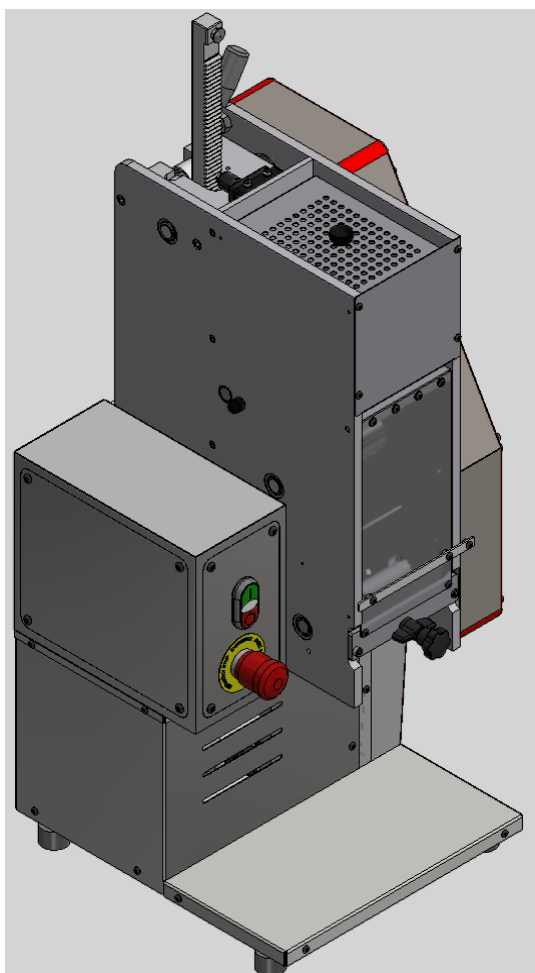


TRANSLATION OF
“ISTRUZIONI ORIGINALI”



IMPERIA & MONFERRINA S.p.A.

Automatic Gnocchi Machine G2 LM42026



User and maintenance manual

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REVISIONS

REVISIONS				
MODEL	LANGUAGE	DATA	VERSION	NOTE
G2	English	09/14	00	FIRST RELEASE
G2	English	06/18	01	FIRST REVISION

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In the case of doubts or difficulty in understanding or interpreting the handbook, the original/official version indicated by "**ISTRUZIONI ORIGINALI**" on the cover, is to be considered the valid version.

We have checked with care and attention that the contents of this documentation correspond to the system in question. However, since possible differences cannot be excluded, we cannot guarantee a perfect consistency. The contents of this documentation are periodically verified and any corrections or modifications will be included in the subsequent editions.

Some of the pictures included in this handbook must be considered as an example, therefore they may not refer to the machining centre herein described.

HANDBOOK STRUCTURE

The manual is divided into 8 chapters.

CHAPTER 1 – GENERAL INFORMATION

This chapter contains general descriptions regarding the handbook structure.

CHAPTER 2 – SAFETY

This chapter contains a description regarding the standards, working environment conditions, ergonomics, accident prevention devices used, residual risks, warning plates applied to the machining centre.

CHAPTER 3 – GENERAL DESCRIPTION

This chapter contains the description of the functioning principles, general technical data and description of mechanical, electrical and fluidic units of the machining centre.

CHAPTER 4 – INSTALLATION

This chapter contains the instructions for the correct installation in the user plant, the connections to the plant power mains, the checks and controls and any adjustments to be made before start-up.

CHAPTER 5 – USE

This chapter, addressed to the machining centre operators and maintenance technicians, contains the instructions for use of the system with the different operating cycles, and describes the controls available for the operator, the more important operating sequences and how to use the diagnostics systems.

CHAPTER 6 – MAINTENANCE

This chapter, addressed to the maintenance technicians contains the system maintenance schedule. It contains the warnings, precautions and instructions to correctly carry out the maintenance operations on the machine

CHAPTER 7 – SPARE PARTS

CHAPTER 8 – WIRING DIAGRAM

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1. GENERAL INFORMATION

1.1 INTRODUCTION



NOTE

IMPERIA & MONFERRINA S.P.A. the machining centre manufacturing company, is indicated in the handbook with the name: **Manufacturer**.



NOTE

The Company purchasing the machining centre, is indicated in the handbook with the name: **Customer**.

The Manufacturer recommends a training course for the persons assigned to the running of the machining centre to assure perfect familiarity and knowledge of the procedures.

This manual contains the features, performances, instructions for use and the references to the preventive and remedial operations of the machining centre.

The Manufacturer insists that this document is read by the persons assigned to the running and maintenance of the machining service, as well as by the persons who carry out the transport and assembly.

This document is the instructions handbook for the:

AUTOMATIC GNOCCHI MACHINE “G2”

and has been drawn up in compliance with Directive 2006/42/EC.

The Use and Maintenance Handbook is to be considered an integral part of the system, and is to be kept until final dismantling. It is to be kept by the person in charge of the machining service after the final installation.

1.2 GLOSSARY

Control circuit (of a machine): circuit used to control the machine operation and to protect the power circuits.

Component: part of the electrical equipment, usually specified by its function, but used in various applications.

Machines Directive: DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL concerning the harmonising of the laws of Member States related to machinery.

Device: unit of an electrical system that transmits but does not use electric power

Control device: device inserted in a control circuit and used to control machine functioning (e.g. position sensors, manual control switches, relays, electromagnetically controlled valves).

Bill of Materials: list of components that are part of mechanical units, fluidic or electrical system, indicated with the quantity, code and name of supplier.

Supplier: body (for example, manufacturer, installation dealer, systems integrator) that supplies the equipment or services associated to the machine (the user can also act as manufacturer for himself).

Machine: a group of parts or components, at least one of which is moving, connected together and possibly with drives, with control and power circuits, etc., integrally connected for a precise application, indicated for conversion, treatment, movement and conditioning of a material.

Interchangeable equipment that changes the function of a machine, procured on the market to be mounted by the operator onto a machine or a series of different machines or on a tractor, within the limits in which this equipment is not a spare part or a tool (Chapter I - Article 1 Directive 2006/42/CE).

Marking: symbol and wording to identify the machine, applied by the manufacturer. (Chapter III - Article 10 Directive 2006/42/EC).

Safe operating procedure: a working method that reduces risks.

Obstacle: an element intended to prevent direct accidental contact, but that does not impede a direct intentional contact (Item 3.38 of European Standard EN 60204-1).

Operator: person qualified to install, run, adjust, clean and carry out maintenance on the machine. (Annex I - 1.1.1 Directive 2006/42/CE).

Danger/Hazard: Potential source of damage. (Item 3.6 of the European Standard EN ISO 12100).

Exposed person: person who is entirely or partially in a hazardous zone.

Safe operating procedure: a working method that reduces risks.

Safety protections: guard or protection device used as a safety measure to protect the persons against hazards that are present or potential.

Protections (protection criteria): means of protection that uses measures to protect persons against hazards that cannot be rationally eliminated, against risks that cannot be sufficiently reduced by protection measures integrated in the design. (Item 3.20 of European Standard EN ISO 12100).

Reference person: person responsible for certain operations or assessments that could arise during operation or maintenance.

Risk: combination of probabilities that a damage occurs and the severity of that damage. (Item 3.12 of Standard EN ISO 12100).

Transport: operations involved to transfer the machine from the manufacturer's assembly site to the final workplace of the Customer.

Incorrect use: machine use out of the limits specified in the technical documentation.

User: those who use the machine and associated electrical equipment.



NOTE

The terminology has been taken from the European Standards listed in chapter 2 "SAFETY".

1.3 SYMBOLS

Some symbols are used in the handbook to call the attention of the reader and to highlight certain aspects which are especially important.

SYMBOL	MEANING	NOTES
	DANGER	Indicates a hazard with accident risk, even death, for the user. Pay very careful attention to the texts indicated by this symbol.
	WARNING	A warning of possible deterioration or damage to the machining centre, equipment or personal belongings of the user. Pay attention to the texts indicated by this symbol.
	CAUTION NOTE	A warning or note regarding key functions or useful information. Pay attention to the texts indicated by this symbol.
	ADDITIONAL INFORMATION	Texts that contain additional information are indicated by this symbol. This information does not relate directly to the description of an operation or to the development of a procedure. It may give reference to other supplementary documentation or to other sections of the handbook.

1.4 ADDRESS OF MANUFACTURER

For any type of information or clarification regarding the use, maintenance, installation etc, the Manufacturer Technical Office is always available for requests from the Customer.

Please state your requests in clear terms, with reference to this handbook, and always indicating the data of the system identification plate.

Requests for interventions, technical assistance in the Customer's works, or explanations regarding technical aspects of this document, are to be addressed to:

IMPERIA & MONFERRINA S.p.A.

Via Statale, 27/A - 14033 – Castell'Alfero (AT) - Italia

Tel: 0039.0141.27.60.11

www.imperiamonferrina.com

1.5 SAFETY STANDARDS

The specifications, indications, standards and related safety notes described in the various chapters of the handbook have the purpose of defining a series of actions and obligations to be observed when carrying out the different activities that form the modes of use foreseen for the machining centre, so as to operate under safe conditions for the workers, the equipment and the surrounding environment. The safety rules included are directed to all the persons authorised, instructed and assigned to carry out the operations regarding:

- Transport
- Installation
- Functioning
- Use
- Management
- Maintenance
- Cleaning
- Putting Out Of Service And Dismantling

1.6 RESPONSIBILITIES OF THE MANUFACTURER

The Manufacturer shall not be held in any way liable for incidents caused by incorrect or improper use of the machining centre, or for any damage caused by the use of spare parts that are not those specified, by maintenance operations not carried out correctly and/or by tampering on system circuits, components and software.

The responsibility to ensure the application of the safety precautions is that of the technician in charge of the activities to be carried out on the system. The Customer is to ensure that the operators authorised to carry out the required activities are qualified, that they observe and are fully aware of the provisions contained in this document and the general safety standards applied to the system.

Non-observance of safety standards can cause injuries to the personnel and damage to the equipment.

1.7 MACHINE MANAGEMENT

The machining centre management is only permitted to the authorised operators who have been appropriately instructed, or who have sufficient technical experience.

The operators assigned to the running and maintenance of the system are to be aware that the knowledge and application of safety standards is an integral part of their job.

Operators not authorised to work on the machining centre are not to have access to the operating area and/or the control panels.

Never remove, even partially safety protections and devices installed to safeguard the persons in the system hazardous zones.

The same rule is applied to the warning plates.

Safety protection and devices are to be kept in perfect working order, to ensure correct functioning. In the case of malfunctioning or failure on these devices, they are to be immediately repaired or replaced.

1.8 WARRANTY

The manufacturer guarantees, for a period of 12 months from the date of purchase, all parts excluding those subject to normal wear.

The warranty shall no longer be valid if the machine has been repaired by unauthorised third parties or if fixtures, accessories are used that have not been supplied by the manufacturer or have not been recommended or approved by the same, or if the serial number is altered or removed during the warranty period.

The warranty starts from the date of purchase, indicated on the official document at the time of the machine delivery by the dealer.

The manufacturer undertakes to repair or replace free of charge those parts that within the warranty period are found to have manufacturing defects. The warranty does not cover any cleaning of functioning components.

Defects that cannot be clearly attributed to the material or the manufacture shall be examined by the Technical Assistance Centre in the works of the manufacturer.

If the claim should result unjustified, all the costs for the repair and/or replacement shall be debited to the purchaser.

The warranty certificate and the official document shall be assigned to the technical staff that carry out the repair, or who have to accompany the shipped machine for the repair.

The warranty shall not be extended following technical intervention on the machine. The repair shall be carried out by the Technical Assistance Centre in the works of the manufacturer, and is to arrive in free port (with transport costs covered by the user, unless otherwise agreed).

In any case the following are excluded from the warranty: accidental damage caused by transport, neglect or inadequate treatment, from improper use that does not conform with the warnings indicated in the instructions handbook, and in any case factors that do not arise from normal functioning or use of the machine.

The manufacturer shall not be held in any way liable for any damage to persons or materials caused by wrong or incorrect use of the machine.

1.9 HINTS AND RECIPES FOR PRODUCTION OF “GNOCCHI” (POTATO DUMPLINGS)

Gnocchi are made with a dough consisting mainly of fine ground flour (“00”) and potatoes or by-products such as potato four, potato flakes, ready-mixes, etc., as we shall see further on.

Other ingredients used in the mixture are: water, eggs (on average 1 egg per Kg. of product), salt, seasoning, vegetables such as pumpkin, nettles, spinach or other to obtain coloured and flavoured gnocchi. When vegetables are used, these have to be well squeezed to eliminate excess water, if necessary the moisture can be corrected by adding a little flour.

Some recipes follow for gnocchi made with potatoes, potato flakes and ready mixtures respectively.

However, each recipe can be changed according to taste and/or the experience of the user.

Potato dumplings:

Boil the potatoes with peel the day before, drain them and peel them while hot, leave them to cool and dry (if this is not possible, place them in a hot oven for 20 minutes).

Sieve them or use a mincer, incorporate 300/400 gr of flour for each Kg of potatoes, an egg, salt, other seasonings (for example nutmeg) and mix well for 2-3 minutes.

If the mixture is too wet, add a minimum dose of potato flakes or ready-mix for potato dumplings.

Potatoes Kg 2 – potato flakes Kg. 0.5 – flour Kg 0.5

Potatoes Kg 2 – flour Kg 0.4 – ready-mix for potato dumplings Kg 0.4

Potatoes Kg 2 – ready-mix for potato dumplings Kg 0.6

Gnocchi with potato flakes:

Ingredients: 2.5 Kg flour, 1.5 Kg potato flakes, 100 gr salt, 5 litres water - separate: 2.5 litres water, 1 Kg potato flakes, 10 eggs.

Procedure: bring the salted water to the boil, add 2.5 Kg of flour and 1.5 Kg of potato flakes and mix for a maximum of 3 minutes while cooling.

Add 1.5 Kg of potato flakes already mixed with 2.5 litres of cold water and 10 eggs. Mix to obtain a smooth paste.

Gnocchi with commercially prepared ready-mix:

Mix the doses of product and water indicated in the instructions taking care to use hot water at 80 – 90°C.

Some products may be mixed with cold water; see manufacturer's instructions.

Always remember that the flour unit has to be fed with sieved rice flour or fine ground flour. Other types of flour are not suitable.

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2. SAFETY

2.1 GENERAL INFORMATION

The Customer shall instruct the personnel regarding accident risks, safety devices installed on the machining centre and the general rules concerning accident prevention specified by the EU Directives and the laws of the country where the machining centre is installed.

The operators are to know the position and functioning of all the system controls and the relevant characteristics. Furthermore they are to have read and fully understood the contents of this handbook.

Maintenance operations are to be carried out by qualified operators and only after setting the system in maintenance status.

Unauthorized tampering or replacement of one or more system components, use of accessories that change the use of the same and the use of spare parts that are different to those recommended could cause accident risks.



DANGER

It is strictly forbidden to cut out/tamper with the safety devices on the machining centre.

The Manufacturer declines any responsibility concerning the machining centre safety if this prohibition is ignored.

2.2 DIRECTIVES APPLIED

The following directives are applied to the machine described in this handbook:

- **2006/42/EC** Machines Directive
- **2014/30/UE** Electromagnetic compatibility Directive
- **2014/35/UE** Low voltage Directive
- **2002/95/CE** Directive concerning the use of certain harmful products in electrical or electronic equipment
- **Regulation (EC) n. 1935/2004** concerning materials and items that shall come into contact with foodstuff products.

2.2.1 Harmonised technical standards

The machine has been designed and tested in conformity with the “essential health and safety requirements” of annex 1 of European directive 2006/42/EC.

The standards used as reference for the design, realisation and inspection of the machine are listed in the technical folder archived and kept by the manufacturer.

2.2.2 Machining centre Certification

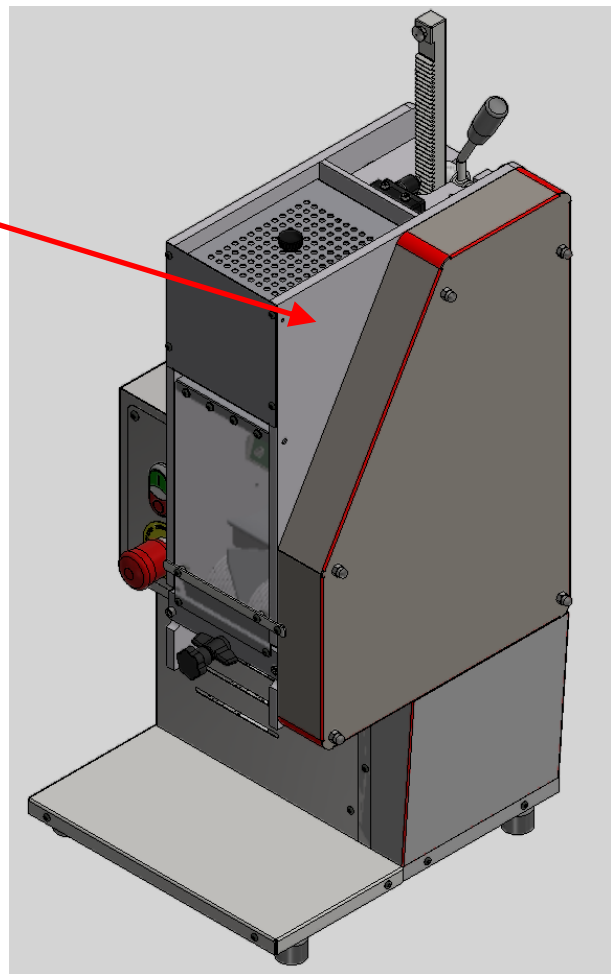
The system is supplied with the **EC** Declaration of Conformity to the essential safety requirements as per Machines Directive 2006/42/EC (annex II A), the Low Voltage Directive 2014/35/UE and the Electromagnetic Compatibility Directive 2014/30/EC.



NOTE

Any modification made to the Machining centre will immediately annul the **EC** certification issued by the Manufacturer.

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Via Vittime di Piazza Fontana 48 - 10024 Moncalieri (TO) ITALY					
Tel. +39 0141 27.60.11					
MODEL					
S/N					
YEAR	KW	VOLT	PHASE	Hz	Kg



2.2.3 Foreseen and Unforeseen Uses

This automatic machine was designed, build and fitted with safety devices for the production of gnocchi using potato flakes and various types of flour.

Any application other than that specified is considered IMPROPER.

The machine is in any case aimed at professional, industrial applications.

2.3 ENVIRONMENTAL WORKING CONDITIONS

To permit the best possible environment conditions, it is necessary that the Customer organizes the machining centre and related systems in the workshop in a manner that provides good ventilation.

The machining centre is to be installed in an environment equipped with all the safety precautions required by the laws in force in the user country.

The environment temperature range is to be between 20°C and 40°C and with relative humidity ranging between 40% and 50%.

2.3.1 Explosive Atmospheres

The machining centre has not been designed and constructed to operate in explosive, or partially explosive atmospheres.



DANGER

In the case of fire, always immediately cut out the power from the main switch of the main electric cabinet.

It is not sufficient to use the emergency pushbuttons, because these do not cut-out the main power of the cabinets/panels.

2.3.2 Lighting

The machine is not fitted with an autonomous lighting system.

2.3.3 Vibrations

The machining centre does not produce vibrations that are hazardous for the persons operating on it.



WARNING

Excessive vibration can only be caused by a mechanical failure, that is to be immediately notified and removed, to avoid jeopardising the safety of the machining centre and those who operate on it.

2.3.4 Noise

The noise has been measured in accordance with the requirements of acoustic standard EN ISO 11200 and related standards.

The typical phonometrical data is kept by the Manufacturer.

The machining centre operating characteristics are such that, in a dry run, overall noise generated is less than 75 dB (A), measured in the operator workstations.



NOTE

The sound pressure level under actual working conditions will depend on the characteristics, programming of the specific processes and the materials used.



NOTE

Measurement of the noise level to which the operators are exposed is to be carried out by the user, in accordance with the requirements of the laws in force in the relevant country.

2.3.5 Electromagnetic Emissions

The machining centre contains electronic components subject to the Electromagnetic Compatibility standards, subjected to conducted and radiated emissions.

The emission values are kept in compliance with the standard by means of components installed in accordance with the Electromagnetic Compatibility directive, appropriate connections and the installation of filters where necessary.

Therefore the machining centre is in conformity with the Electromagnetic Compatibility Directive (EMC).



WARNING

Any maintenance activities on electrical equipment carried out in a manner that does not conform, or wrong replacement of components, could jeopardise the efficiency of the equipment.

2.4 SAFETY DEVICES APPLIED ON THE SYSTEM

The machining centre is equipped with safety devices/solutions:

Type of device/solution	Function
Main switch	To cut-out machine electric power
Fixed protections	Enclosure of machine hazardous zones
Emergency stop	Emergency stop of entire system, or part of the same.
Personal protection devices	Protections for the operator when carrying out the jobs



ADDITIONAL INFORMATION

For information regarding the safety devices installed on the machine, see the specific handbooks.

2.4.1 Energy Cut-out

Function: To cut-out power supplies of the machining centre.

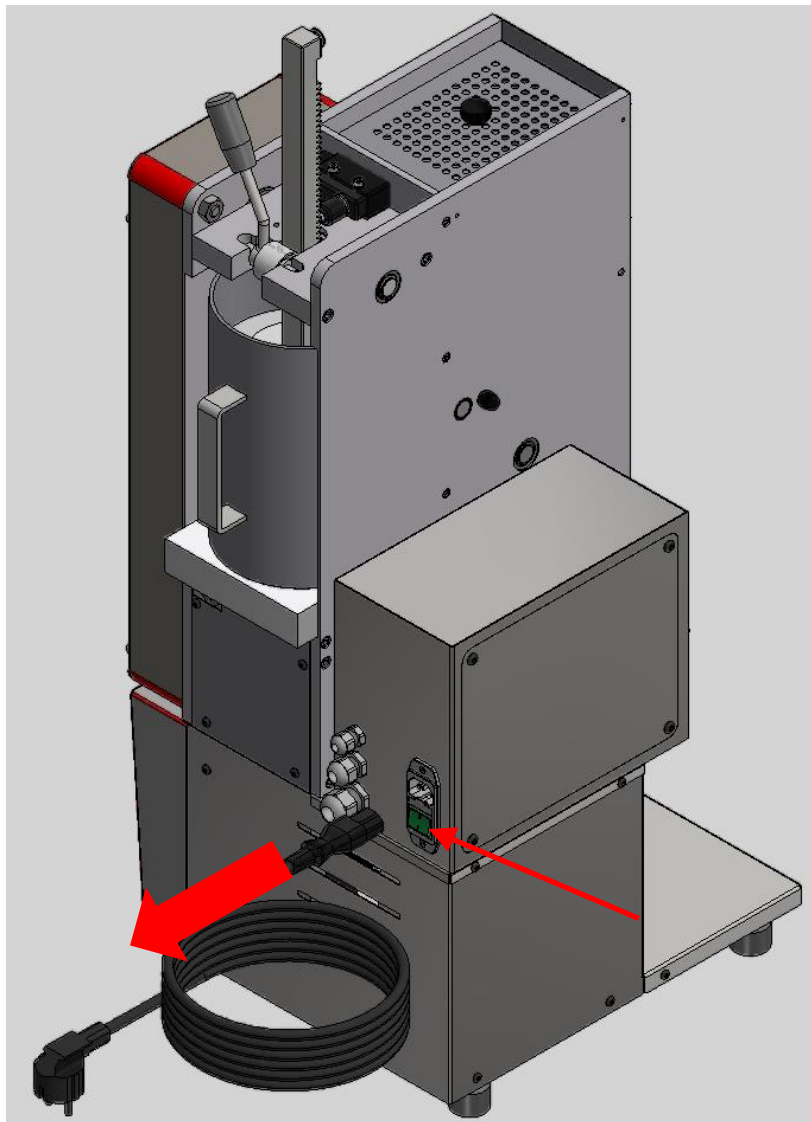
Characteristics and method: Before starting any type of maintenance job on the system, or part of the same, cut-out the power supplies and discharge any accumulated energy.

Cut-out the machine electrical supply acting on the main switch and disconnecting the power supply cable.

WARNING



For maintenance work, it is not sufficient to press the emergency pushbuttons to cut out the machine power supplies.



2.4.2 Fixed protections

Function: To segregate hazardous zone of the machining centre

Characteristics and method: The purpose of the fixed protections is to prevent access to machine component movements during the operating cycle.

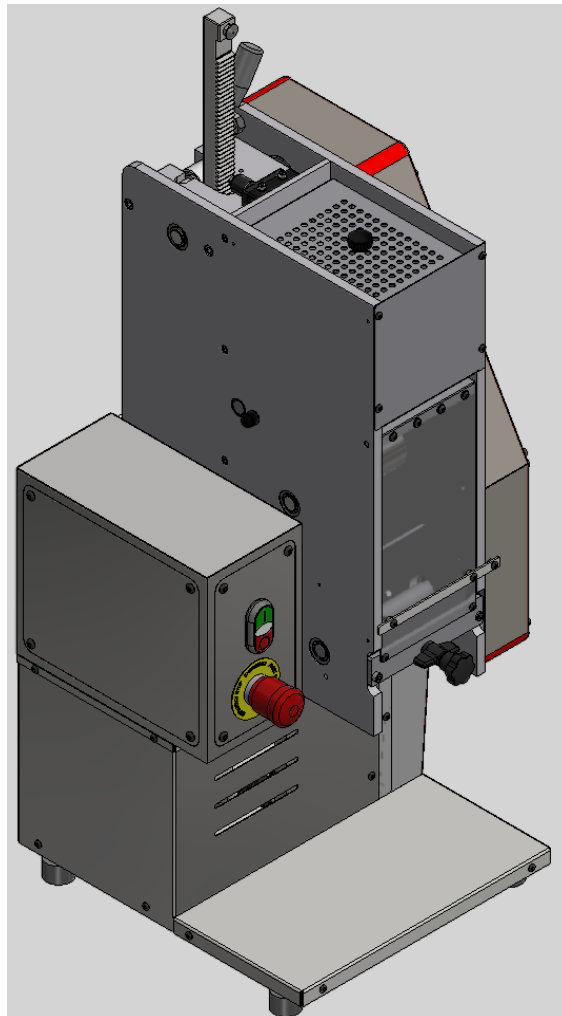
The guards (casings) that cover/protect moving parts are in Plexiglas firmly secured to the structure with screws that require a special tool to remove them.

The fixed protections and casings are not controlled and the removal is exclusively subordinated to maintenance operations with the machine power supplies deactivated.

WARNING



The Manufacturer shall not be held liable if the system is put into function with guards that are incomplete, open and/or not installed.



2.4.3 Emergency Stop

Function: Emergency stop by pressing the red head emergency push-button on the machining centre, following a hazard risk for the safety of the operators and/or the system.

Characteristics and method: All motion of the system is stopped.

Pressing this push-button deactivates all movements, due to cut-out of power of all the machine actuators.

If pressed, the emergency push-button remains in low position. To reset, turn the control emergency push-button clockwise.

WARNING

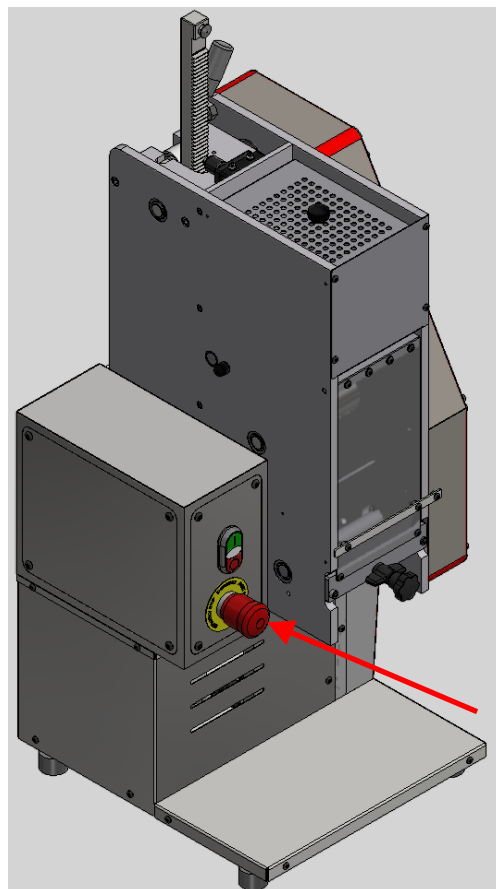


For maintenance work, it is not sufficient to press the emergency push-buttons to cut out the machine power supplies.

WARNING



Check the emergency push-buttons periodically to ensure correct functioning.



2.4.4 Personal protection Devices

Function: To protect the operator when working.

Characteristics and method: The persons operating on the machine are to use personal protection devices to cut the possibility of risks to a minimum.



DANGER

Clothing of those who operate or carry out maintenance on the system, is to conform to the essential safety requirements and the laws in force in the country where the machine is installed.



WARNING

During handling and maintenance operations, the workers are to wear appropriate work clothes to avoid accidents.

To avoid mechanical risks, such as dragging, entrapment or other, never wear bracelets, wristwatches, rings or chains during the work cycle and maintenance operations.

2.5 RESIDUAL RISKS

2.5.1 General information

During the design, all the zones or parts with risks have been assessed, and as a consequence all the necessary precautions have been taken to avoid risks to persons and damage to system components.

In order to assure the health and safety of exposed persons, at a general level the system is fitted with fixed protections, casings to cover moving parts. Furthermore the operators running the machinery are to use the specific personal protection devices.



NOTE

Periodically check the functioning of all safety devices.

Do not remove the fixed protections installed on the system.

Do not introduce unnecessary objects and tools in the system working area.

2.5.2 Residual Risks

After carefully considering all possible system risks, all the necessary solutions have been applied to eliminate the risks and limit hazards for the exposed persons. However, although the system is fitted with these safety systems, some risks remain that can be eliminated or reduced by taking the relevant precautions.



WARNING

As a precautionary measure for safety, periodically check correct functioning of safety devices and the documentation supplied by the manufacturer.



WARNING

It is strictly forbidden to make any type of mechanical, electrical or fluidic modification, to avoid creating additional hazards and risks that have not been foreseen.

A list follows of the machine residual risks.

Serious injury risk



DANGER

Never start the machine with fixed and/or mobile guards removed, or not correctly assembled with the specific screws or with guard closed safety device by-passed by tampering.

Never start the machine with safety guards open and safety.

Jamming and machine stop risks



DANGER

Never leave rags, wrenches, tools, screws used for a maintenance job inside the machine.

Before starting the cycle, always carefully check and if necessary remove any foreign objects found inside.

2.5.3 Plates Installed on Machine

The Manufacturer has installed several hazard warning and obligatory plates on the machining centre, in accordance with standards regarding the graphic symbols to be used on systems (Directive 92/58/EC).

Maintenance shall immediately replace any plates that, due to wear, become illegible.

These plates are located in positions well in sight.



WARNING

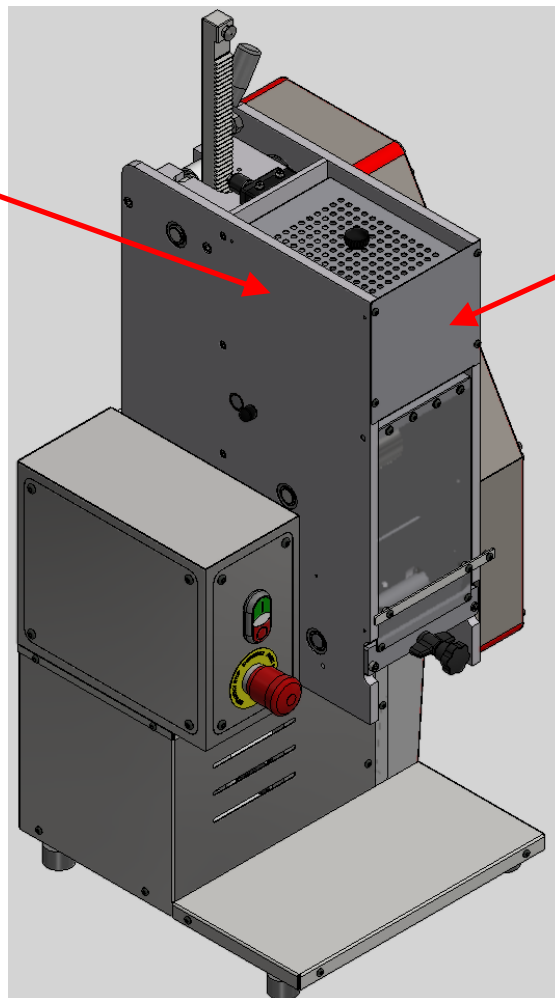
It is strictly forbidden to remove the warning plates affixed on the machining centre.

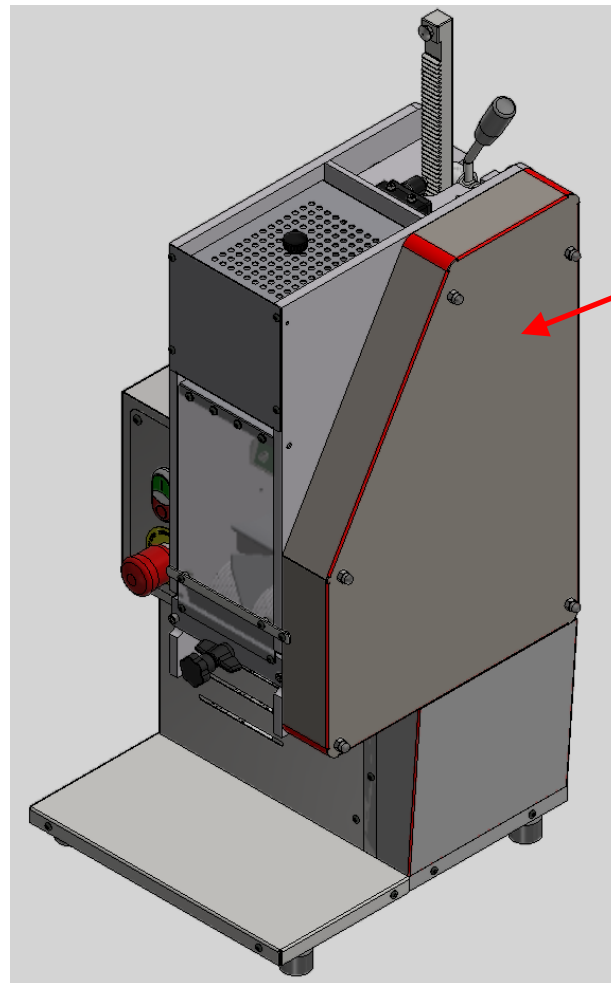
The Manufacturer shall not be held in any way responsible for the machining centre safety if this prohibition is ignored.



ADDITIONAL INFORMATION

For further information regarding the warning plates installed on incorporated machine parts, see the specific handbooks





ATTENZIONE
NON PULIRE LA MACCHINA IN MOVIMENTO

WARNING
DO NOT CLEAN WHEN MACHINE IS SWITCHED ON

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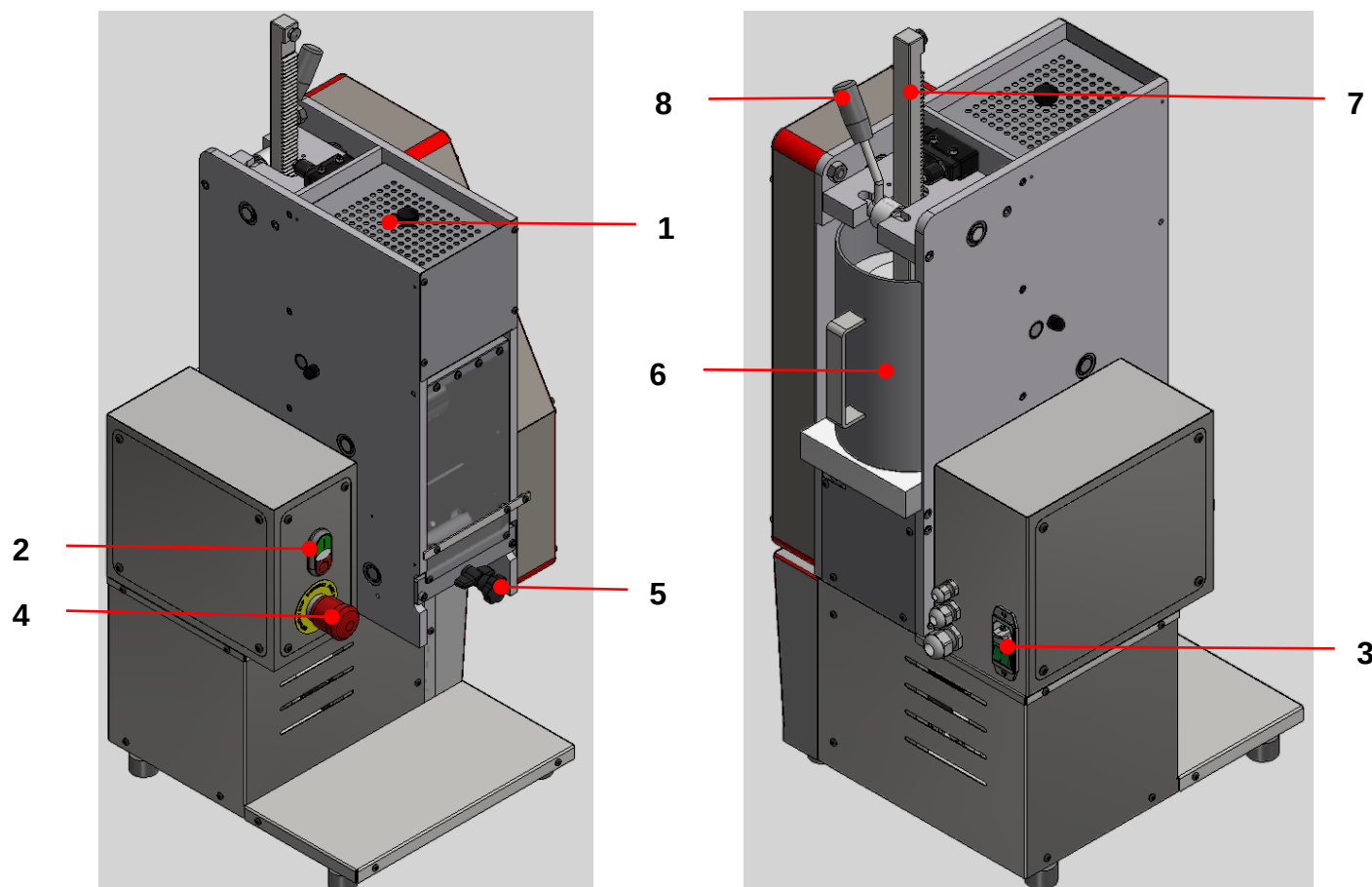
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3. GENERAL DESCRIPTION

The Monferrina G2 was designed to produce gnocchi using a piston type feed system. The device presses and extrudes the dough without affecting the texture and is therefore perfect for producing extremely soft gnocchi.

3.1 MACHINE MAIN COMPONENTS



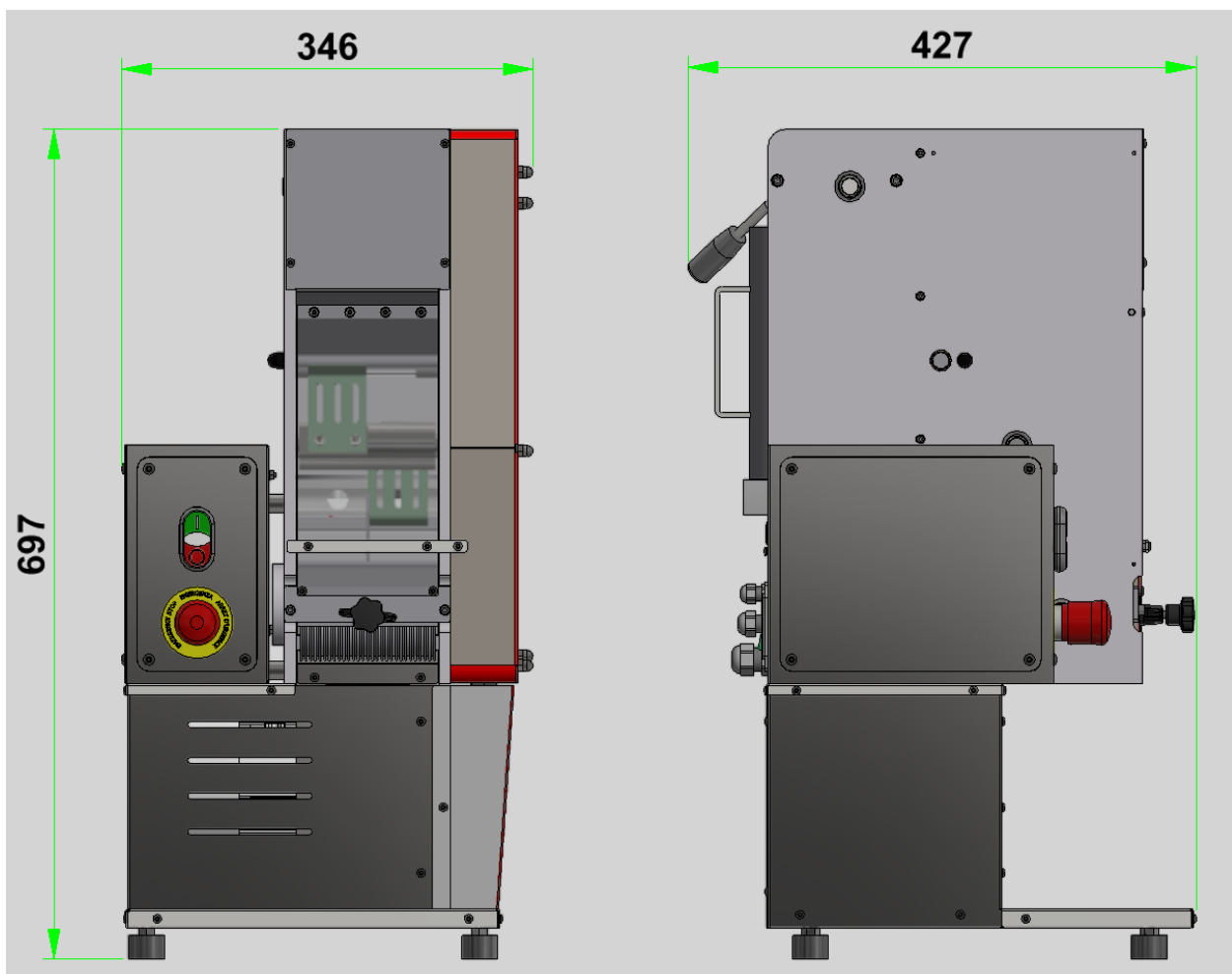
Legend:

- | | |
|---|-------------------------|
| 1 | Door to flour tank |
| 2 | Start button/stop |
| 3 | Main switch |
| 4 | Emergency button |
| 5 | Scoring adjustment knob |
| 6 | Dough container |
| 7 | Rack |
| 8 | Rack locking pawl |

3.2 TECHNICAL SPECIFICATIONS

The following table contains the machine technical data.

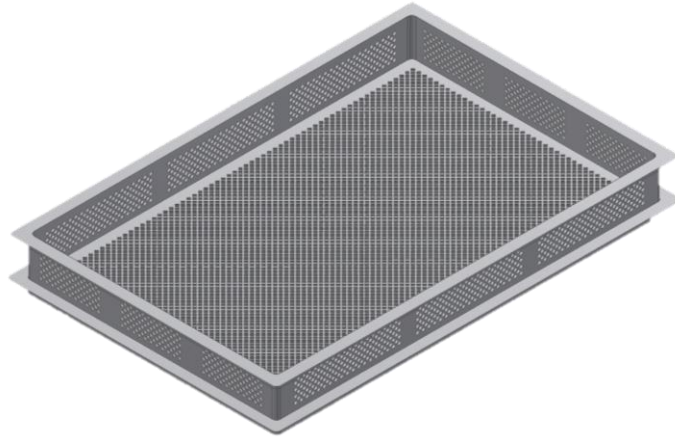
General	
Gnocchi production	50 Kg/h
Motor capacity	0.65 kW
Weight	44.5 Kg.



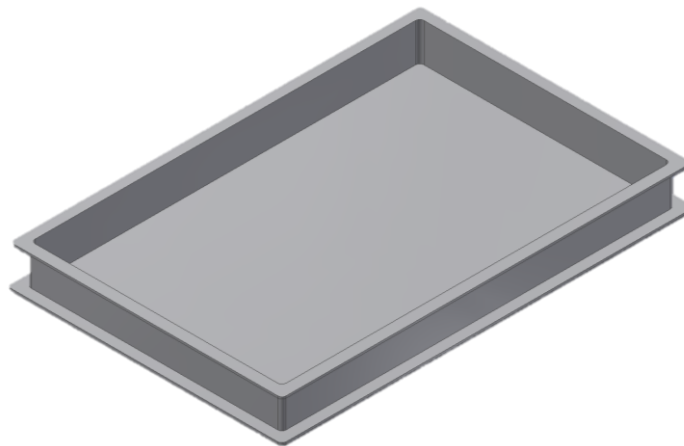
3.3 ACCESSORIES SUPPLIED

The following accessories are part of the supply:

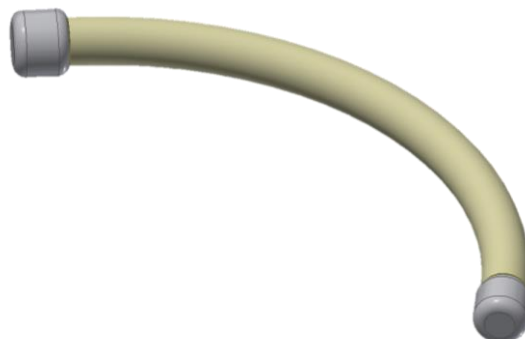
- Perforated sieve



- Closed sieve



- Tool to clean dough container holes



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4. GENERAL

Before installation of the system:

- Remove the protective packaging;
- Remove any fastening restrictions used for transport.

4.1 INSTALLATION

4.1.1 Positioning



WARNING

Before starting the positioning, carefully visually inspect the machine to identify any damage caused during transport.

In the case where one or more components show signs of damage, it is essential to halt the installation, inform the manufacturer about the fault discovered and agree on a plan for corrective action with him.

If it is properly blocked on the two wheels in a stable manner while operating, the machine will function within the anticipated technical parameters.

Position the machine on a perfectly level board.

Instructions for the proper slinging and lifting of the machine are supplied directly from the manufacturer to those persons authorised to carry out such operations.

When cleaning, the persons assigned to these operations are to be equipped with the necessary personal protection devices.

4.1.2 Installation



CAUTION

Check that the main switch is in "0" position

The power installed and the machine power supply voltage are indicated on the plate affixed on the machine

Imperia & Monferrina S.p.A.					
Via Vittime di Piazza Fontana 48 - 10024 Moncalieri (TO) ITALY					
Tel. +39 0141 27.60.11					
MODEL					
S/N					
YEAR	KW	VOLT	PHASE	Hz	Kg
		↑			



Connect the power supply cable to the machine and to the mains electrical socket.

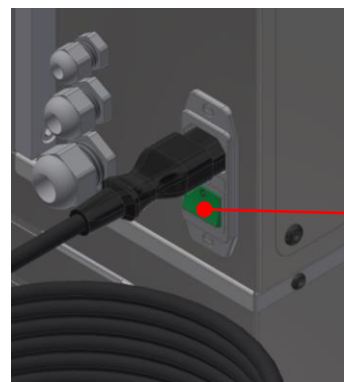


WARNING



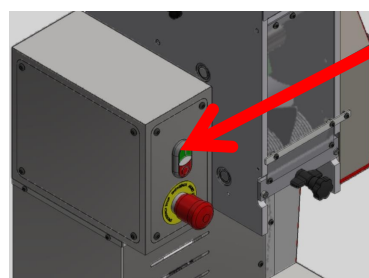
Before starting the machine, make sure that the voltage indicated on the identity plate is that supplied by the mains.

Power the machine, moving the main switch "3" to position "1"

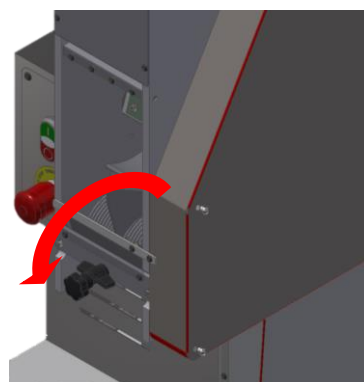


3

Press the machine green Run button 2.



Check that the scoring roller turns in the direction indicated by the arrow in the figure.



4.2 REMOVAL AND DISPOSAL OF PACKAGING

The machine packing consists of:

- Wooden box: usually deal-poplar, recyclable material.
- Protective sack: sack in recyclable aluminium.
- Expanding film: expanding polyethylene film. recyclable (LLDPE).
- "Bubble" film: polyethylene film or recyclable material.
- Cardboard: cardboard with air bubbles, recyclable.
- Polystyrene : non recyclable material



WARNING

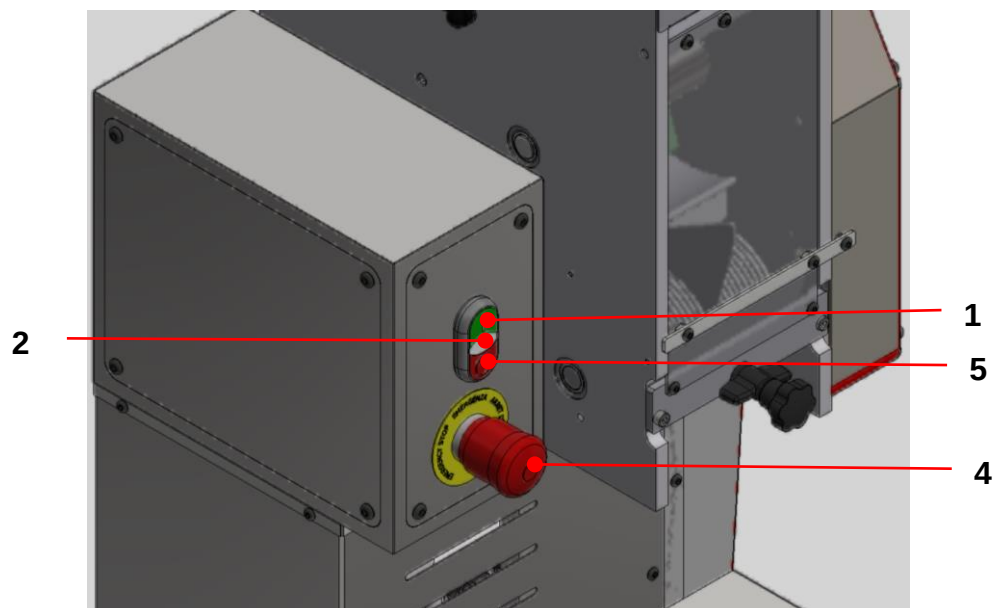
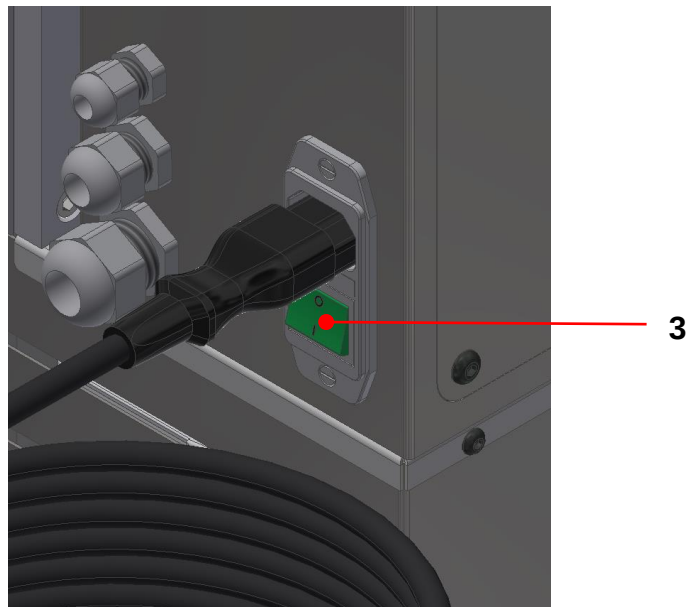
All packaging materials are to be disposed of in accordance with the standards in force regarding waste disposal and separated collection.

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5. USE

5.1 DESCRIPTION OF THE CONTROLS

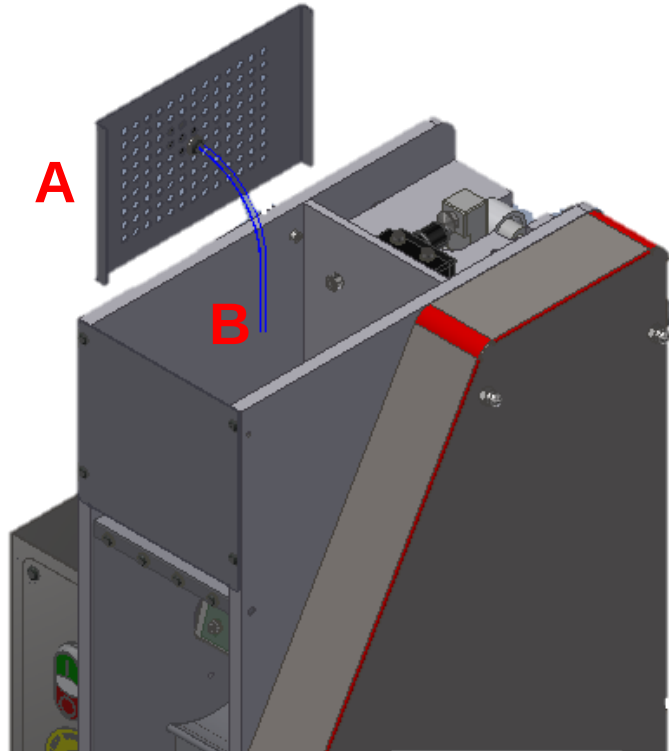


Legend:

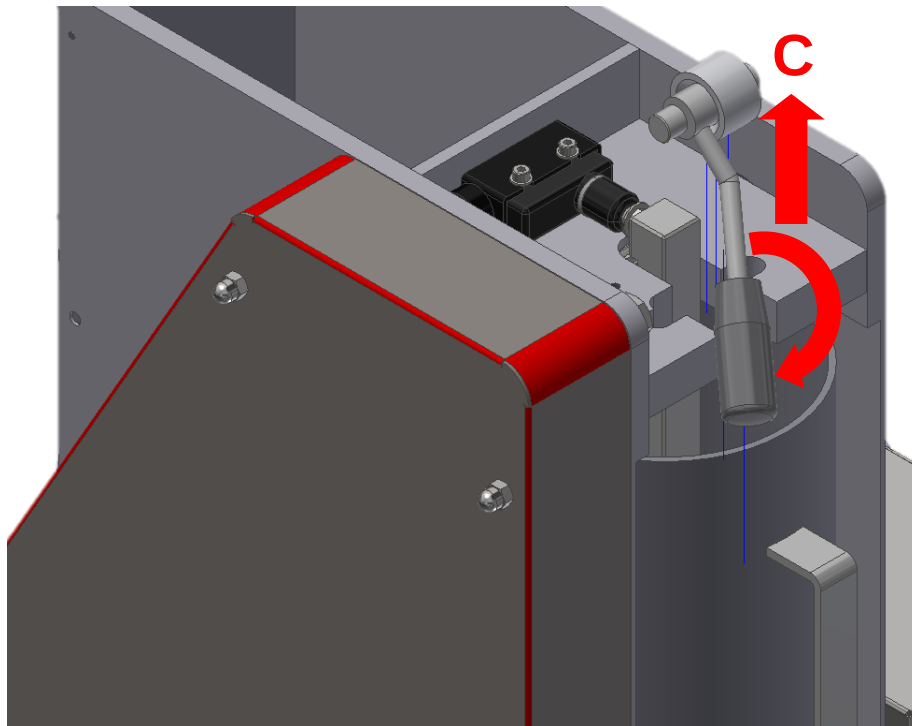
- | | |
|---|------------------------|
| 1 | Green Run button |
| 2 | Power on warning light |
| 3 | Main switch |
| 4 | EMERGENCY button |
| 5 | Red Stop button |

5.2 PRODUCTION OF GNOCCHI

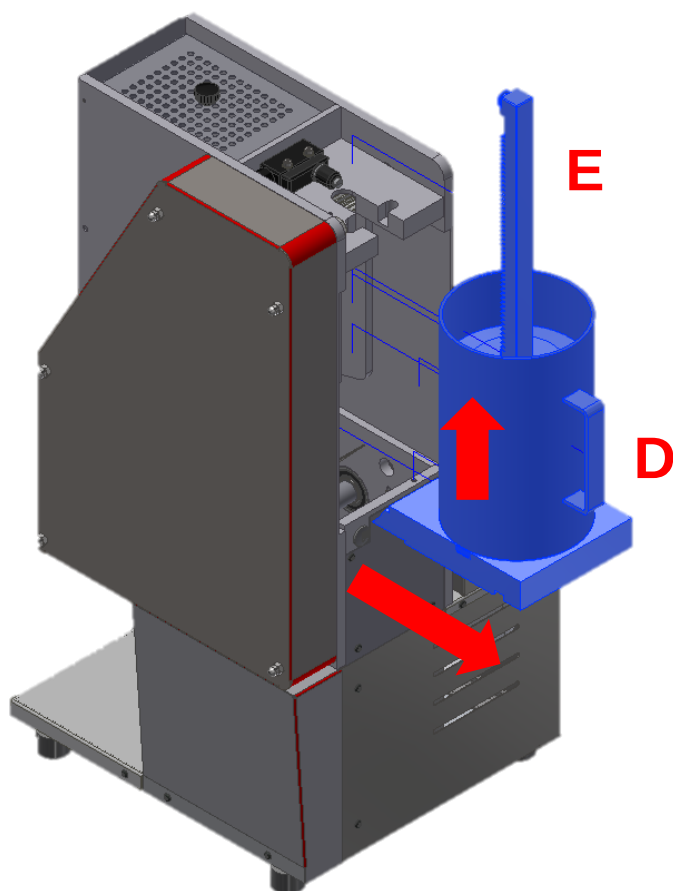
- Remove the cover (A) and fill the tank (B) with sifted rice flour as shown in the diagram.



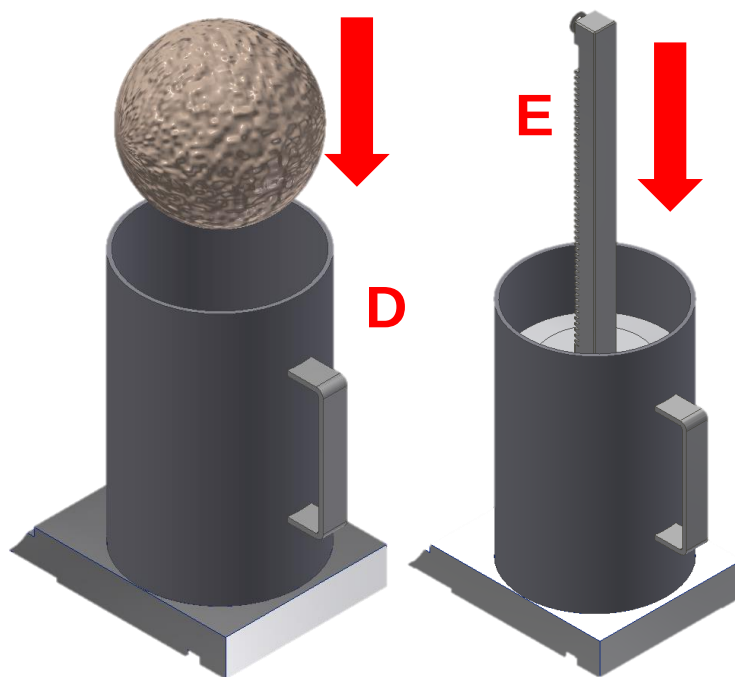
- Remove the ratchet from the rack (C), turning the handle and withdrawing it upwards.



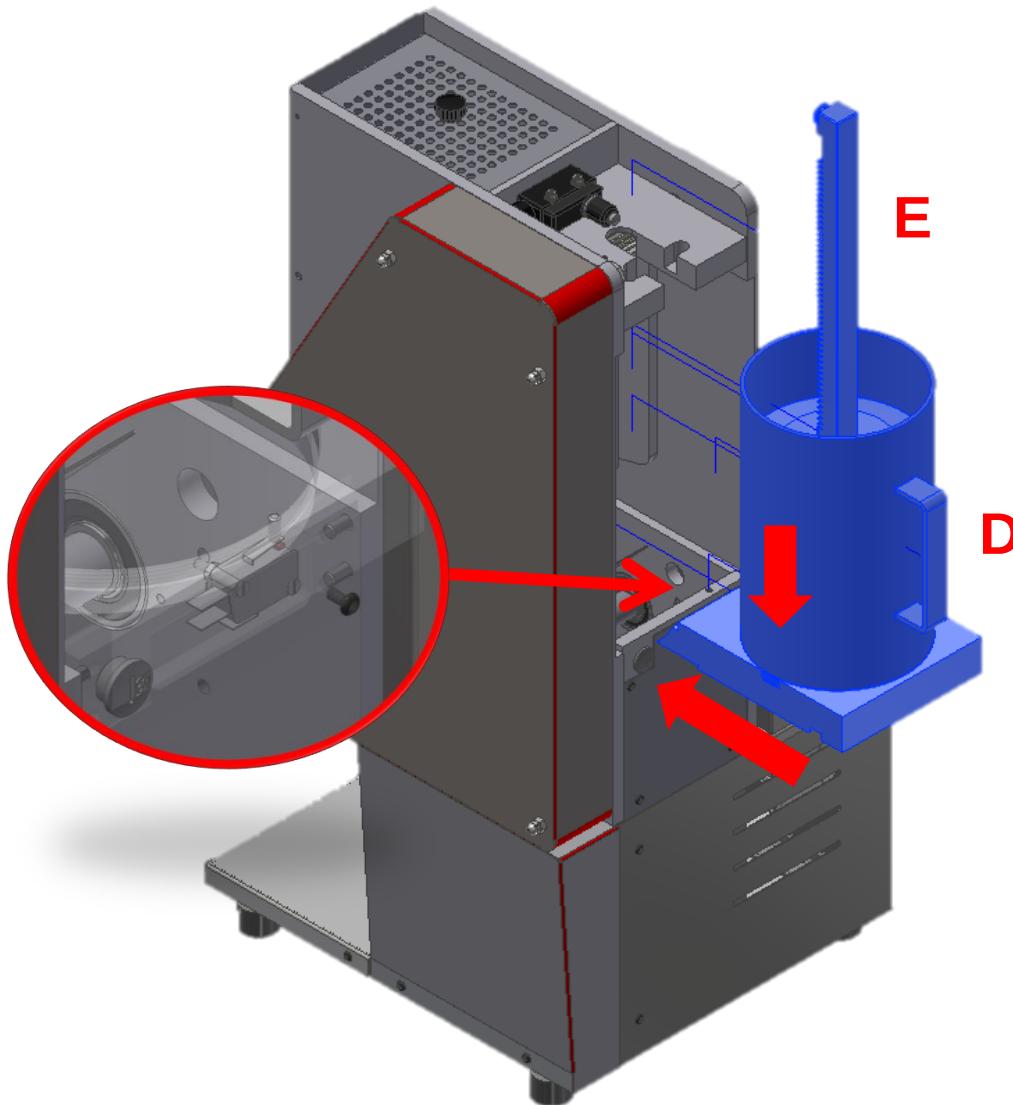
- Release the container (D) from its housing by lifting it up slightly and remove along with the rack (E).



- Fill the container with the dough, rolling it into balls to insert it and remove as much air as possible from inside, insert the rack pressing it down firmly to compress



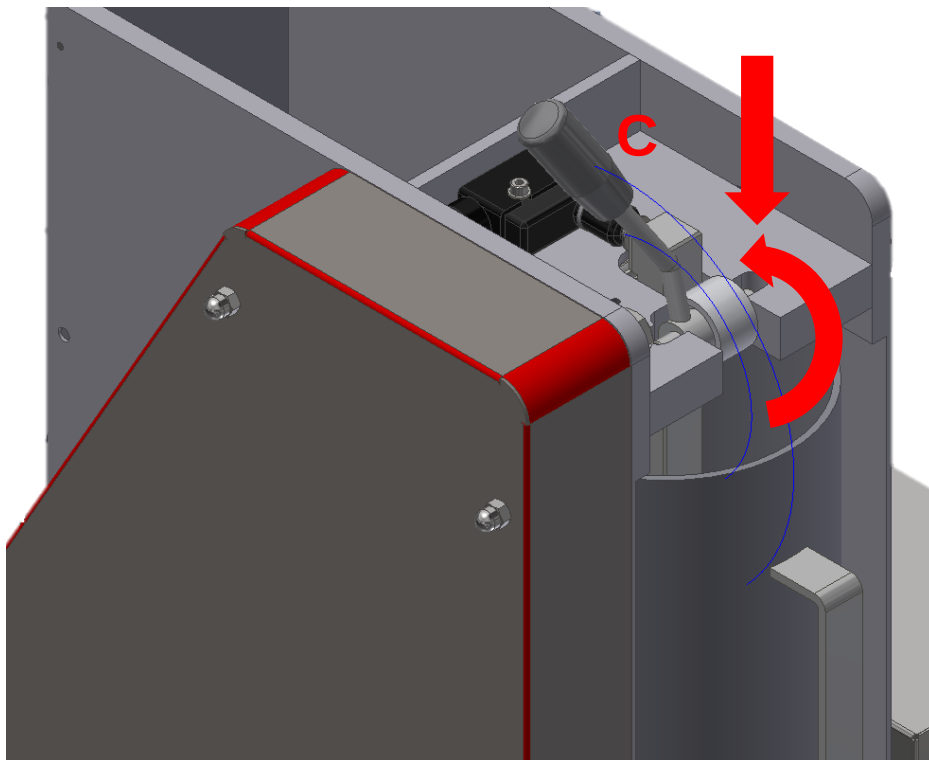
- Insert the container (D) and rack into the machine; ensure that the rack (E) is positioned correctly in the housing, thereby switching in the microswitch which controls safe operation.



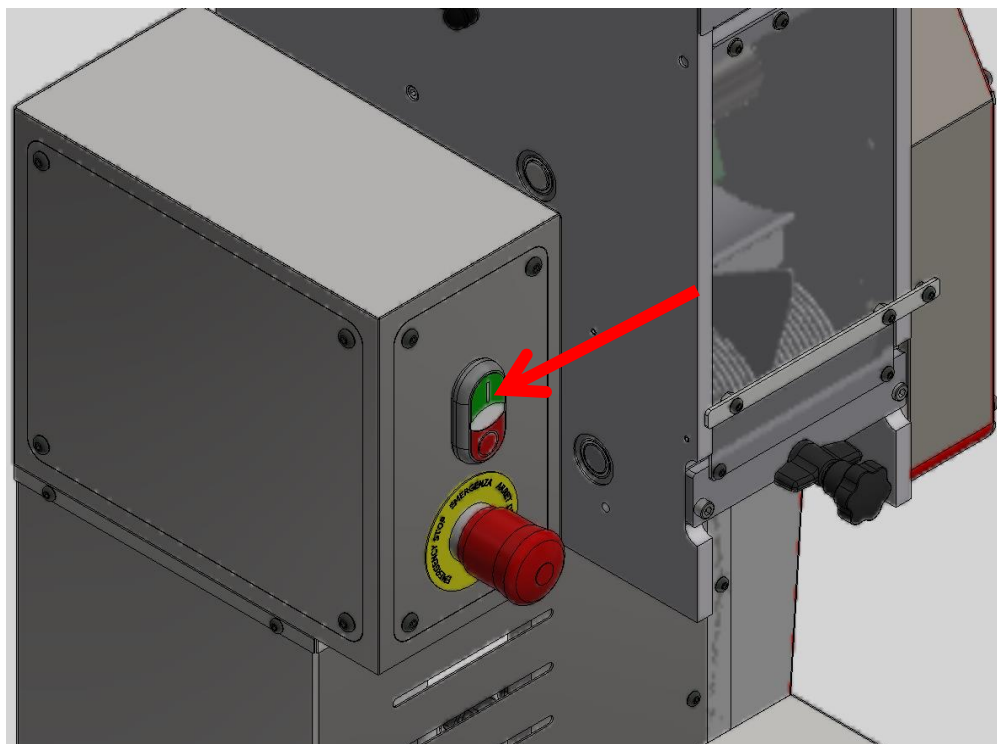
WARNING

The rack should be positioned towards the inside of the unit.

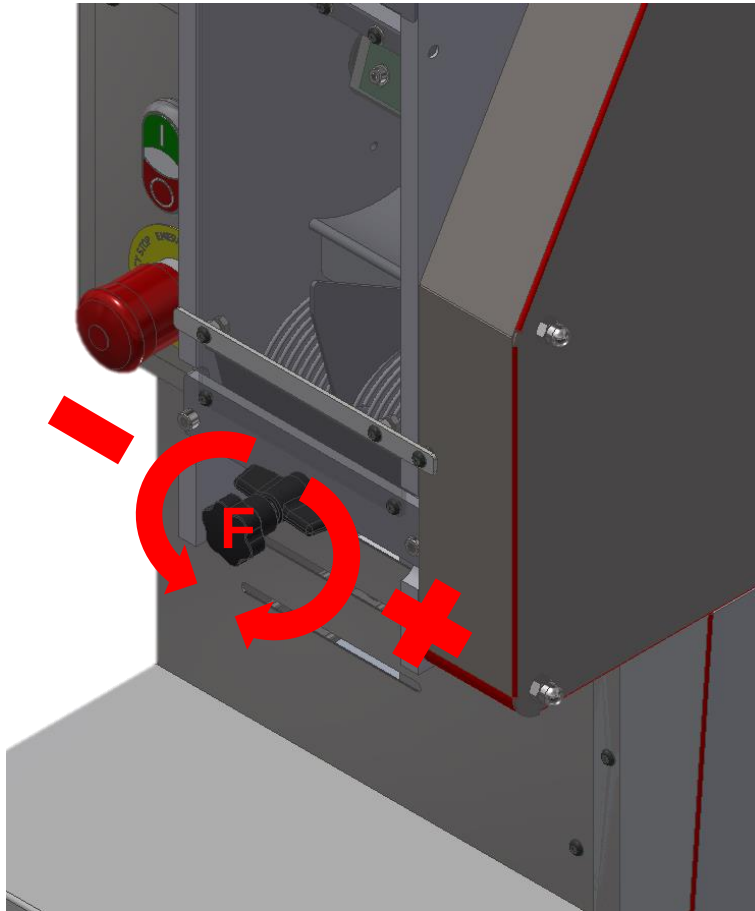
- Replace the ratchet (C) on the rack.



- Press the green Run button 1.



- Use the knob (F) shown in the diagram to adjust the lines scored on the gnocchi. Turning clockwise increases the scoring, turning anticlockwise the scoring is less.



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6. MAINTENANCE

6.1 GENERAL SAFETY PRECAUTIONS

Operations concerning maintenance, troubleshooting and repairs are only to be carried out by the authorised persons.

The persons who run and carry out maintenance on the system are to be well trained and have in-depth knowledge of accident-prevention rules; unauthorised persons are to remain outside the work area during operations.

The accident-prevention precautions contained in this section are to be scrupulously followed when running and carrying out maintenance on the system to avoid damage to persons and to the equipment.

These precautions will also be found in the handbook with further details, in WARNING and DANGER notes where there is a procedure required having a risk of damage or injury:



DANGER notes precede an operation that, if not performed correctly, could cause an accident. These notes, to be borne in mind during maintenance operations, indicate a hazard with risk of serious injuries for the person.



WARNING notes precede an operation that, if not performed correctly, could cause damage to the equipment.

These notes, to be borne in mind during maintenance operations, are warnings of possible deterioration or damage to the machining centre components or equipment or personal belongings of the user.

6.1.1 General Hazard Notes

- High voltages can cause death upon contact. Always work with maximum caution and in accordance with the accident prevention rules in force in the country.
- When the system is running there are moving parts that can cause serious damage to persons. For this reason cleaning and special maintenance operations that require removal or replacement of components on the machining centre or control units, are to be carried out with the system off and with no pressure in the systems:
 - Main switches are to be in OFF position (OPEN) and locked with a safety padlock that prevents being turned to On position;
- Place specific SYSTEM BEING SERVICED - DO NOT POWER ON warning signs on the main switches and air reduction and filtering unit.
- Do not use inflammable or toxic solvents.
- Always wear goggles and protective gloves when carrying out maintenance operations on the equipment.
- Make sure tools to be used are in perfect condition and with isolating grips, where required. Check that insulation of cables and conductors of testing equipment have no signs of breakage or damage.
- Long overloads or failures can cause overheating of electric motors and electrical equipment generating harmful fumes; cut out the power supply immediately and do not approach the equipment until the fumes have been dispersed with adequate ventilation. Do not inhale the fumes remaining inside the equipment during the repair jobs.
- In the case of fire, never spray water on the equipment. Cut out all power supplies and use CO2 extinguishers.
- Avoid prolonged, excessive or repeated contact of the skin with lubrication products and change clothes immediately if they become impregnated, because lubricants are very harmful for the skin.

6.1.2 General Warnings

- System maximum reliability and minimum maintenance costs are the result of a maintenance and inspection schedule planned and scrupulously followed during the entire system life. Scrupulously observe the maintenance time scales set and time operations according to specific requirements related to the machining centre production cycle.
- If operations of a certain consistency are necessary, it is advised to contact the Manufacturer for any clarifications regarding the project or technical assistance.
- Before starting checking and maintenance operations, remove dirt from the system.
- Always use perfectly dry air for cleaning, with a pressure that does not exceed 0.2 MPa.
- Always use tools in perfect working order and specifically for the operation to be carried out; use of inappropriate and/or inefficient equipment can cause serious damage.
- Repair operations are to be carried out in clean environments, and where possible without dust. Protect all connection gaps with plastic plugs and carefully cover machined surfaces of dismantled parts, until they are refitted on the machining centre.
- During disassembly, mark the individual parts with an identification plate, to make sure that they are assembled correctly later.
- After every maintenance operation that requires disconnection of wiring and/or fixed and mobile parts, check the consistency of the number/plate on fixed and mobile part.
- Before restarting the equipment after a failure, inspect the parts carefully and check for any signs of damage.
- Never act, unless there has been a failure, on adjustments and positions of microswitches; tampering with them can cause serious damage to the machining centre.

6.2 QUALIFICATION OF MAINTENANCE TECHNICIANS



WARNING

The safety warden shall make sure that all the persons operating on the machining centre have received all the instructions that concern them, contained in this handbook, including the initial installation and start-up operations.

6.2.1 General Tasks

To attain the qualification requirements that continually increase in maintenance for fully automated manufacturing systems, the maintenance technicians shall:

- have knowledge of directives in force regarding prevention of accidents when working on machining centre with motor transmission, and be able to apply them,
- have read and understood the "Safeties applied to the machining centre",
- know the fundamental construction and functions of the manufacturing system for special workpieces,
- know how to use and consult manufacturing papers and machining centre documents,
- assume the responsibility to make decisions regarding operations on fully automated manufacturing systems,
- be ready to adapt to technological modifications on the machining centre,
- note irregularities in the production process and when necessary take the necessary measures.

6.2.2 Tasks of Qualified Operators

The composition and qualifications of the teams indicated in the maintenance plan are those recommended by the Manufacturer

The operations, if necessary can also be carried out by persons with the same or higher qualifications, who have attended the relevant training courses.

The professional figures qualified to take action on the machining centre are the following:

6.2.2.1 Machining centre manager

Typical activities:

Control and maintenance of production quality on fully automated manufacturing systems, and in particular:

- mechanical clearances on guides and kinematic chains adjustment;
- driving belts replacement;
- execution of movements check;
- mechanical clearances on shoes and rollers check;
- mechanical unit repairs.

Technical knowledge required:

- good knowledge of mechanical, pneumatic and hydraulic installations;
- familiarity with numeric controls used on the machine;
- basic knowledge of electrical adjustment and checking techniques;
- ability to assess results of overhauls and decide the measures to be taken;
- know how to draw up an overhaul report;
- knowledge of measuring and test methods to determine the actual state of the machine/movement.

Qualification required:

- Complete training as industrial mechanic with specialisation in technical sector of automated systems;
- Experience in maintenance of automatic handling systems. Instruction and training on the machine are assured by the manufacturer.

6.3 SAFETY CONTROL PLAN



WARNING

It is strictly forbidden to electrically or mechanically jumper safety switches of guards, light barriers, safety circuits or tamper with them in any way.

6.3.1 Checks and Functional Tests on Safety Devices

Maintenance technicians have the obligation to periodically check functioning of safety devices.

The operation is to be carried out by competent persons with specific knowledge on the uses of safety devices.

This procedure must be repeated as normal maintenance practices.

6.4 STOP PROCEDURE FOR MAINTENANCE

Before carrying out the maintenance procedures the operator has to stop the machining centre and set it in maintenance mode, using this procedure:

- Cut out machining centre power supplies if this is required by the maintenance operations. Otherwise it is not necessary. The cards indicate electric power and fluidic supply OFF or otherwise electric power and fluidics ON.
- Place the "MACHINING CENTRE BEING SERVICED – DO NOT POWER ON - WORK IN PROGRESS, DO NOT PUT IN MOTION" warning sign near the main switches
- Carry out the maintenance operations described on the relevant cards.
- After the maintenance operations restore the power supplies.
- For access into the machining centre observe the procedures.
- Before resuming system normal functioning, check again the whole system, applying the start-up procedures.

6.5 CLEANING AND MAINTENANCE

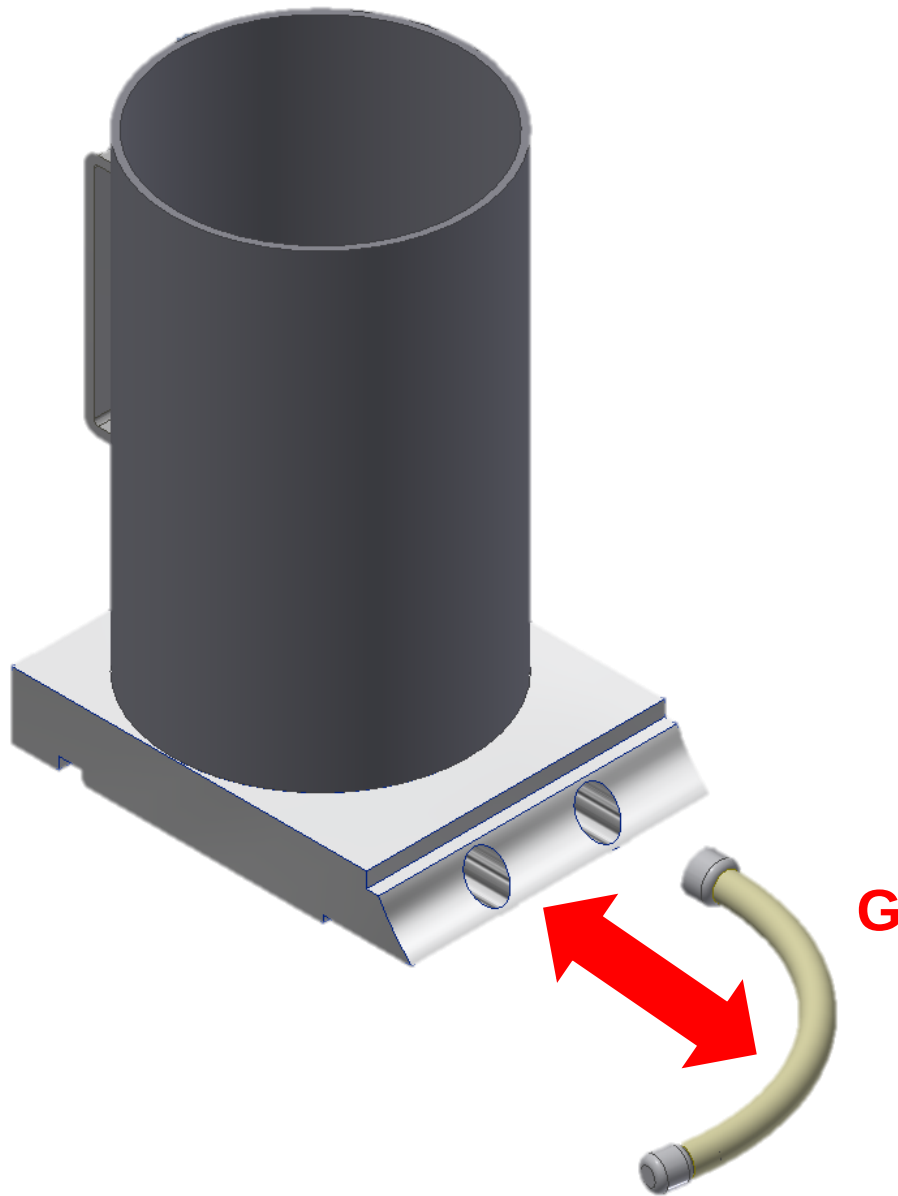


CAUTION

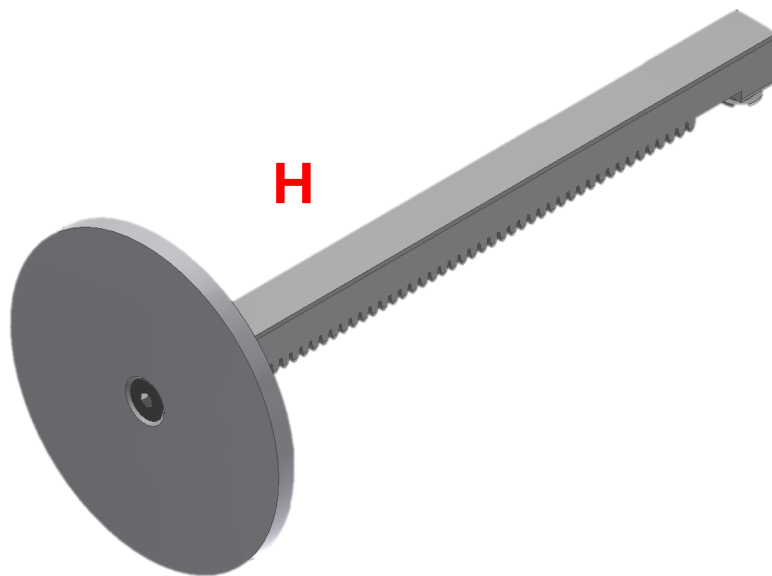
Before starting any maintenance operation, cut-out and padlock all energy sources and set the machine in locked safety condition. Place the warning sign "MACHINE BEING SERVICED- DO NOT POWER-ON" near the main switch.

Before resuming service, check the entire system again following the start-up procedures. Ignoring this precaution could cause serious harm to the operators!

1. Remove the rack locking pawl (C), the container (D) and the rack (E) as described in chapter 5 "USE".
2. Wash the container under running water and, for easier cleaning, use the pad (G) supplied to remove the dough from the outlet holes.



3. Use a moist sponge to clean the piston (**H**) that pushes the dough.



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7. SPARE PARTS

7.1 COMPONENTS SUBJECT TO WEAR AND MECHANICAL FATIGUE



CAUTION

The components subject to wear caused by the relevant functioning are to be checked at regular intervals and replaced as soon as they show significant signs of wear.

The manufacturer has designed and built the machine for a rational life, taking into account the normal use conditions of the Customer; in any case all these components have to be meticulously checked periodically.

Should “mechanical cracking” or permanent or cyclic structural deformation be found, immediately contact the Manufacturer and expert technicians who will take the necessary action.

Electrical wires, especially if exposed to heat, humidity and/or low temperatures lose their insulating characteristics over time.

With the aid of skilled technicians, check the integrity.

All electrical components with mechanical parts in motion during the work cycle (pushbuttons, selector switches, relays, etc.) are guaranteed by the manufacturer for a certain number of cycles, high, but still limited.

Check their condition frequently and contact skilled technicians for any periodical replacement within the guaranteed working life indicated.



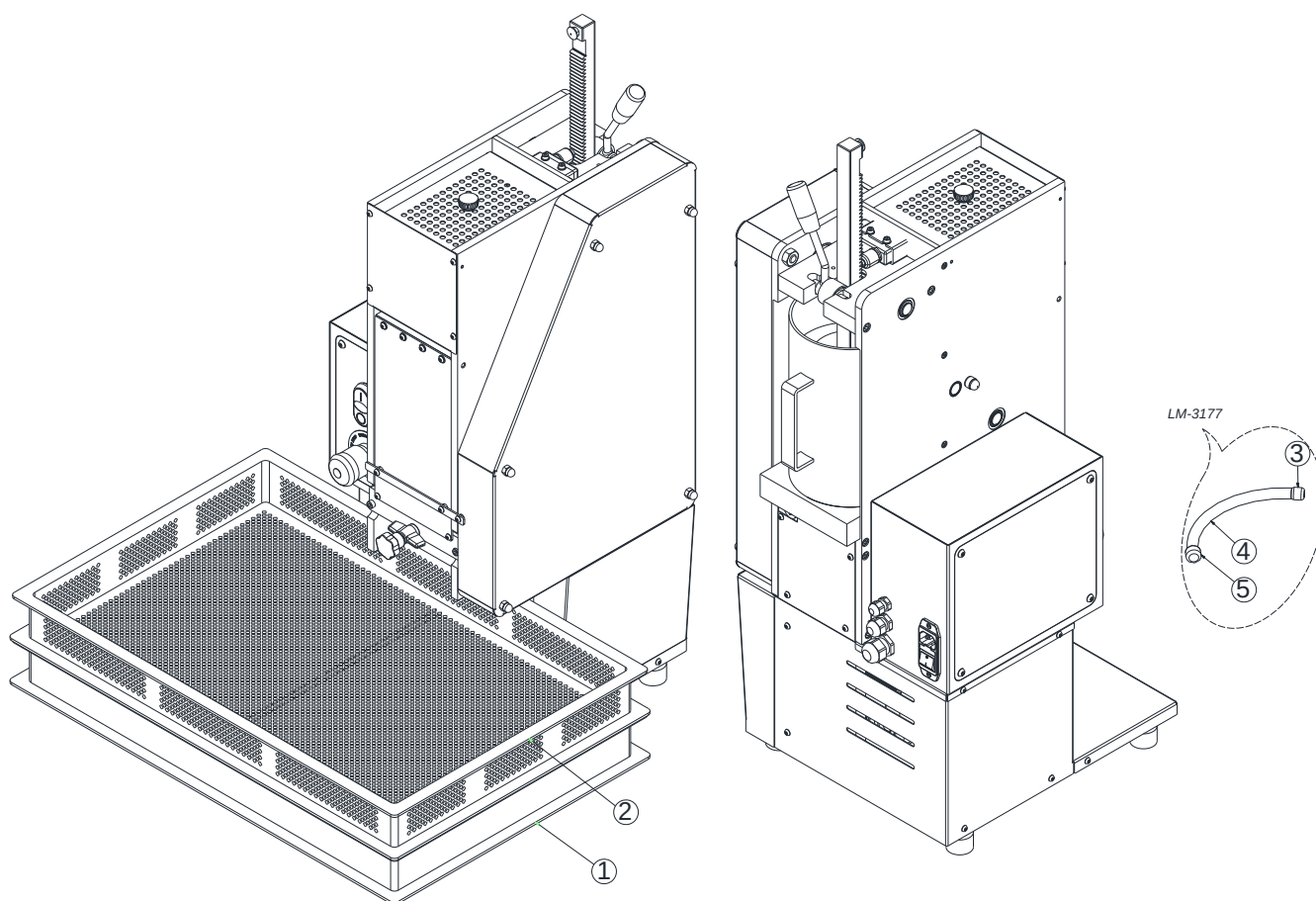
ENVIRONMENT

Removed parts that have been replaced are to be delivered to the specific collection centres for disposal.

7.2 LIST OF RECOMMENDED SPARE PARTS

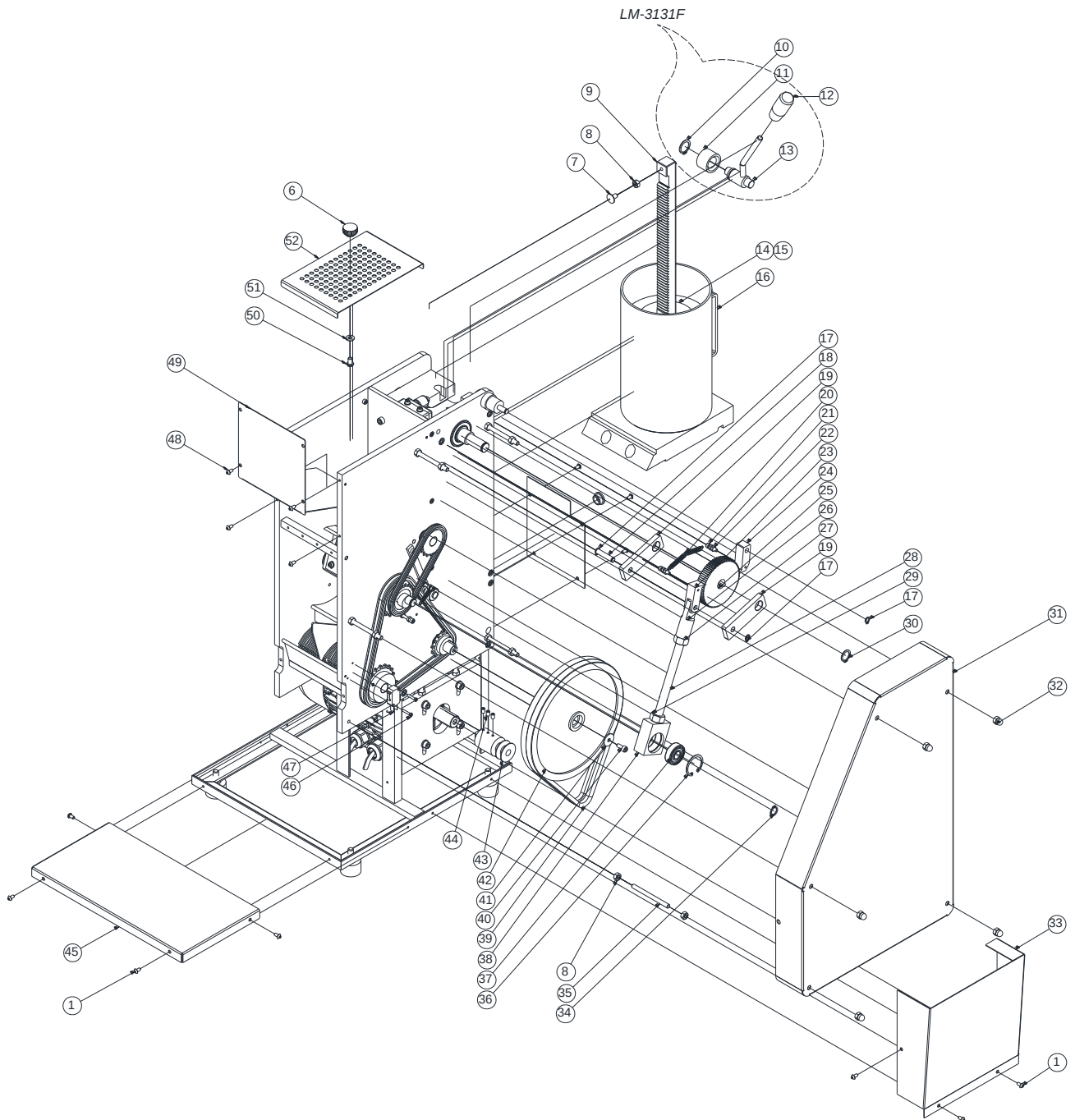
The recommended spare parts are not incorporated in the supply of the machinery, unless provided for in the initial purchasing contract.

7.2.1 Table 1



Item	Code	Description	Q.ty
1	LM-68470	Smooth plastic sieve 600x400x70	1
2	LM-68467	Perforated plastic sieve 600x400x70	1
3	LM-3168	Pad to clean holes	1
4	LM-3176	Pipe for cleaning pads	1
5	LM-3169	Pad to clean holes	1

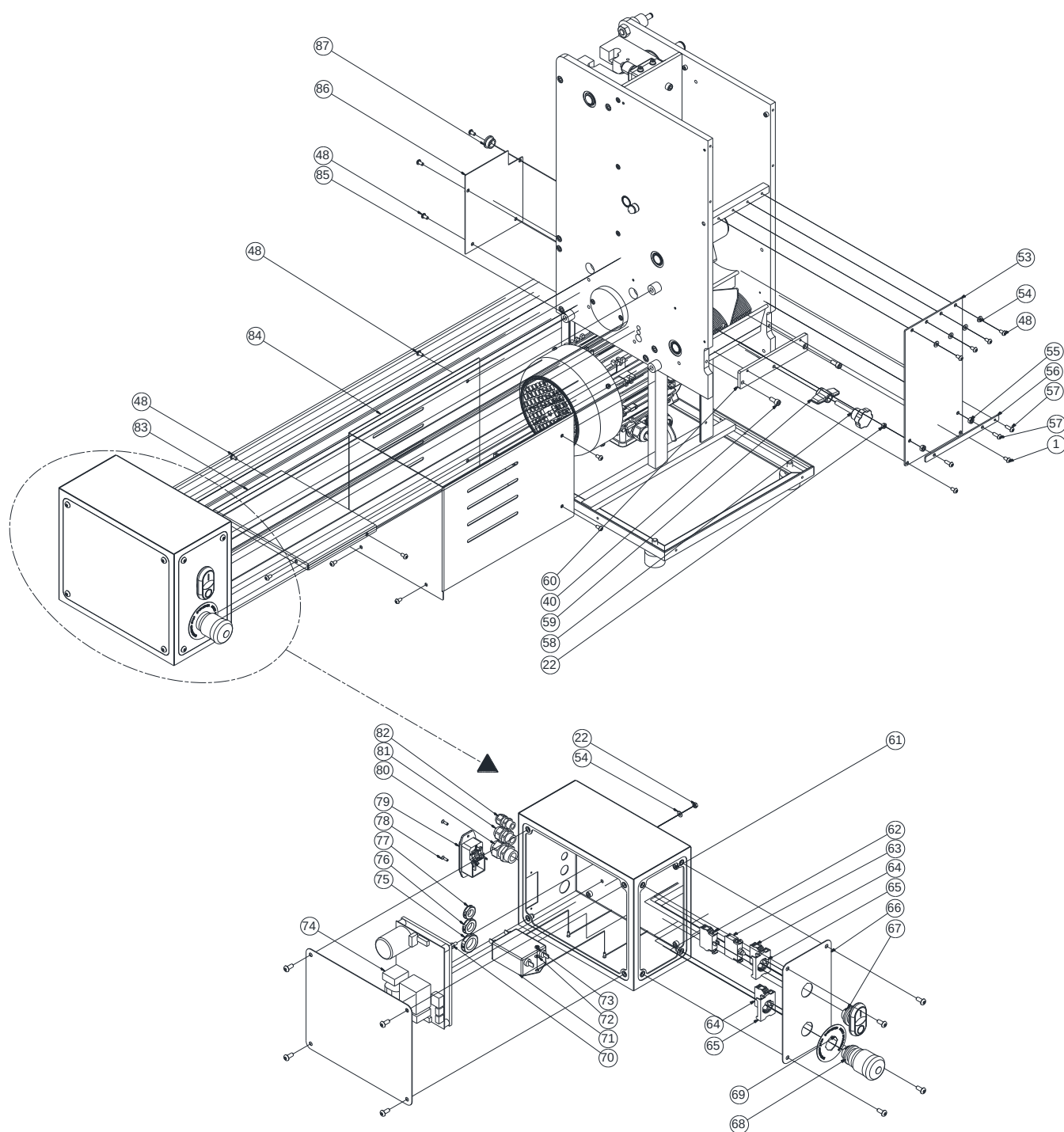
7.2.2 Table 2



Item	Code	Description	Q.ty
6	LM-480	Handwheel ø22 blind brass bushing M6	1
7	LM-3148	Cam for rack	1
8	LM-1186	UNI 5588 – Hexagonal nut M6	11
9	LM-3132	Rack	1
10	LM-3130	UNI 7435-75-18 – Circlip	1
11	LM-3129	Rack contrast	1
12	LM-1655	Smooth handle L=64 mm hole M8	1
13	LM-15554	Complete handle	1
14	LM-1115	Piston	1
15	LM-1114	UNI 5933 – Flathead screw M8x25	1
16	LM-3174A	Complete gnocchi former d.17	1
17	LM-3114	UNI 7435-75-7 – Circlip	3
18	LM-3141	Rod connection pin	1
19	LM-3119	Spacer	2
20	LM-1663	Spring for lever	2
21	LM-3354	UNI 5931 – Cheese head screw M4x16	2
22	LM-1648	UNI 5588 – Hexagonal nut M4	4
23	LM-3120	Wheel control tooth	1
24	LM-3122	Wheel control tooth	1
25	LM-3121	Toothed wheel 80 divisions	1
26	LM-3118	Upper fastening for rod	1
27	LM-2559	UNI 5588 – Left thread hexagonal nut M12S	1
28	LM-3117	Delivery control rod	1
29	LM-2559/1	UNI 5588 – Hexagonal nut M12	1
30	LM-1418	UNI 7435-75-15 - Circlip	1
31	LM-3197	Standard casing	1
32	LM-3018	UNI 5721 – Hexagonal nut with round head M6	5
33	LM-3198	Lower casing	1
34	LM-2512	UNI 7435-75-12 – Circlip	1
35	LM-3123	Section of threaded rod	5
36	LM-3008	UNI 7437-32 – Circlip	1
37	LM-3111	Radial ball bearing 6201-2RSH	1
38	LM-3112	Eccentric rod control	1
39	LM-1469	V-belt Z26 10x660	2
40	LM-277	UNI 5931 – Cheese head screw M5x12	1

Item	Code	Description	Q.ty
41	LM-1201	UNI 6593 – Plain washer ø5,5x20	1
42	LM-1474	Driven pulley	1
43	LM-1466	Driving pulley	1
44	LM-1468/1	UNI 5923 – Hex countersunk head screw M5x8	3
45	LM-1483	Casings	1
46	LM-1189	UNI 6107 – Slotted cheese head screw M3x16	2
47	LM-614	Short lever microswitch code V-161-1C5	1
48	LM-1302	ISO 7380-1 – Button head socket screw M4x8	11
49	LM-3124	Tank for granite	1
50	LM-2055	ISO 7380-1 – Button head socket screw M6x10	1
51	LM-495	UNI 6592 – Washer 6,4x12,5	1
52	LM-3106	Granite tank cover	1

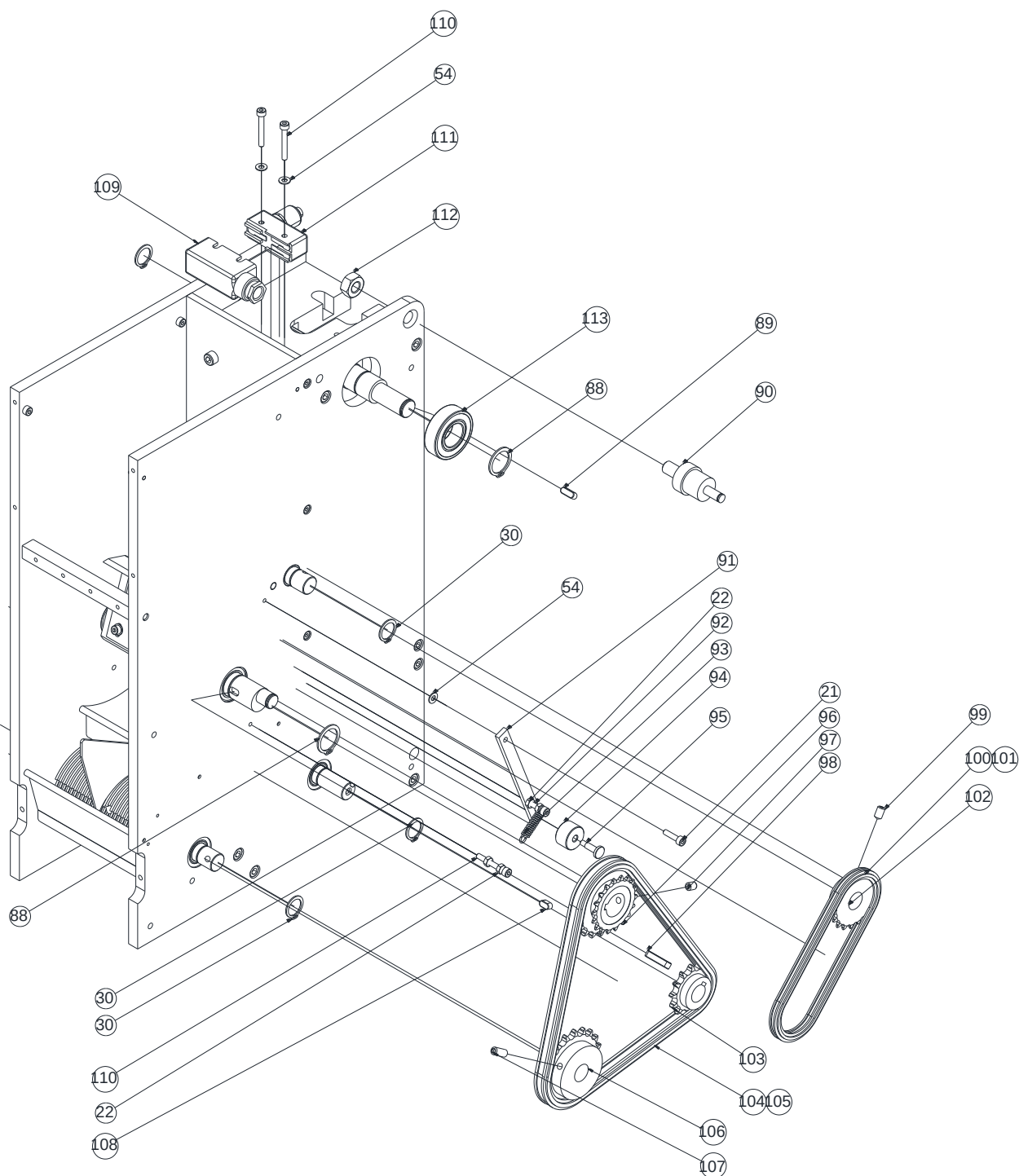
7.2.3 Table 3



Item	Code	Description	Q.ty
53	LM-1424	Transparent closure	1
54	LM-489	UNI 6592 – Washer 4,3x9	6
55	LM-2838	UNI 5588 – Hexagonal nut M5	2
56	LM-3143	Hopper closure cross member	1
57	LM-1442	ISO 7380-1 – Button head socket screw M4x12	3
58	LM-1433	Handwheel with 6 lobes	1
59	LM-3127	Fastening wing nut ø50 brass bushing M6	1
60	LM-1482	Hatch bus-bar	1
61	LM-284	UNI 5931 – Cheese head screw M5x20	3
62	LM-62272	Normally open contact	1
63	LM-65302	White LED	1
64	LM-62275	Normally closed contact	2
65	LM-68566	Adapter to fasten connector inserts	2
66	LM-3196	Box for boards and buttons	1
67	LM-68008	Start and stop button with light in centre	1
68	LM-68012	Emergency button	1
69	LM-62276	Emergency button label	1
70	LM-62530	Male/female hexagon spacer M4x10	2
71	LM-62583	Disturbance damper filter 6 A	1
72	LM-74055	UNI 6592 – Washer 3,2x7	2
73	LM-1748	UNI 5588 – Hexagonal nut M3	2
74	LM-3195	Inverter board 2,2 kW gnocchi version	1
75	LM-62461	Nut PG 13,5	1
76	LM-62473	Nut PG 9	1
77	LM-62470	Nut PG 7	1
78	LM-461	UNI 6109 – Flathead screw M3x10	2
79	LM-62516	Connector with fuse and switch	1
80	LM-853/1	Cable clamp PG 13,5	1
81	LM-929	Cable clamp PG 9	1
82	LM-930	Cable clamp PG 7	1
83	LM-1404	Cover for motor casing	1
84	LM-1463	Motor casing	1
85	LM-3194	Electrical plant spacer	3
86	LM-3140/A	Rear casing	1
87	LM-62474	Cap PG 9	1

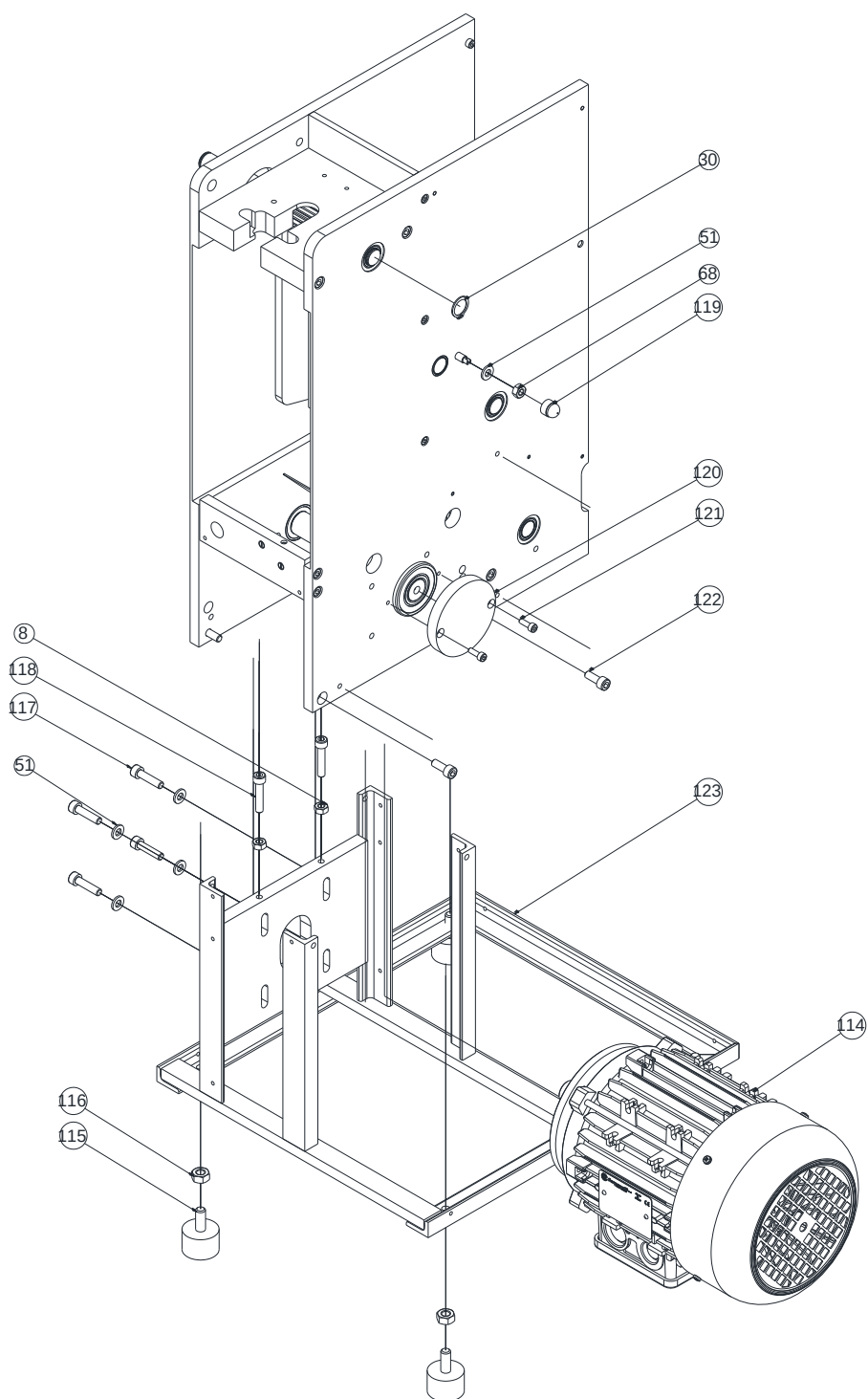
Item	Code	Description	Q.ty
22	LM-1648	UNI 5588 – Hexagonal nut M4	4
40	LM-277	UNI 5931 – Cheese head screw M5x12	2
48	LM-1302	ISO 7380-1 – Button head socket screw M4x8	20

7.2.4 Table 4



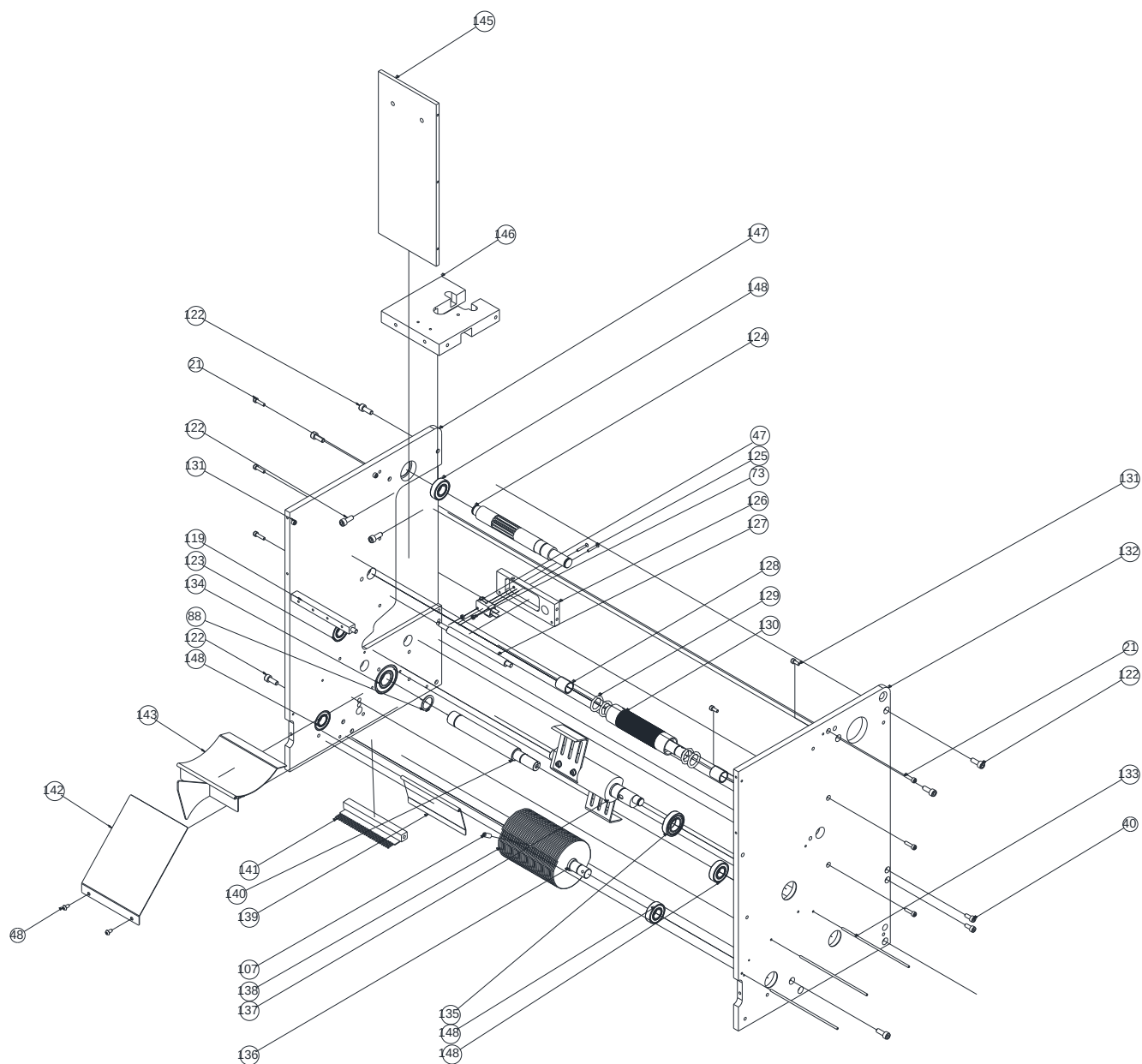
Item	Code	Description	Q.ty
88	LM-2032	Circlip UNI 7435-75-20	2
89	LM-74000	UNI 6604 – Parallel key A5x5x14	1
90	LM-3115	Return tooth support pin	1
91	LM-1753/1	Chain stretcher arm housing	1
92	LM-1662	UNI 5931 – Cheese head screw M4x20	1
93	LM-1500	Chain stretcher spring	1
94	LM-1503	Chain stretched roller	1
95	LM-3392	Chain stretcher roller pin	1
96	LM-3109ASS	Knives-holder shaft pinion	1
97	LM-440	UNI 5923 - Hex countersunk head screw M6x8	1
98	LM-3162	UNI 6604 – Parallel key A5x5x25	1
99	LM-2683	UNI 5927 - Hex countersunk head screw M6x10	1
100	LM-3135	Flouring device /knives return chain 8x3 n. 41 steps	1
101	LM-62959	Joint with single chain clips 05B-1	1
102	LM-3104F	Pinion for granite shaft 8x3 Z=18	1
103	LM-3163F	Pinion for shaft E	1
104	LM-3136	Machine movement chain 3/8" n. 63 steps	1
105	LM-62956	Joint with single chain clips 06B-1	1
106	LM-3116F	Pinion for scoring shaft	1
107	LM-1667	UNI 5927 - Hex countersunk head screw M6x16	1
108	LM-2568	UNI 6604 – Parallel key A5x5x10	1
109	LM-3159	Microswitch covering series Z	1
110	LM-3379	UNI 5931 – Cheese head screw M4x30	3
111	LM-3158	Quick release microswitch code Z-15GK355	1
112	LM-1108	UNI 5588 – Hexagonal nut M10	1
113	LM-2536	Single row radial ball bearing with slinging gaskets 6004-2RS1	1
21	LM-3354	UNI 5931 – Cheese head screw M4x16	1
22	LM-1648	UNI 5588 – Hexagonal nut M4	4
30	LM-1418	UNI 7435-75-15 - Circlip	3
54	LM-489	UNI 6592 – Washer 4,3x9	3

7.2.5 Table 5



Item	Code	Description	Q.ty
114	LM-71160	Three-phase electric motor size 80 0,65 kW	1
115	LM-1639	Rubber foot ø 30 H 20 M8x23	4
116	LM-1660	UNI 5588 – Hexagonal nut M8	4
117	LM-1102	UNI 5931 – Cheese head screw M6x25	4
118	LM-2834	UNI 5931 – Cheese head screw M6x30	2
119	LM-74178	Cap protection nut bolt M6	1
120	LM-3164	Cover for bearing	1
121	LM-937	UNI 5931 – Cheese head screw M4x12	2
122	LM-1411	UNI 5931 – Cheese head screw M6x16	4
123	LM-1437	Frame	1
8	LM-1186	UNI 5588 – Hexagonal nut M6	3
30	LM-1418	UNI 7435-75-15 - Circlip	1
51	LM-495	UNI 6592 – Washer 6,4x12,5	5

7.2.6 Table 6



Item	Code	Description	Q.ty
124	LM-3102	Hardened rack control shaft	1
125	LM-1488	UNI 6109 – Flathead screw M3x20	2
126	LM-3139	Micro holder spacer	1
127	LM-1481	Eccentric shaft	1
128	LM-1144	Bushing ø 15/18 L20	2
129	LM-1448	Gasket OR 4075	4
130	LM-3105F	Assembled roller for granite	1
131	LM-280	UNI 5931 – Cheese head screw M4x10	4
132	LM-3101	Right side panel	1
133	LM-1492	Rod for pan	3
134	LM-1413	Single row radial ball bearing 6204-2RS1	1
135	LM-3108	Single row radial ball bearing with slinging gaskets 61904-2RS1	1
136	LM-1403	Roller shaft	1
137	LM-3172F	Mounted knives-holder shaft	1
138	LM-1401	Scoring roller	1
139	LM-1430F	Pan	1
140	LM-3161	Machine movement transmission shaft	1
141	LM-1436	Finished scoring roller scraper	1
142	LM-3165	Flour shield	1
143	LM-3128F	Separator casing	1
144	LM-1420	Hinge	1
145	LM-3137	Vertical wall	1
146	LM-3113	Rack support cross member	1
147	LM-3103	Left side panel	1
148	LM-1402	Single row radial ball bearing with slinging gaskets 6004-2RS1	5
21	LM-3354	UNI 5931 – Cheese head screw M4x16	6
40	LM-277	UNI 5931 – Cheese head screw M5x12	4
47	LM-614	Short lever microswitch code V-161-1C5	1
48	LM-1302	ISO 7380-1 – Button head socket screw M4x8	2
73	LM-1748	UNI 5588 – Hexagonal nut M3	2
88	LM-2032	Circlip UNI 7435-75-20	1
107	LM-1667	UNI 5927 - Hex countersunk head screw M6x16	1
122	LM-1411	UNI 5931 – Cheese head screw M6x16	8

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8. WIRING DIAGRAMS

8.1 WIRING DIAGRAM 220-240 V SINGLE-PHASE

