTE **A side Plexiglas protection "F" has been fitted to the deposit zone and equipped with two fastening knobs to immediately stop the machine operation.**

Fig. 2.3 End of stroke micro-switch



2.6 Safety devices

DEFINITION

Active emergency systems are emergency stops assembled on the machine to prevent or reduce the danger and injury, and are activated purposely by the operator.

1. The machine was designed with safety guards which render all its moving parts safe and enable the operator to work under safe conditions. The Manufacturer declines any responsibility arising from the tampering with these safety devices.

Fig. 2.4 Emergency mushroom-head button located on the control panel.

2. Some special safety systems have been installed on the machine with the purpose of immediately stopping the machine in case of an emergency condition (*Fig. 2.4 Emergency mushroom-head button located on the control panel.*).
3. The moving guards (which can be opened through a handle) have been installed so that when they are opened the machine stops immediately.
4. The fixed safety guards (which cannot be opened without a tool or removing some screws) must be removed only after cutting out the electric power supply.
5. Immediately advise your superiors about any deficiency in the safety system and guards and of any dangerous condition which occurs.
6. Under no circumstance should the safety devices be removed or tampered with.

2.7 Signs illustrating the dangers on the machine

Safety labels

Safety labels are affixed in all areas where the operator - if not reminded - could be in danger The labels are not to embellish the machine but are there to ensure the necessary safety conditions for the operator to work in and must be understood before he operates the machine.

LABEL	MEANING		LABEL	MEANING
	Located on the rear guard to warn against the presence of high voltage inside. Be careful and do not open the safety guards without having disconnected the current supply beforehand.			Located on the rear casing to warn the operator about the presence inside of driving chains, likely to be dangerous, and therefore it is necessary to disconnect the electric supply and wait until the machine has completely halted before operating.
	Located on the mobile safety guard to warn the operator that when this guard is open, he must keep his hands off the moving parts before starting operating.			Pay particular care when the machine is running because the chain and the pushers could injure your hands!
	Located on the rear casing to warn the operator not to open the door without having cut the current supply off and to wait until the machine has completely stopped. This precaution is important in order to avoid injuries to the operator's hands.			Located on the Plexiglas safety guard, it signals that the zone is hot when the machine is in function. Do not touch this zone and use gloves if operating in this area for a long time.

LABEL	MEANING		LABEL	MEANING
	Located on the rear casing to signal that inside the door some dangerous electrical connections are present and therefore the current supply must be disconnected before starting any operation.			Located next to all the electric connector blocks to remind the operator to disconnect the machine before removing these covers.
 D_rimoz.eps	Located on the guards that cover any moving parts. Before removing these safety guards the machine must be turned off.			Located next to all the safety devices which can be removed only with the use of tools. It reminds the operator to work with all the safety guards in place and that before carrying out any intervention to the machine, it must be completely stopped.

Active safety devices

DEFINITION

Active emergency systems are emergency stops assembled on the machine to prevent or reduce the danger and injury, and are activated purposely by the operator.

Emergency stop button

Emergency stop button is found on the main control panel of the machine, it allows the operator to stop the machine in case of an emergency.

Safeguarding

- **The electrical plant of the machine guarantees the protection against people in case of an electrical discharge, through indirect contacts, as foreseen by the CEI EN 60204-1 regulations.**
- **Powerful electrical parts with dangerous high tension in the electrical cabinet code IP 54, in conformity with the CEI EN 60204-1. All the tensions on the control buttons of the machine are in 24 Volt; Furthermore both circuits have a protection against short circuits and accidental contact towards the ground.**

DANGER	**Tampering with the guards, can cause danger or serious injury to the operators or other people exposed to the machine.**

NOTE	**The Manufacturer is not responsible for injury caused to people, domestic animals or property, due to negligence, or for disregarding the contents on the safety features and recommendations in this manual.**

2.8 Dangerous zones and residual risks

DEFINITION

Dangerous zone around and in the internal parts of the machine, dangers that can cause serious injury to people exposed.

During the normal operation of the machine, there are some risks that the operator will be exposed to, these dangerous areas, are marked with adhesives, and the operator can eliminate these risks by carefully following the instructions in this manual and by adopting the safety measures and protections illustrated.

Compulsory to wear gloves.

Compulsory to wear shoes with hard protection top

Compulsory to wear anti-slip rubber boots

Compulsory to wear a protection work suit

Compulsory to wear a protective helmet

Dangerous zones and residual risks during the transport

The operator or the personnel exposed are subject to the following dangers in the zone where the machine is moved around:

- **Roughly push the operator or personnel exposed**
- **Danger to squash the operator or the personnel exposed**

Compulsory for the operator to use the following safety measures:

- **Wear protective helmet**
- **Wear shoes with hard protection top**
- **Wear protective gloves**

DANGER **During unloading, lifting and handling operations of the machine, the personnel must be equipped with the appropriate PPE, such as: protective gloves, boots, helmet and the proper equipment.**

Dangerous zones and residual risks during the installation

The operator or the personnel exposed are subject to the following dangers in the zone where the machine is moved around:

- **Roughly push the operator or personnel exposed**
- **Danger to squash the operator or the personnel exposed**

Compulsory for the operator to use the following safety measures:

- **Wear protective helmet**
- **Wear shoes with hard protection top**
- **Wear protective gloves**

Dangerous zones and residual risks during the utilization

The following risks are possible in the zone around the machine:

- **Danger of fingers, arms getting caught or dragged in by the conveyor belt of the machine**
- **Danger of getting your arms, fingers seriously injured when incorrectly inserting them under the Plexiglas guards**
- **Danger of impact**
- **Danger of getting your arms and fingers squashed when the conveyor belt lowers itself automatically.**

Dangerous zones and residual risks during the maintenance

In the zone for the transport of the tray (conveyor) the following risks are present:

- **Danger of getting arms and fingers bruised and squashed;**
- **Danger of getting hands and arms squashed when greasing the parts in movement;**
- **Danger of slipping when cleaning the machine with detergents It is compulsory for the operator to use the following safety measures.**

The operator must:

- **Wear anti-slip rubber boots**
- **Wear protective gloves**

NOTE **The Manufacturer is not responsible for injury caused to people, domestic animals or property, due to negligence, or for disregarding the contents on the safety features and recommendations in this manual.**

2.9 Noise emission

The machine was designed and manufactured to reduce noise emissions as much as possible.

The noise emitted by the machine during standard operations was measured in the positions where was presumed an operator would be present. The measurements carried out have produced the following results:

- **Equivalent continuous A-weighted acoustic pressure level of LAeq = 71 dB(A)**
- **Rules of reference: UNI family, EN 11200.**
- **In any case, the effective level of noise to which the operator is exposed must be verified, and if necessary, the use of adequate personal protection equipment (ear defenders, earplugs, and so on) must be recommended.**

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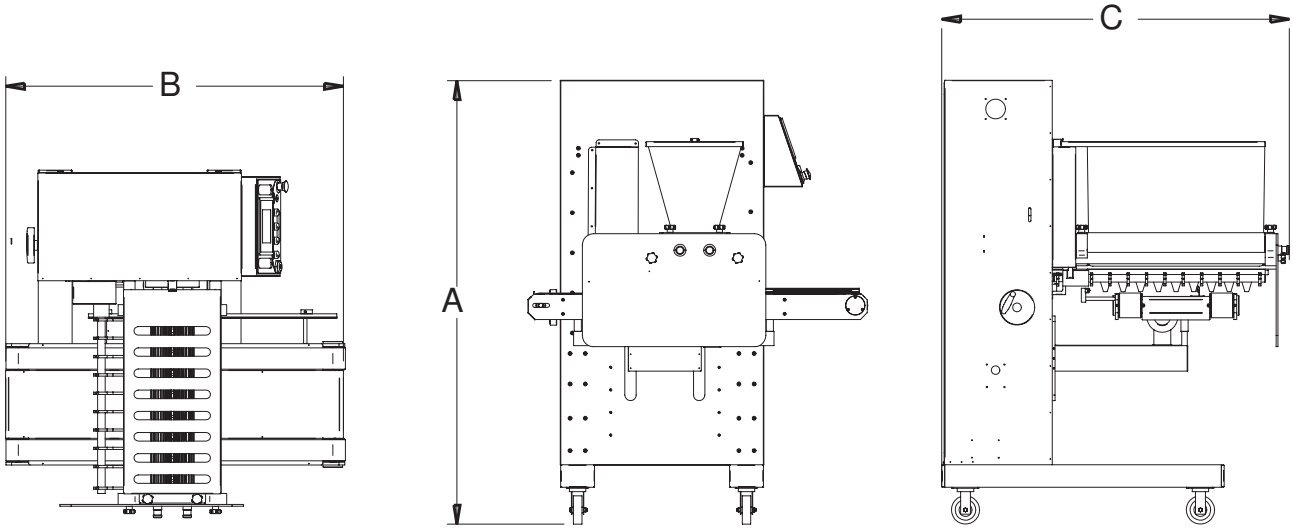
Chapter 3 Machine Characteristics

3.1 Machine specifications

Machine dimensions and weight

	Bisky - 400	Bisky - 460	Bisky - 600	U.M.
A	1570	1570	1570	mm
B	1196	1196	1196	mm
C	1032	1074	1232	mm
Total weight	300	325	350	Kg
Dough capacity	32	36	48	litri



Feeding data

Electrical plant

Machine dimensions and weight

Tension	upon request
Frequency	upon request
Total power (KW) installed	3 Kw

Electrical supply tolerance
Tension whilst the machine is functioning +/- 5% the standard tension.

Frequency
+/- 1% the standard frequency in a constant manner.

+/- 2% the standard frequency for a short amount of time.

Harmonic
Harmonic distortion for the sum of the harmonics from the second to the fifth not superior to 10% of the total tension. An extra distortion is allowed from the sixth to the thirtieth for an amount of 25% on the total value between the tension conductors..

Unequal tension in the three phase
Neither the sequence component inverted and the component zero must be superior to 2 % of the direct tension sequence component.

Tension impulses
The impulses must not be superior to 1,5 ms with a time of up/down between 500 ns and 500 s, and a diving value not superior to 200% of the efficient value of the tension.

Tension interruption
The tension must not be interrupted and/or the tension must not go to zero for a time superior to 3 ms, no matter the instant of the tension wave. Between the following two interruptions a time superior to 1s must pass by.

Intervals in the tension
The intervals in the tension must not be superior to 20% of the diving tension for one cycle. Between the following two interruptions a time superior to 1 s must pass by.

Responsibility

NOTE	**The Manufacturer is not responsible for inconveniences caused by failures, breakdowns or malfunction, caused by incorrect tension values.**

3.2 Qualified operator

The installation of the machine must be carried out by qualified personnel, personnel exclusively trained and authorised and following careful study of this manual.

3.3 Transport

The following indications must be respected during the transport of the machine :

- **Storing of the machine.**
- **First installation of the machine.**
- **Re-allocate the machine in another zone or area of the factory.**

Transport condition

The machine and its accessories can be transported in the following manner, according to the request of the customer:

•Transport via sea : Palletised wooden box. A wooden box with tarpaper coatings on the side boards is to be used for the transport via sea. The machine and its accessories must be fixed in the internal of the box and fixed firmly in order to avoid the machine from moving during transfer of the machine.

•Transport via Truck : The machine is to be placed on a pallet and covered for protection against atmospheric agents.

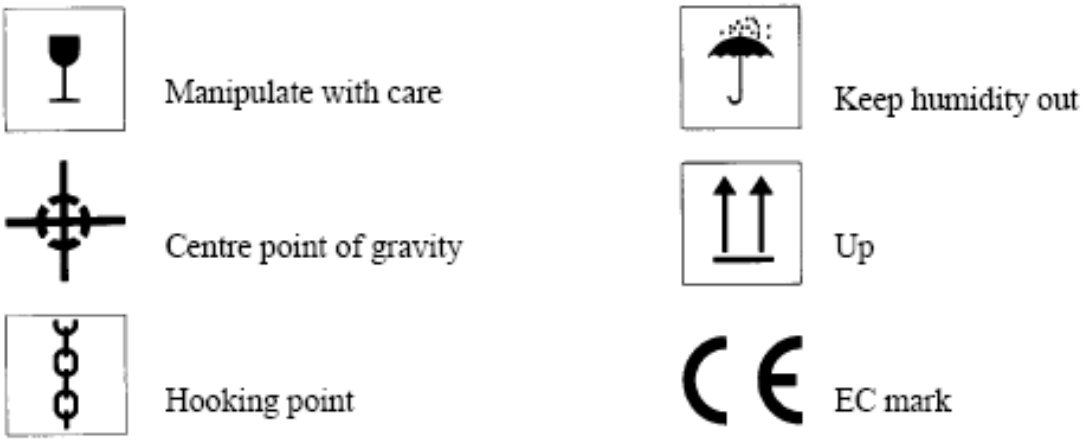
NOTE **Follow the standard precautions in order to avoid the machine from falling over or getting bumped.**

Symbols drawn on the wooden packing of the machine

Symbols drawn on the wooden packing of the machine:

- **Manipulate with care.**
- **Centre point of gravity.**
- **Hooking point.**
- **Keep humidity out.**
- **Up.**
- **EC mark.**

Fig. 3.1 Symbols on the wooden box

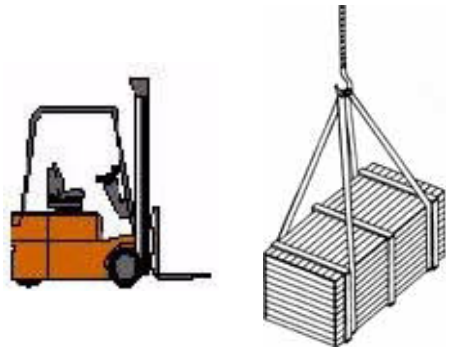


Handling and hoisting the machine

DANGER

- **It is forbidden to climb on top of the machine or the wooden packing or pass under it during the manoeuvring operation.**
- **It is forbidden to enter the manoeuvring zone to unauthorised personnel during this operation.**
- **All the operators must keep a safety distance in order to avoid injury in case the machine or part of it falls down.**
- **Do not twist the cords, or make knots in it, follow the strict rules imposed by the manufacturer of the cords.**
- **The adequate transport or moving system must be used for example, Fork lift or crane. The use of improper equipment can cause injury to people and damage to property and the machine.**
- **Before starting the manoeuvring and positioning operation of the machine, check the machine and surrounding area for any unforeseen dangers that may occur.**
- **Make sure the lifting equipment has a warning bell, and that it is complete the identification plate of the manufacturer with all the details clearly legible.**
- **Inspect the steel cords before any manoeuvring is carried out, the steel cords must not have signs of deterioration.**
- **The same rules apply when using chains or straps.**

Fig. 3.2 Lifting and moving of the packed machine



Wooden box or pallet positioning on the truck

The box or pallet must be loaded onto the truck by using the lifting equipment in the following way :

1. Introduce the belts (A) under the box and connect them to the lifting means hook.
2. Lift the box just enough to allow for the loading.
3. Place the box in the chosen spot.

Wooden box or pallet positioning on the ground

The box or pallet must be unloaded from the truck by using the lifting equipment in the following way :

1. Introduce the belts (A) under the box and connect them to the lifting means hook.
2. Lift the box just enough to allow for the unloading.
3. Place the box in the chosen position for unpacking.

Equipment for the moving and lifting of the packed machine

To lift the machine it is recommended to use the following equipment:

- **Adequate crane or lift, suitable for the machine weight.**
- **Steel cable Æ 20 type "RR" with textile threads.**
- **Safety hook type BK-10.**
- **Bell type 0-10000.**
- **Lifting arms.**

Unpacking the machine

BEWARE

- **Before unpacking the machine make sure that the box is free from damage or obvious dents. In case of damage report it immediately to the truck driver.**
- **Respect the local laws and regulations for the removal of the box from your premises.**
- **The use of the lifting arms is to be used every time a machine is loaded or unloaded.**

The following procedure is to be used when opening the box:

- **Box:**
  - **a.** Lift the box from the truck, make sure the steel cables/chain/belts are attached as for in *Fig. 3.2 Lifting and moving of the packed machine*.
  - **b.** Place the machine on the ground.
  - **c.** Take out the nails and remove the cover.
  - **d.** Take out the nails on the side panels of the box.
  - **e.** Remove the machine accessories from the box.

- ***Fastening the machine onto the truck:***
  - **a.** Extract the accessories.

BEWARE **Any damage caused during the transport must be immediately communicated to the Manufacturer also if there are parts not in conformity with the packing list.**

3.4 Preliminary operations

Check if the machine has been damaged during trasport

Verify by means of a visual inspection the state of the external and internal parts of the machine. Make sure that there is no damage that can cause the malfunctioning of the machine. Make sure the bolts, nuts and valves are properly fastened.

In case of damage

The damage caused by the transport company is to be attributed to them, and must be communicated immediately to the manufacturer or local agent.

Machine cleaning

- **Remove the dust and dirt accumulated during the transport of the machine.**
- **Clean and dry every single part of the machine by using a dry, soft and clean cloth.**

3.5 Storing of the machine

The following indications must be respected during the temporary storing of the machine that can occur in the following circumstances:

- **The delay in the machine installation following the delivery.**
- **The removal of a machine from the production and the delay to re-install it again.**

The machine must be stored and transported under the following safety conditions:

1. Remove the air supply pipe by removing it from the main circuit (if present).
2. Disconnect the main switch (IG).
3. Unplug the main electrical plug from the electrical panel on the wall.

BEWARE **It is absolutely forbidden to climb onto the boxes or store one box on top of the other.**

In case the boxes are to remain in the open under atmospheric conditions before being brought under cover, the customer must cover the boxes with waterproof coverings sufficiently big enough to protect the entire box.

- **In case there is a delay to bring the machines under cover for longer than 3 months, the customer must put the boxes/machines in a protected area from the atmospheric agents, excessive heat or excessive cold.**
- **The non painted parts are covered with a thin layer of protective oil, make sure that this oil is always there in order to avoid oxidisation.**
- **If the machine is unpacked, cover it with a covering ideal for keeping dust and dirt out.**

Features

- **Temperature variations allowed - 25 °C up to + 55°C.**
- **Humidity variations allowed 30-90 %.**
- **Adequate illumination.**
- **Sufficient protection against the atmospherical agents.**
- **Sufficient space for the lifting and moving operations in a safe manner.**
- **Level floor for the machine positioning and excessively strong floor in respect to the machine weight.**

DANGER **Do not climb onto the machine or lay any object on it.**

3.6 Allocation

Physic characteristic about collocation zone

Apart from the machine size as specified in *3.1 Machine specifications* a pag. *21*, it is compulsory to respect the following conditions :

- **Electrical supply boxes are to be allocated near the area in which the machine is to be placed, in conformity with.**
- **The operator must be able to walk around the machine without any impediments. The object nearest to the machine must not be less than one meter apart.**
- **All guards and machine covers are to open entirely without any impediment.**
- **Foresee enough space for maintenance and for any other equipment that may be required around the machine.**

Protection against the atmospheric agents

The machine must be allocated under cover that protects the machine from the atmospheric agents.

Lighting

Sufficient lighting is to be supplied in order to safely carry out the operation and maintenance of the machine. The machine is not supplied with incorporated lighting.

Ambiental caratteristic about collocation zone

- **Allowed temperature : from 5°C up to + 40 °C with a medium of not over 35°C in the arc of 24 hours.**
- **Allowed humidity : from 50% at 40°C up to 90% at temperatures of 20°C.**

NOTE	**The temperature limits are determined taking into consideration the electrical components of the machine.**

3.7 Installation of the machine

Connection

Electrical connection
The machine has only one external electrical connection.

DANGER	**Make sure the electrical supply is according to the machine pecifications and requirements.**

1. Assemble a power handle switch ON/OFF on the main wall socket. The handle switch ON/OFF must be positioned at a height of 0,6 - 1.9 meters from the floor. The preferred height is 1,7 meters. The handle switch must be red and the background around it yellow.
2. Make sure the external electrical supply cables is sectioned.
3. Make sure the main switch on the machine is in "0" position and locked with a lock.

NOTE	**Respect the voltage shown on the adhesive placed just above the machine socket.**

3.8 Machine testing

Before the delivery from our factory, the following tests are carried out:

- **General adjustments of the machine and auxiliary functions.**
- **Trials to determine the good efficient functioning of the general adjustments and correct rotation of the motors.**
- **Trials to determine the efficient performance of the guarding and emergency's.**

Verify about the correct motor rotatin

Before the machine is put into operation, make sure the air and electrical connections have been carried out correctly.

1. Give current to the machine by turning the main switch (IG) to position 1
2. Make sure the wire cut motor turns in the direction of the yellow arrow (see *Fig. 3.3 Rotating direction of the wire cut motor...* a pag. *29*); If the direction in the wrong direction invert two wires (phases) on the main terminal, reference L1/L2/l3

DANGER	**The inversion of two power supply phases must be done with the machine disconnected from the power supply mains.**

Control to determine the efficiency of the safety devices

Before starting production, it is recommended to control the safety's devices as follows:

1. 1. Efficiency of the emergency stop button (a page 14);); Whilst the machine is running push the emergency stop button on the main control panel; The machine

must come to an immediate halt. In order to re-start the machine it will be necessary to reset the emergency stop button and press the Reset button.

NOTE	**If a problem occurs during the operation of the machine, and the explanations in this manual are not sufficient to resolve them, then you must contact our after sales technical service.**

Fig. 3.3 Rotating direction of the wire cut motor..

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Chapter 4 Operator interface

4.1 Main control panel

Commands

Description

1. Acoustic alarm
2. Start button
3. Stop button
4. Alram Reset button
5. Voltage "ON" signal lamp
6. Emergency exclusion
7. Emergency mushroom-head button
8. Main cut-out switch

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Chapter 5 Machine programming

5.1 Tooling, adjustments and setting up of the machine

In order to manufacture certain type of biscuits it is necessary to change the nozzles or wire cut moulds.

NOTE **All the settings, adjustments and cleaning of the machine are to be carried out only when the machine is switched off. The main door block switch must be in "0" position and with the lock in place.**

The main cut-out switch must be set to the 0 position and locked in this position with a padlock.

PERICOLO **Serious injury can be caused to the personnel if the settings are carried out with the machine under tension.**

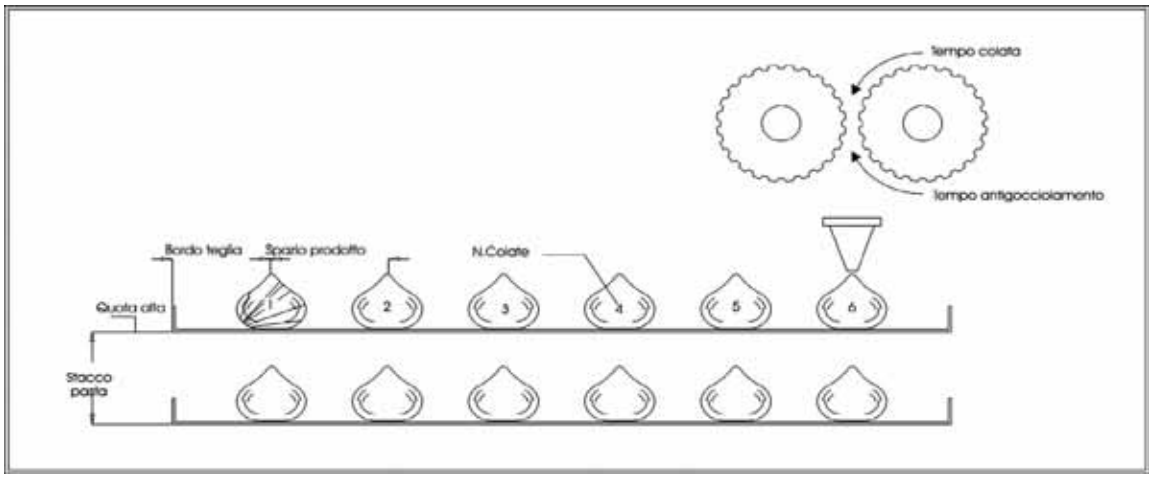
Dismantling phase of the fixed straight nozzles or straight nozzles with rotation plate

1. Loosen the fastening knobs (1) and remove the front Plexiglas protective cover (2);
2. Loosen the knobs (3) that hold the wire cut plate or rotary nozzle plate in place;
3. Remove the plate by extracting through the space in the aluminium plate;
4. Fix the nozzles;
5. Insert the plate;
6. Fix the fastening knobs of the fixed straight nozzles or straight nozzles with rotation plate (3);
7. Reposition the front Plexiglas protective cover (2) and fix the fastening knobs (1).

5.2 Recipes

Diagram of the basic parameters

Fig. 5.1 Fig. 5.1 Visual explanations of some parameters



- **The position of the belt determines the thickness of the dough to be extruded; this can be adjusted by means of the handwheel positioned at the side of the machine and can be verified through the measuring bar and a reference indicator located at the side.**

NOTA :The measures indicated on the measuring bar are only a guide.

- **Extrusion time: Determines the quantity of dough that will be extruded for each deposit (extruding rollers rotating time forwards);**
- **Suction time: Determines the quantity of dough sucked back after each deposit (extruding rollers rotating time backwards);**
- **N° of rows: Determines the number of rows that will be deposited on a tray;**
- **Tray edge: Determines the distance from the tray edge to the first deposit of each new tray;**
- **Row space: Determines the distance from one biscuit to another**

FIXED STRAIGHT NOZZLES OR FIXED MOULDS

- **N° OF ROWS:**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers) and consequently also the size of the biscuit.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance from the tray edge to the first deposit.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

FIXED STRAIGHT NOZZLES WITH ROTATION

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

TThe value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers) and consequently also the size of the biscuit.

- **NOZZLE ROTATING TIME:**

The value you digit will determine for how long a time the nozzles will rotate.

- **NOZZLE ROTATING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the nozzle will rotate during the nozzle rotating time.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

FIXED STRAIGHT NOZZLES & HORIZONTAL TRAY MOVEMENT FOR LONG BISCUIT

N° OF ROWS

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **BISCUIT LENGTH:**

The value you digit will determine the biscuit length (in mm).

- **TRAY ADVANCING SPEED:**

The value you digit will determine the speed at which the tray will advance for the biscuit length imposed.

- **RETURN LAYER LENGTH:**

The value you digit will determine the length (in mm.) of the return layer on top of the first layer.

- **HORIZONTAL DOUGH DETACHMENT**

ON, OFF enables the horizontal dough detachment.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

Il valore impostato in questo parametro determina, in posizione OFF, la fase di antigocciolamento contemporaneamente alla fase distacco pasta.
In posizione ON, viene eseguita la fase di antigocciolamento prima di effettuare la fase distacco pasta.

- **REPEAT CYCLE TIME:**

Il valore impostato in questo parametro determina il numero di secondi prima di ripartire automaticamente con la lavorazione di un'altra teglia.

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

Il valore impostato in questo parametro determina lo spazio in mm tra il bordo della teglia e il primo biscotto.

- **ROW SPACE:**

Il valore impostato in questo parametro determina lo spazio in mm tra un biscotto e l'altro.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

FIXED STRAIGHT NOZZLES & VERTICAL TRAY MOVEMENT FOR PYRAMID SHAPED BISCUIT

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **TABLE DESCENDING TIME:**

The value you digit will determine the speed of descend of the tray for the distance between maximum table height and minimum table height.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

IWhen the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

Il valore impostato in questo parametro determina lo spazio in mm tra il bordo della teglia e il primo biscotto.

- **ROW SPACE:**

Il valore impostato in questo parametro determina lo spazio in mm tra un biscotto e l'altro.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

STRAIGHT NOZZLES WITH ROTATION AND VERTICAL TRAY MOVEMENT

- **N° OF ROWS:**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **TABLE DESCENDING TIME:**

The value you digit will determine the speed of descend of the tray for the distance between maximum table height and minimum table height.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING TIME:**

The value you digit will determine for how long a time the nozzles will rotate.

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- • **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- • **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

STRAIGHT NOZZLES WITH ROTATION & HORIZONTAL TRAY MOVEMENT FOR LONG BISCUIT

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **BISCUIT LENGTH:**

The value you digit will determine the biscuit length (in mm).

- **TRAY ADVANCING SPEED:**

The value you digit will determine the speed at which the tray will advance for the biscuit length imposed.

- **RETURN LAYER LENGTH:**

The value you digit will determine the length (in mm.) of the return layer on top of the first layer.

- **HORIZONTAL DOUGH DETACHMENT**

ON, OFF enables the horizontal dough detachment.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING TIME:**

The value you digit will determine for how long a time the nozzles will rotate.

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

Il valore impostato in questo parametro determina, in posizione OFF, la fase di antigocciolamento contemporaneamente alla fase distacco pasta.
In posizione ON, viene eseguita la fase di antigocciolamento prima dieffettuare la fase distacco pasta.

- **REPEAT CYCLE TIME:**

Il valore impostato in questo parametro determina il numero di secondi prima di ripartire automaticamente con la lavorazione di un'altra teglia.

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

Il valore impostato in questo parametro determina lo spazio in mm tra il bordo della teglia e il primo biscotto.

- **ROW SPACE:**

Il valore impostato in questo parametro determina lo spazio in mm tra un biscotto e l'altro.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

OFF-CENTRE NOZZLES WITH CONTINUOUS ROTATION

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

OFF-CENTRE NOZZLES WITH GRADUATED ROTATION

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATION ANGLE:**

The value you digit will determine for how many degrees the nozzle will rotate from 0° to 360°.

- **INVERSE ROTATING ANGLE:**

The value you digit will determine the inverse rotation angle.

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **INITIAL POSITION OF NOZZLES:**

When this in ON the nozzles will return automatically to the original starting point after each deposit. The allows you to fit the half moon shaped biscuits nearer to each other and consequently more biscuits can fit onto one tray.

NOTE	**The parameter is activated when producing half moon biscuits and allows you to fit more biscuits in the tray.**

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

IWhen the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

OFF-CENTRE NOZZLE TAIL WITH GRADUATED ROTATION

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **TABLE DESCENDING TIME:**

The value you digit will determine the speed of descent of the table during dough extrusion.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATION ANGLE:**

The value you digit will determine for how many degrees the nozzle will rotate from 0° to 360°.

- **NOZZLE TAIL ROTATION ANGLE:**

The value you digit will determine by how many degrees the nozzle will rotate in the opposite sense to form the tail of the products.

- **NOZZLE ROTATING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the nozzle will rotate during the nozzle rotating.

- **INITIAL POSITION OF NOZZLES:**

When this in ON the nozzles will return automatically to the original starting point after each deposit.

NOTE **The parameter is activated when producing half moon biscuits and allows you to fit more biscuits onto one tray.**

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up by the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance in mm from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space (in mm) between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

OFF-CENTRE NOZZLES - MULTI - LAYERS

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **TABLE DESCENDING TIME:**

The value you digit will determine the speed of descent of the table during dough extrusion.

- **RETARD TIME AFIER DEPOSIT FOR FIRST LAYER:**

The value you digit will determine the amount of time the tray will remain at the maximum height whilst extruding before descending to the minimum height.

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

OFF-CENTRE NOZZLES WITH HORIZONTAL MOVEMENT (OVAL SHAPE BISCUIT)

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING TIME:**

The value you digit (from 1 to 100) will determine the speed at which the nozzle will rotate (during the nozzle rotating time the table moves forward horizontally at the speed pre-set in "Product feeding speed").

- **NOZZLE ROTATING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the nozzle will rotate during the nozzle rotating time.

- **TRAY ADVANCING SPEED:**

The value you digit will determine the speed at which the tray will advance for the biscuit length imposed.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

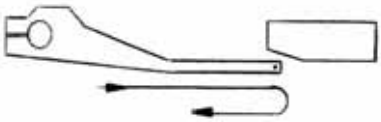
This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.



WIRE CUT PROCESSING

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **REVERSE PROCESSING:**

The value you digit will determine the cut with the tray in forward position (OFF position) and the cut in retreated position (ON position).

- **CONTINUOUS CYCLE:**

When at the beginning of the processing this parameter is set to the ON position, the filled tray rises and remains in high position until the last tray is finished, that is to say at the end of the preset processing. After this, it will return into its lower position. If you set this parameter to the OFF position, the processing is standard, that means to say with the table lowering after each dough extrusion.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

SPECIAL FUNCTIONS : STRAIGHT NOZZLES - MULTI-DROP BISCUIT.

- **MULTIDROP SPACING:**

The value you digit will determine the distance between one drop and the other (see *Fig. 5.2 Multi-drop biscuit* . on page 58).

- **N° OF DROPS:**

The value you digit will determine the number of drops the biscuit will be composed of.

NOTE **If the number of drops (multi-drop biscuit) are increased whilst the machine is extruding the value will be valid only with the start of a new tray .**

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NOZZLE ROTATING TIME:**

The value you digit will determine for how long a time the nozzles will rotate.

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **HORIZONTAL DOUGH DETACHMENT:**

ON/OFF enables, disables the horizontal dough detachment.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

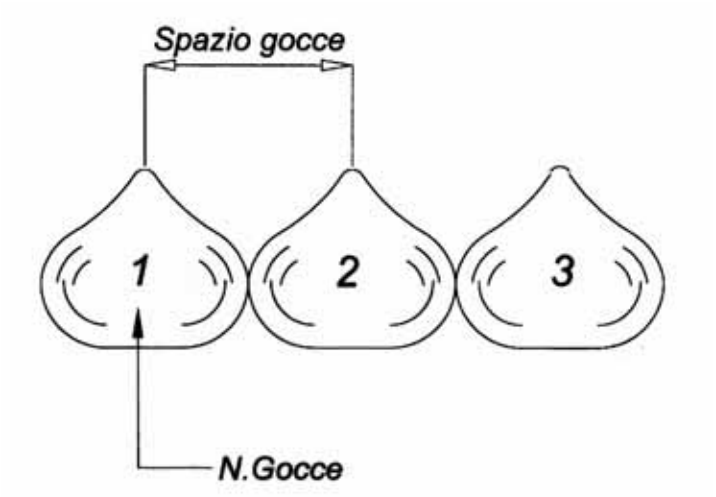
- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

Fig. 5.2 Multi-drop biscuit .



Special functions : Off-centre nozzles zig-zag shaped biscuit

- **N° OF ROWS**

The value you digit must be equal to the number of rows of biscuits that can fit onto one tray.

- **RETARD MOVEMENTS:**

The value you digit will determine the quantity of dough that will be deposited before the nozzle start to rotate.

- **EXTRUSION TIME:**

The value you digit will determine how much dough will be extruded (biscuit size).

- **DEPOSITING SPEED:**

The value you digit (from 1 to 100) will determine the speed at which the dough will be extruded (speed of rollers).

- **NUMBER OF ZIG-ZAGS:**

The value you digit will determine how many zig-zags the biscuit will be composed of.

- **NOZZLE ROTATION ANGLE:**

The value you digit will determine for how many degrees the nozzle will rotate from 0° to 360°.

- **NOZZLE ROTATING SPEED:**

Il valore impostato in questo parametro determina, con un valore da 1 a 100 la velocità di rotazione dei beccucci.

- **ZIG-ZAG SPACING:**

The value you digit will determine the space (in mm.) between one zig-zag.

- **TRAY ADVANCING SPEED:**

The value you digit will determine the speed at which the tray will advance in order to create a space between one zig-zag and another.

- **SUCTION TIME:**

The value you digit will determine the suction time (quantity of dough) that will be sucked back up the nozzle after each deposit.

- **SUCTION ON/OFF:**

When the suction is OFF, the suction will start when the tray drops down after each deposit (DOUGH DETACHMENT). If the suction is ON the tray conveyor table will drop (DOUGH DETACHMENT) only after the suction has been completed.

- **REPEAT CYCLE TIME:**

The value you digit will determines the pause time of the belts after a tray has been filled (automatic re-start of belts).

- **HORIZONTAL DOUGH DETACHMENT**

ON, OFF enables the horizontal dough detachment.

- **NUMBER OF TRAYS:**

The number you digit will determine how many trays of that recipe you will produce in automatic mode.

- **TRAY EDGE:**

The value you digit will determine the distance the tray will advance (distance = from tray edge to first deposit) before the first row of biscuits is deposited.

- **ROW SPACE:**

The value you digit will determine the space between each row of biscuits.

- **PAUSE BEFORE SUCTION:**

The machine pauses before the suction phase starts. This pause duration can be set.

- **DOSING THE FIRST EXTRUSION**

This value -expressed in ±%- can be set. It is used to modify the dosing of the first extrusion of each tray.

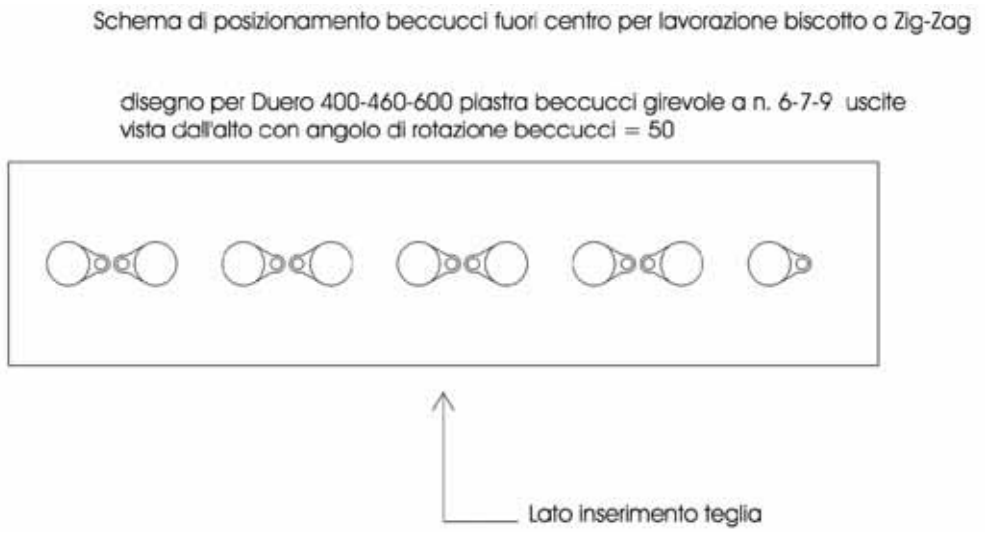
- **SUCTION PHASE AT THE END OF A TRAY**

This value -expressed in %- can be set. It is used to increase the duration of the suction phase after the last extrusion of each tray.

- **CYCLE ACCELERATION**

ON/OFF, enables/disables the cycle acceleration function.

Fig. 5.3 Rotary nozzle plate showing nozzle positions for zig-zag biscuit



Chapter 6 Use

NOTE **When reading this chapter make reference to the drawings on the control panel (Chapter 4 Operator interface).**

6.1 Dangerous areas and residual risks during the use

Dangerous zones and residual risks is described.

6.2 Operators qualification

The machine operation must be carried out exclusively trained operators, qualified and authorised after having studied and understood the information regarding this machine.

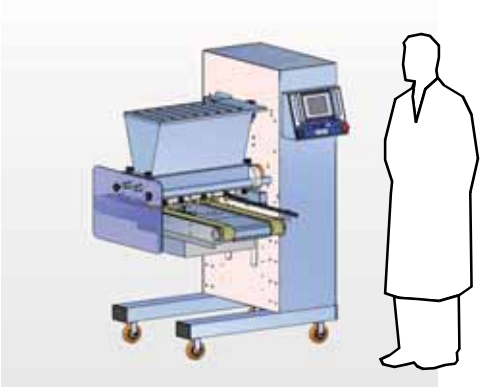
6.3 Working area

In *Fig. 6.1 Working area* a page 62 the safe working area where the operator can work are underlined.
The Bisky are machines that need to be operated constantly by an operator. Once the machine has been programmed and the desired number of trays are been filled in the automatic mode, the operator must remain present to remove the filled trays, which are discharged on the control panel side or the opposite side, according to the program. On the Bisky the control position is situated on the control panel side. On this type of machine it is possible to operate the machine with one or two operators, one operator when the tray returns to the control panel side, and two if the tray is made to exit on in the opposite direction.

NOTE **During the normal functioning of the machine it is forbidden to introduce strange objects other tan the trays under the extrusion rollers.**

BEWARE **Never introduce objects other than trays on the conveyor belt, and never under no circumstances lean on the conveyor.**

Fig. 6.1 Working area



6.4 Functioning methods

The Bicky can function in the following ways:

1. In an automatic way, by carrying out the programming on the screen, and all the safety's active .
2. In a manual way, by completing one working cycle and after the machine has stopped, the operator must once again push the START button .

6.5 Starting of the machine

Starting procedures:

1. Turn the main door block switch positioned in the back bottom door of the machine clockwise so that it is in the position 1 (IG).
2. Push the RESET. This button is to be pressed each time the machine is switched on, and after an emergency has been activated. By pressing this button the siren is silenced and the machine is prepared for another start

BEWARE **If the RESET button is pressed whilst an emergency is still activated the siren will be silenced but the red emergency warning light will continuo flicking. In order to reset the machine and prepare it for another start the emergency button or guard must be closed in normal safety working conditions .**

3. Push the START button once you have selected the desired biscuit to be produced .

6.6 Starting of the machine

For the normal functioning of the machine you must proceed as follows:

1. Turn the main door block switch (IG) to position 1, this switch is found on the back bottom guard;

2. Push the button RESET.

3. Push START.

6.7 Emergency stop

To stop the machine in case of an emergency you must push the button EMERGENCY (21) positioned on the main control panel of the machine:

- **The machine will stop.**
- **The emergency button will remain blocked.**

NOTE **The emergency's act exclusively on the frequency controller (inverter), and not on the main electrical power supply of the machine. It is therefore not possible to carry out maintenance on the machine unless the main power is excluded from the machine by turning the main door block switch (IG) placed on the back bottom guard.**

6.8 The re-starting of the machine after an emergency has been activated

1. Determine the cause for the emergency stop and eliminate the dangerous situation.
2. Extract the EMERGENCY button (21).
3. Push the RESET button.
4. Push the START button.

6.9 Description of the procedures.

Switching on the machine, the display will show the home page :

Field 1 displays name and number of the recipe being currently in process.

Press button 2 to access the machine menu pages.

Press button 3 to access the alarm display page.

Press button 4 to access the page where the language for the operator panel can be selected among one of those present.

Alarm pages

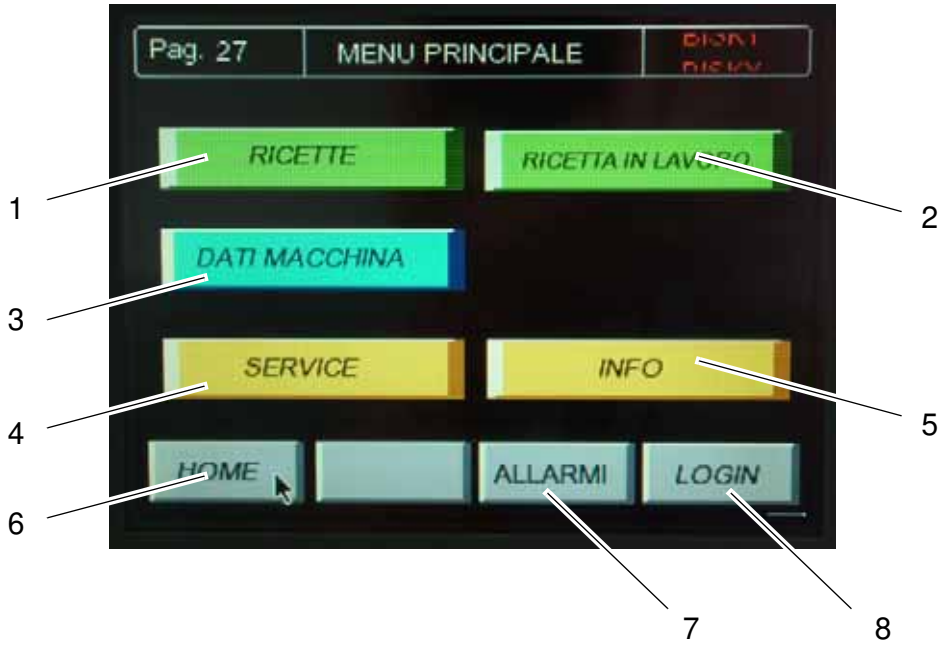
Press button 3 to display the machine synoptic image (fig. a) which indicates the alarm present and then, press the "Alarms" button to display the page with the table with the specification of the alarms triggered (Fig.b)..

Fig. a

Fig. b

Menu page

Press the Menu button to access the page shown here below :



Press button 1 to access the page of recipe management: load, edit, delete, etc.

Press button 2 to access the current recipe display page.

Press button 3 to access the pages for machine cycle management. These pages are protected by a password and only authorised qualified technicians and the Manufacturer's specialised personnel are allowed to access these pages because changing the machine parameters could cause damage to the machine or injuries to persons.

Press button 4 to access the service pages which enable the manual movements of some groups of the machine.

Press button 5 to access the pages of operator information: the machine's counters are displayed.

Press button 6 to return to the main page.

Press button 7 to access the alarm display page.

Press button 8 to access the password insertion page.

Service pages

First page
Press the Service button to access the page shown here below: :

Field 1 allows the type of head to be chosen according to the type of processing to carry out: "Roller head" or "Pump head" (optional extra)

In field 2 the value for nozzle position reference is set to zero (in the off-centre nozzle type of processing) so as to allow correct operation by fixing the start point.

In field 3 the rollers can be timed so as to dismantle them during either cleaning or head changing operations.

In field 4 you can decide whether the tray unloading must be carried out towards the operator's side or towards the standard side. This function is used at the end of the working process.

Second page
Press button Next to display the following page:

Press button 1 to command the rotation of the rollers. This function is used at the beginning of the processing to fill up the chamber between the rollers and the head in order to obtain a perfect dough extrusion from the beginning.

Press button 2 to command the rotation of the nozzles so as to set and make them start working.

Press button 3 to move the conveyor forward and insert or unload the tray present.

Press button 4 to raise or lower the conveyor.

6.10 Recipe management pages

From the main page press the Recipe button and the display will show the following page:

Use the buttons present to insert, copy, modify, load, save or delete a recipe; with the List button you can display all the recipes stored in the machine's database.

NOTE **The machine's database can store up to a maximum of 100 recipes.**

New recipe

This button allows a new recipe to be created.

The page with all the possible types of processing is displayed.

The various types of processing are represented by some animations of the respective devices.

Press on the animation and the desired processing will be displayed on the first page of parameter insertion.

The parameters which can be set are identified by some icons on several pages and can be displayed using buttons Next and Previous.

NOTE **To check the meaning of the icons consult "*Chapter 5 Machine programming*".**

All data concerning a recipe to be created can be inserted either pressing on the icon of individual parameters or directly on the numeric field shown at the side; after selecting an icon, a numeric keyboard will be displayed to insert the desired value.

At the end of the insertion, the following page will be displayed:

In field 1 you digit the name of the recipe.

In field 2 you digit the number of the recipe. To discover the first free number you can use, press button 4 "List of the recipes", then close the list and assign the number to the new created recipe. Press button 3 "Save" to store the recipe in the database memory.

Load a recipe

This button allows the data about stored recipes to be retrieved from the database.

Insert the number of the desired recipe and press button Load.

NOTE **To have the list of the stored recipes, consult the "List of the recipes" by pressing the dedicated button.**

NOTE **Once all the data of a recipe has been loaded into the database, the machine will carry out the following processing according to the preset data.**

Copy a recipe

This button allows the data about stored recipes to be retrieved from the database and copied into a new recipe.

Insert the number of the recipe to copy in field 1 and the number of the new recipe in field 2, then press button 3 "Copy".

NOTE **To have the list of the stored recipes, consult the "List of the recipes" by pressing the dedicated button.**

Edit a recipe

This button allows the data about stored recipes to be retrieved from the database and access the setting pages and modify various different parameters.

In field 1 digit the number of the recipe to be modified, then press button 2 "Modify".

NOTE **To have the list of the stored recipes, consult the "List of the recipes" by pressing the dedicated button.**

You have entered the parameters pages from where you can modify the recipes. In the last page press button "Save" to confirm the modifications made.

Delete recipes

This button allows the data about stored recipes to be cancelled from the database.

In field 1 digit the number of the recipe to be deleted, then press button 2 "Delete".

NOTE **To have the list of the stored recipes, consult the "List of the recipes" by pressing the dedicated button.**

NOTE **The recipe is going to be definitively deleted from the database and can no longer be called up.**

6.11 Switching off the machine

Switching off procedure :

1. Push the STOP button (12);
2. Turn the main door block switch (IG) to position 0, the switch is placed in the back bottom guard of the machine.

NOTE **It is important to always clean the machine and the surrounding area after each working shift.**

6.12 Introduction of the tray

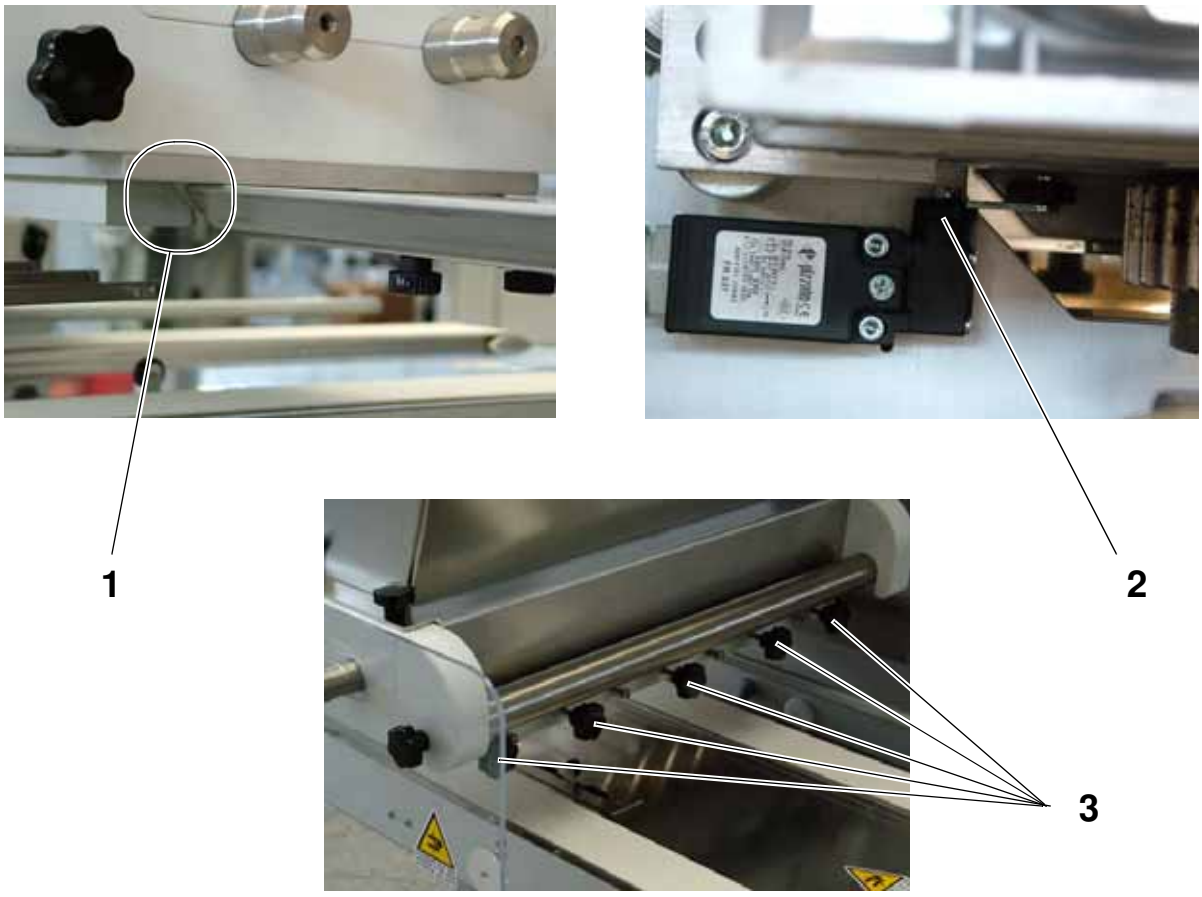
When introducing the tray on the conveyor belt the tray must be lied against a side guide (1) The guides makes sure the tray moves forwards in a straight manner.

Fig. 6.2 Tray side guide

6.13 Introduction of the rotary, fixed or wire cut plates

To make the plates receive the motion from the machine and avoid damage during the processing, they must be correctly inserted into their working seat (1) so as to activate the safety limit switch (2); when the plate is in place, fix it by fastening the screws (3).

Fig. 6.3 Plate block



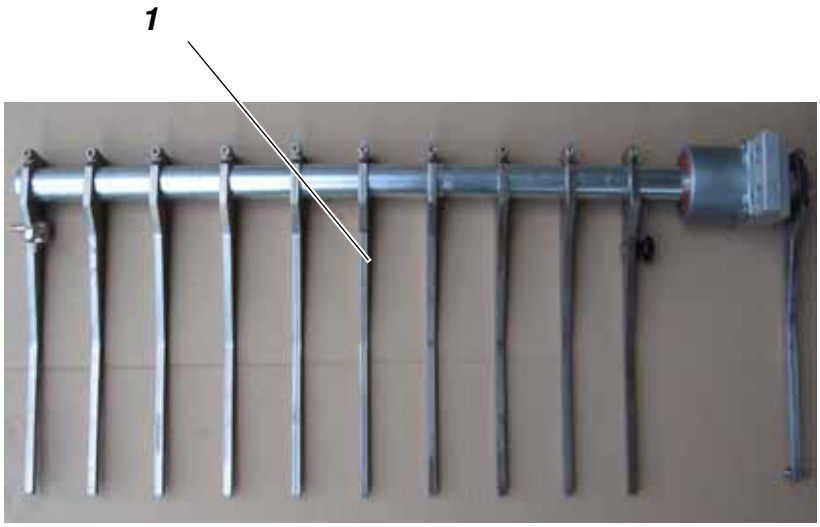
BEWARE **it is very important that the stop bolt (1) touches the aluminum plate (dove tail shape) fixed to the main head.**

6.14 Wire cut optional

Regolazione orizzontale e sostituzione del filo di taglio

The wire cut arch (pos. 1 in fig. 6.4) is composed of a main structure on which a series of supporting arms are assembled according to the number of exits. The structure is also complete of two wire tensioners, in order to correctly tension the wire for an efficient cutting.

Fig. 6.4 Wire cut



Adjustment and replacement of the broken wire

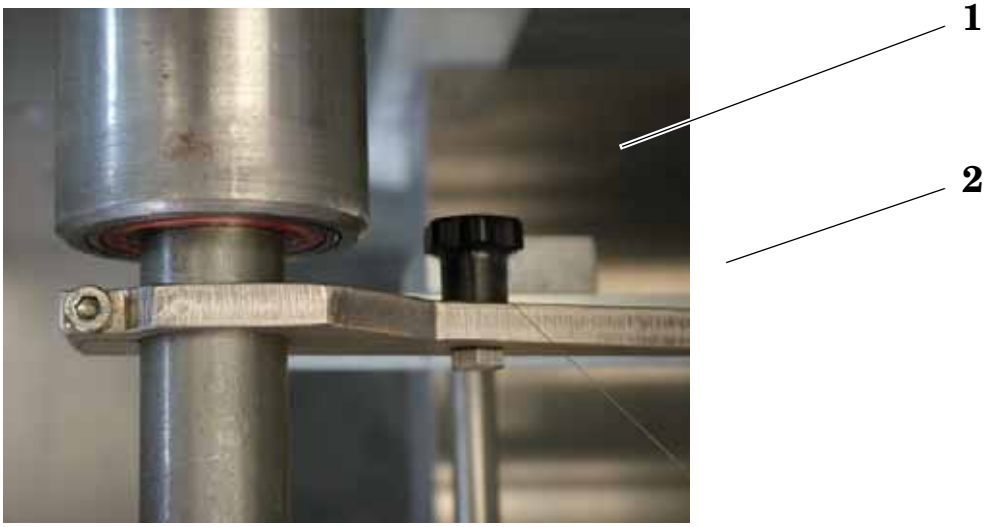
To replace the wire proceed as follows: (The spare wire can be found in the machine tool box).

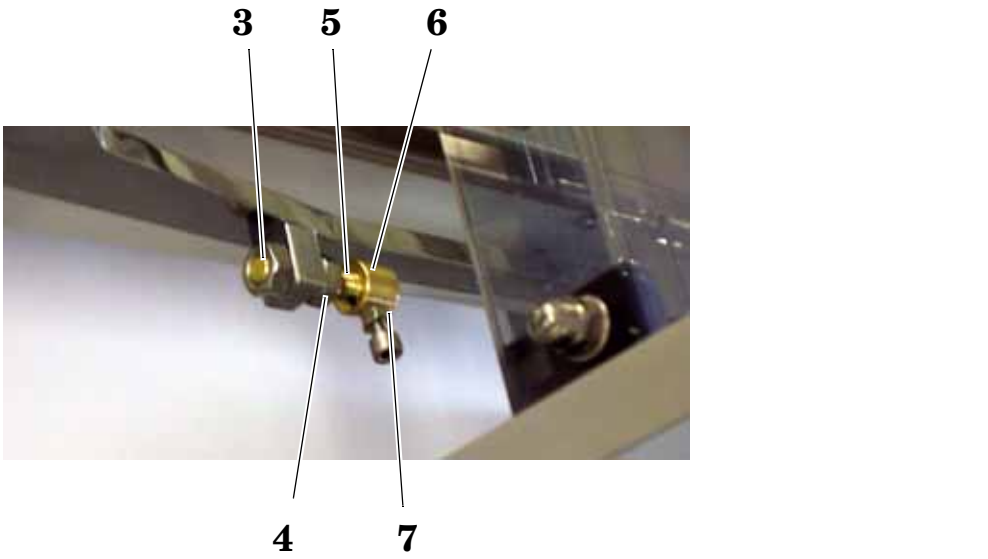
1. Loosen as much as possible the two fixing nuts (1), these can be found on the two wire tensioners in bronze.
2. Extract the steel wire (2) present.
3. Insert one of the edges of the new steel wire into the hole at the centre of the fixing nut and refix the knob so as to anchor this edge.
4. Unloose the nut (7) located on the brass tension rod fastened on the external lever of the device.
5. Insert the free edge of the wire in the holes of the wire cut devices levers.
6. Now insert the wire edge in the hole at the centre of the brass tension rod (6) making sure that it comes out from the hole in the rear end of the tension rod (6). Turn the wire clockwise under the washer fitted under the nut (5) and gently lock it in place.
7. Make sure that the wire is properly tensioned by tightening nut (4) first and nut (3) after.
8. Whilst the wire is cutting, make sure that it is in perfect contact with the plastic moulds.

NOTE **This condition is important in order to obtain correct cutting results.**

BEWARE **In order to obtain the correct cutting of the biscuit the steel wire must be tensioned correctly.**

Fig. 6.5 Horizontal positioning





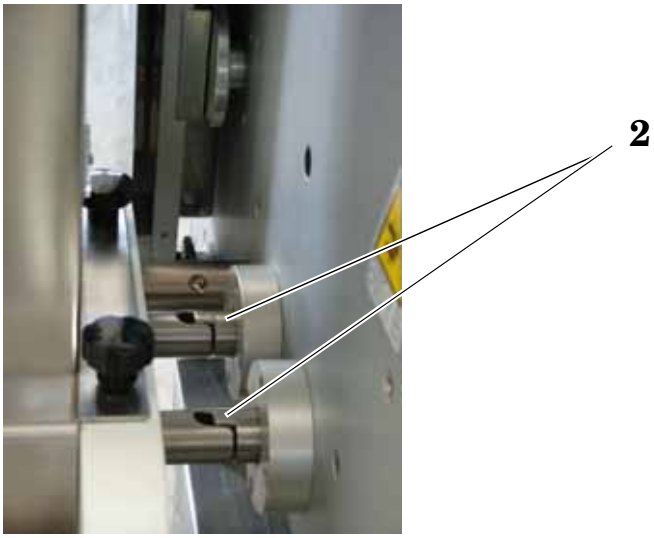
6.15 Dismantling the hopper

For accurate cleaning of the hopper (1), dismantle all its components.

To do so, follow the instructions given below in order to avoid possible damage to the equipment.

Fig. 6.6 Hopper

1. Make sure that the driving shafts -which transmit the motion to the rollers (2)- are correctly positioned. Their bearing section must be positioned as shown in the figure below. Should the shafts not be correctly fitted, move the rollers by hand until the shafts reach their correct position.



2. Extract the protection cover of the hopper (3)

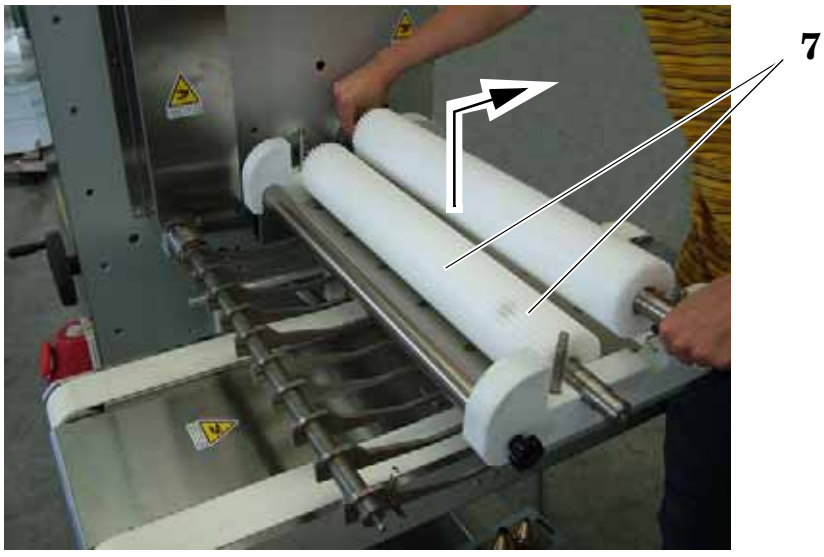
3. Loosen and remove the four fastening knobs (4) from the hopper.

4. Remove the hopper (5)

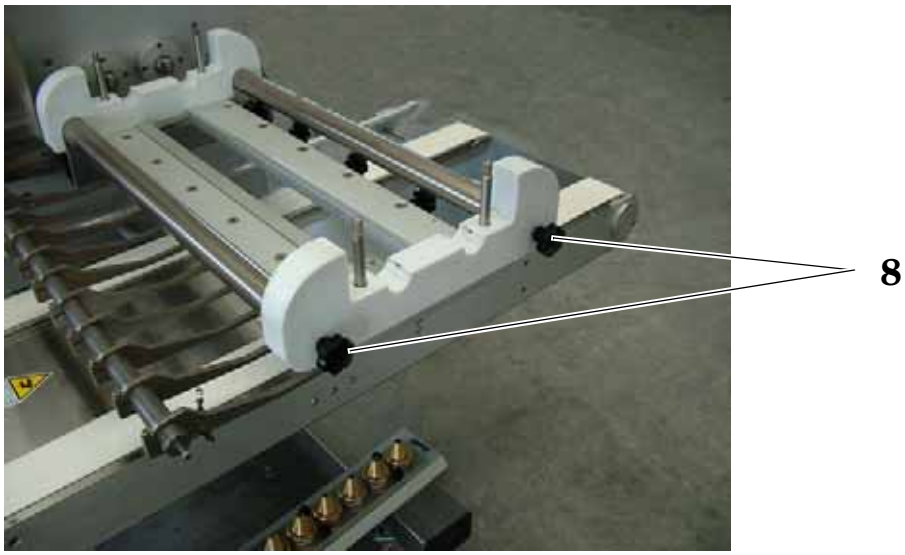
NOTE **Be careful because the hopper, according to the model, can weigh up to 20 Kg. If you are not sure that you can carry out this operation safely, ask another person to help you or use the appropriate tools.**

5. Remove the two hopper support (6)

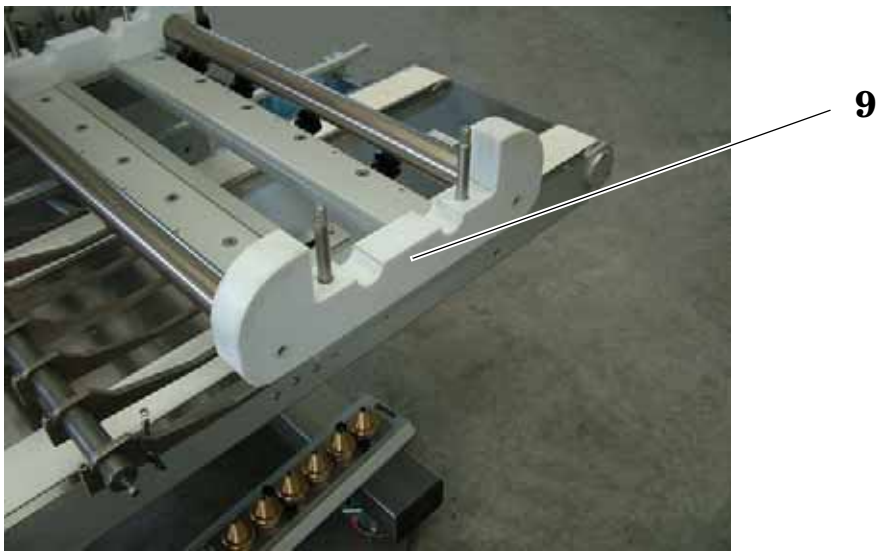
6. Extract the shafts together with the rollers (7)



7. Loosen and remove the hopper support fastening knobs (8)



8. Extract the hopper support (9)



9. After cleaning operations, reassemble the hopper unit by repeating the above described procedure in the opposite order.

Chapter 7 Maintenance

7.1 Hygienic regulations to respect during the machine cleaning and washing of the machine.

ATTENTION **The operators responsible for the washing and cleaning of the machine must wear protective and sterile clothing. The washing of the parts are to be carried out in a room suitable for these kind of operations, and according to the local hygienic laws and regulations.**
We recommend the washing down with water not hotter than 35 ° C and detergent suitable to wash down fat and according to the EC regulations.

7.2 Standard maintenance

Standard maintenance, are all those operations that are carried out every day by the authorised personnel, such as cleaning of the machine general inspection of the machine to make sure the machine is in good and safe working order.

Operators qualification
The standard maintenance of the machine can be carried out once the authorized personnel has studied and understood this part of the manual.

Cleaning
When carrying out cleaning of the machine, make sure the main electrical power supply to the machine has been switched off, this is done by removing the main plug from the wall sprocket.

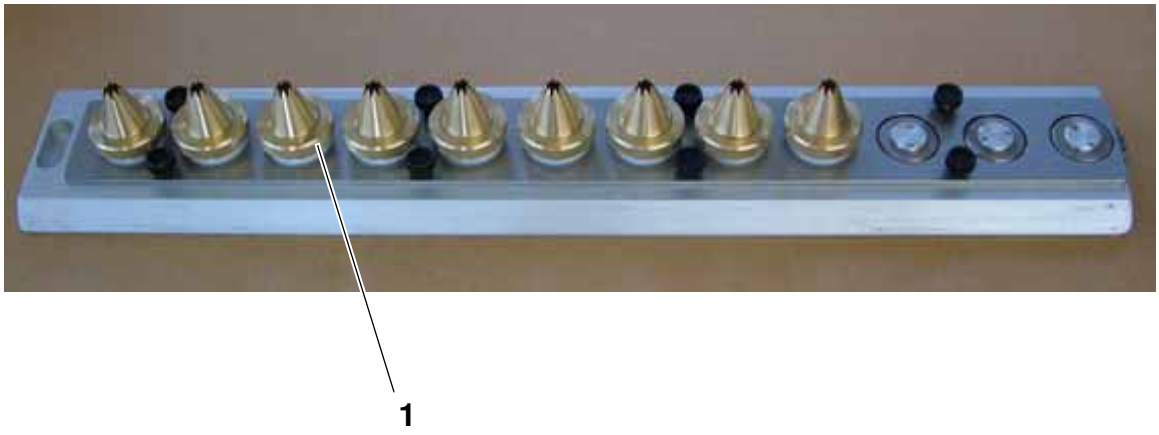
For the efficient functioning of the machine we recommend that the machine is cleaned daily, in particular:

- **The machine must be cleaned after each working shift.**
- **The cleaning is to maintain the delicate parts in good working order and to easily visualise parts that are loosened or worn due to the daily wear and tear or due to abnormal faults.**

NOTE **Do not spray water directly onto the control panel, electrical cabinet or conveyor belt assembly during the washing down of the machine.**

Cleaning of the nozzle plate

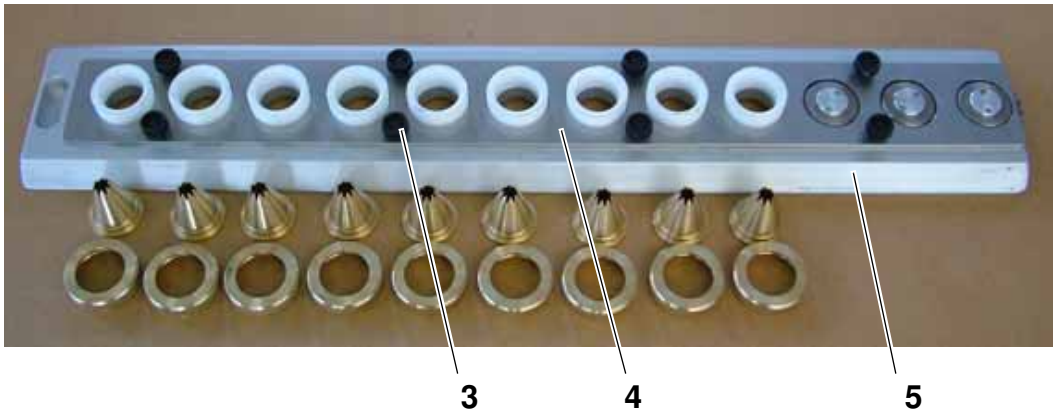
Fig. 7.1 Dismantling of the rotary nozzle plate



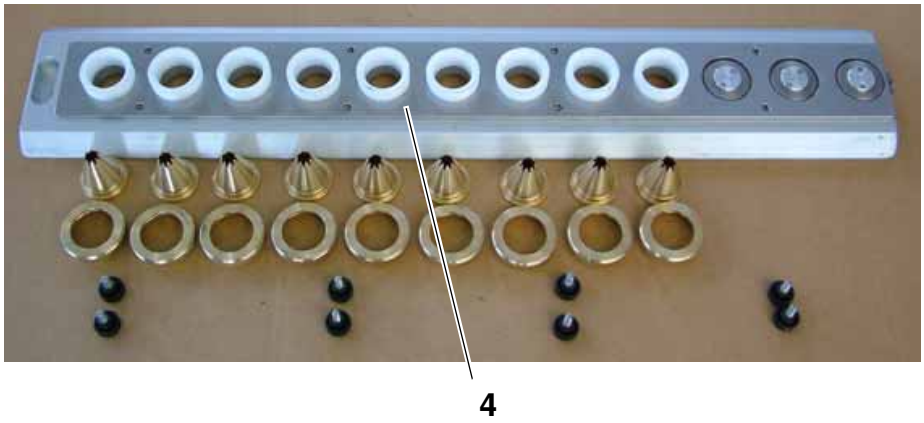
Dismantling stages of the plate and its cleaning

1. Unscrew the nozzle fastening nuts (1)..

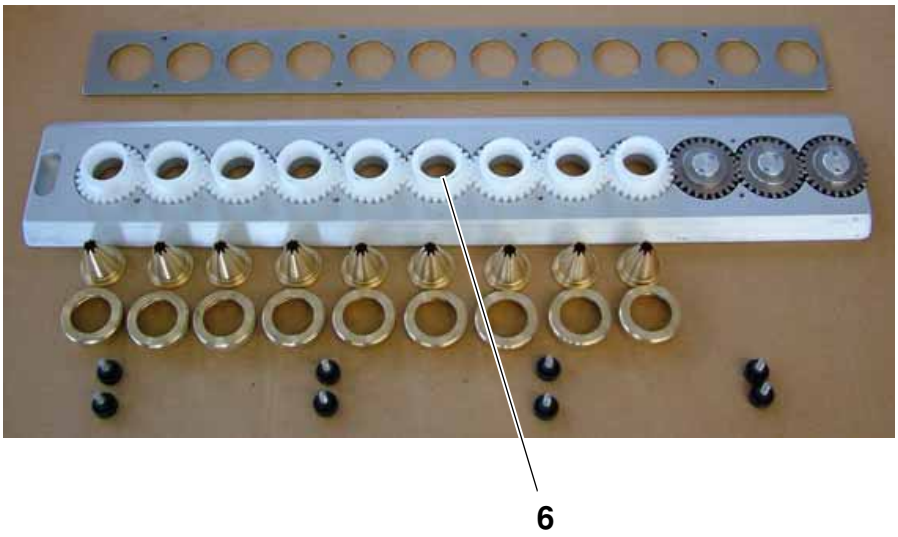
2. Extract the brass nozzles upwards (2)..



3. Remove the 8 screws(3) which lock the cover(4) and the plate body togetherto the nozzles(5)..



4. Extract the coverwith an upward movement(4)..



5. Remove the white Delrin gears and wash them with care at a temperature not higher than 40°C..

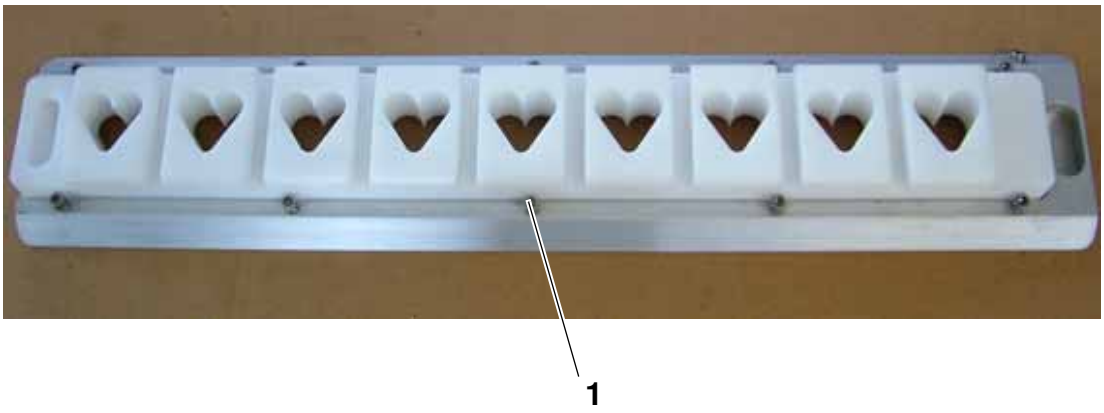
6. After having completely dismantled the plate, clean it and then reassemble the whole by following the same procedure in the opposite order.

ATTENTION **Once dismantled do not wash the bronze gears in water as they are fitted with ball bearings**

ATTENTION **After each working shift it is important to wash and clean the rotary nozzle plate in order to ensure a easy and efficient movement of the mechanical gears, and consequently the correct functioning of the machine.**

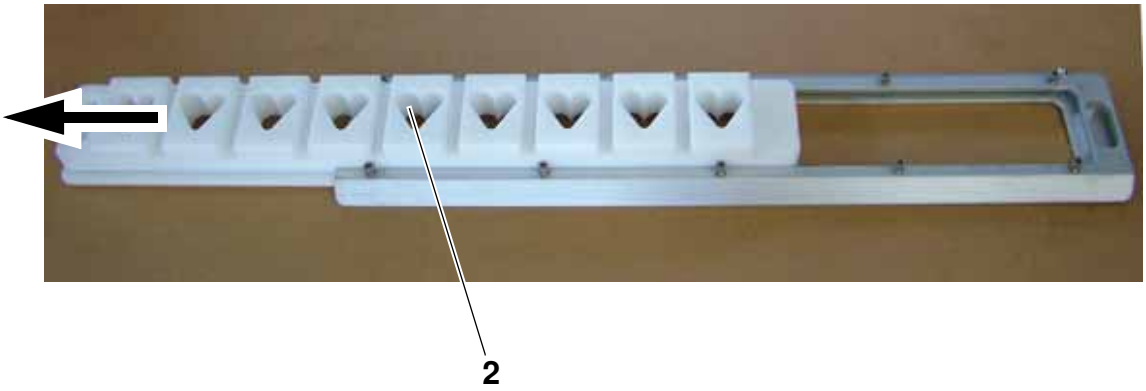
Cleaning of the wire cut plate

Fig. 7.2 Dismantling of the plate



Dismantling stages of the plate and its cleaning

1. Unscrew the nozzle fastening nuts (1).



2. Extract towards the Delrin template (2).

3. After having completely dismantled the plate, clean it and then reassemble the whole by following the same procedure in the opposite order.

7.3 Cleaning method

ATTENTION **Avoid the use of solvents that can damage synthetic materials. Do not use petrol, naphtha, nitre-perchlorate diluent and trichloroethylene in particular..**

Parts that need to be cleaned	Instruments & detergents and method
Stainless steel	Use water and detergent, pass over with cloth and dry immediately after
Control panel	Clean with a dry and soft cloth
Electrical parts	Use a vacuum-cleaner to remove dirt and dust

Cleaning frequency

Frequency	Parts to clean
Daily	Extruding rollers
Daily	Extruding mould, rotary nozzle plate or wire cut mould ext
Weekly	Control panel
Daily	Conveyor belt assembly

7.4 Programmed maintenance

Standard maintenance, are all those operations that are carried out by specialised and authorised personnel. Periodical inspections, foreseen interventions and maintenance that are to be carried out under maximum safety conditions.

Operators qualification

The foreseen maintenance operations can be carried out only in maximum safety conditions and by specialised and authorised personnel, trained, qualified the authorised personnel that have read and fully understood this manual and this specific section.

Lubrication

The following lubricants are to be used on this machine :

- **Grease type lubricants :**
  - Manual with grease pump
  - Manual with brush

Periodical adjustments and check ups

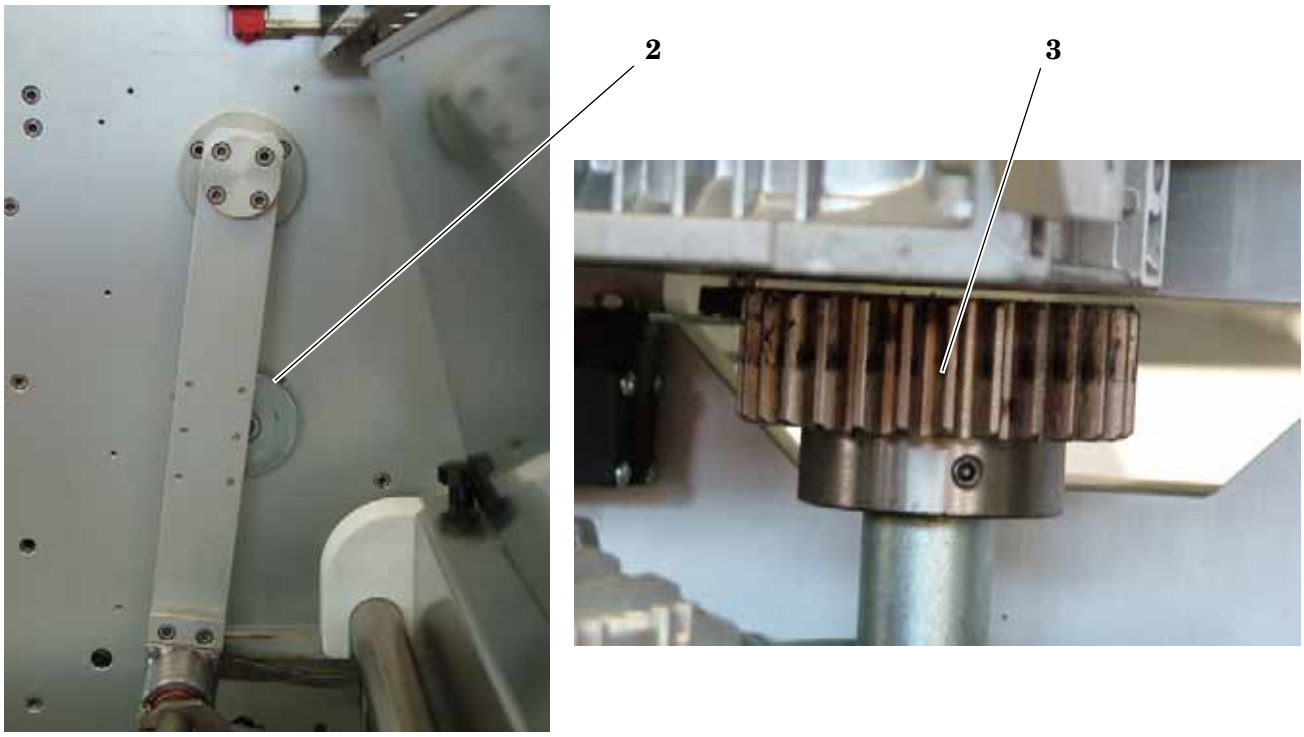
Parts and their names that need periodical checking	**Safety control frequency**	**Procedure**
Interlocking devices (micro-switches)	Every 40 hours	Check the efficient functioning
Emergency stop button	Every 40 hours	Check the efficient functioning

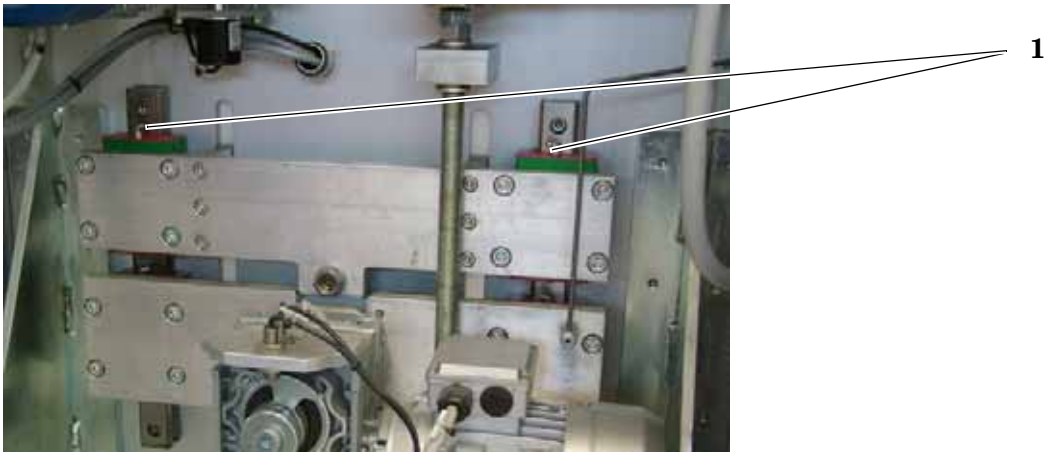
Periodical adjustments and check ups

Frequency	**Parts to lubricate and grease**
Monthly	Conveyor belt supporting rods
Monthly	Motors
Monthly	Electrical parts
Monthly	Body and steel coverings
Monthly	Air filter

Intervention frequency

Parts and their names that need periodical checking	**Safety control frequency**	**Procedure**
Conveyor belt supporting rods (3)	every 300 hours	grease
Wire cut cams (2)	every 300 hours	grease
Nozzle motion gear (3)	every 300 hours	grease

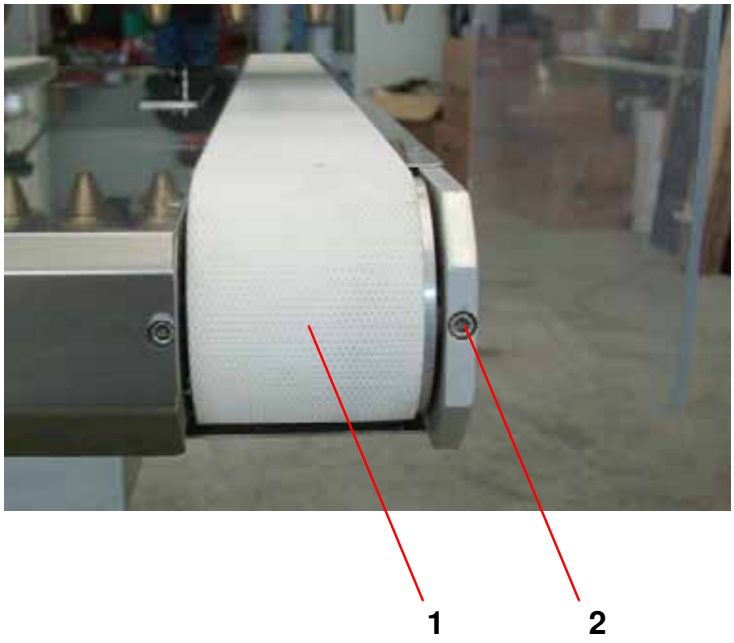




7.5 Dismantling of the conveyor belts

On the conveyor table assembly there are parts that are subject to wear and tear due to elevated working hours and stress:

- **The belts (1)**



- **The toothed belt that transmits motion to the belts (2)**

NOTE **The belts can be dismantled in order to be able replace them in case they wear out. To do this loosen the screws (2) this will cause the aluminum roller to loosen the tension on the belt, and consequently the belt will be able to be removed by pulling it sideways. The screws (2) are also used to tension and centre the belt on the rollers.**

7.6 Scrapping and disposing of the machine

ATTENTION **The materials used for building the machine are non-biodegradable. Dispose of its components through a specialised centre.**

Once the machine has reached the end of its technical life, the machine must be dismantled and scrapped in order for it not to be used any more in any way.

It must however be made possible to use or recycle the material used to construct it.

NOTE **The Manufacturer does not assume any responsibility for accidents or injury to persons or property due to the use of single parts of the machine in other circumstances or on machines that the parts are not intended for when originally designed.**

Procedure

DANGER **The scrapping and dismantling of the machine must be carried out by authorised personnel specialised and trained for this specific work.**

1. Switch off the machine
2. Remove both the electrical and pneumatic supply to the machine:
   a. Electrical supply; Remove the wires that supply electricity by removing the wires on the main terminal paying attention that the wires are no longer live.
3. Dismantle the following parts:
   a. Electrical and electronic parts
   b. Non metal parts and components

DANGER **Electrical and electronic parts are to be thrown away according to the local laws and regulations.**

4. In case the machine is moved, make reference to the procedure described in the relevant section of this manual.

NOTE **The main body of the machine is constructed in aluminium structure and stainless steel coverings.**
The guardings are in shock-resistant plexiglass.
The guarding over the hopper is in stainless steel
The parts in contact with the dough are in stainless steel and aluminium anti cordal.
The belts in synthetic rubber.
The electrical components are in plastic.

NOTE **After dismantling the parts must be separated one from each other and eliminated accordingly and by authorised structures.**

Residual risks after dismantling of the machine

If the dismantling procedure described in this manual are strictly followed, there is no risk of residual parts after the dismantling operations.

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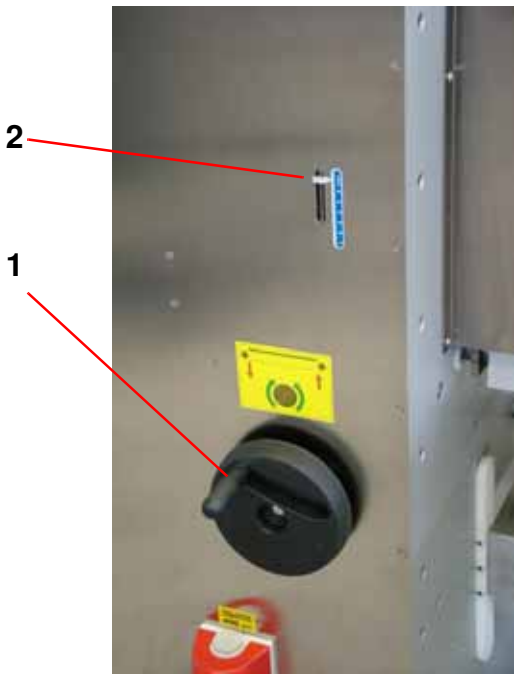
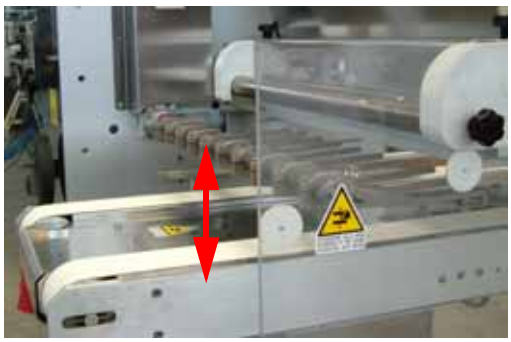
Chapter 8 Adjusting the height of the dough extrusion table

ATTENTION **To carry out all the adjustments inside the machine only after having disconnected the machine from both electric and pneumatic supply.**

8.1 Height adjustment

Fig. 8.1 Adjustment handwheel





Use the handwheel (1) to adjust the height between the extrusion table and the product outfeed point.

1. Turn the handwheel clockwise or anticlockwise to raise or lower the height accordingly.
   Use the reference indicator (2) to check the height of the table.

NOTE **Determining the correct height of the extrusion table is fundamental be it for the wire cut processing -to avoid any displacements of the biscuits on the tray- or for the nozzle processing -to grant regular shape to the biscuits-.**

NOTE **For cut wire processing, it is recommended to set the table to its top height.**

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Chapter 20 Attached list of documents

Document 1 EC Conformity declaration

Document 2 Electrical diagram

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