

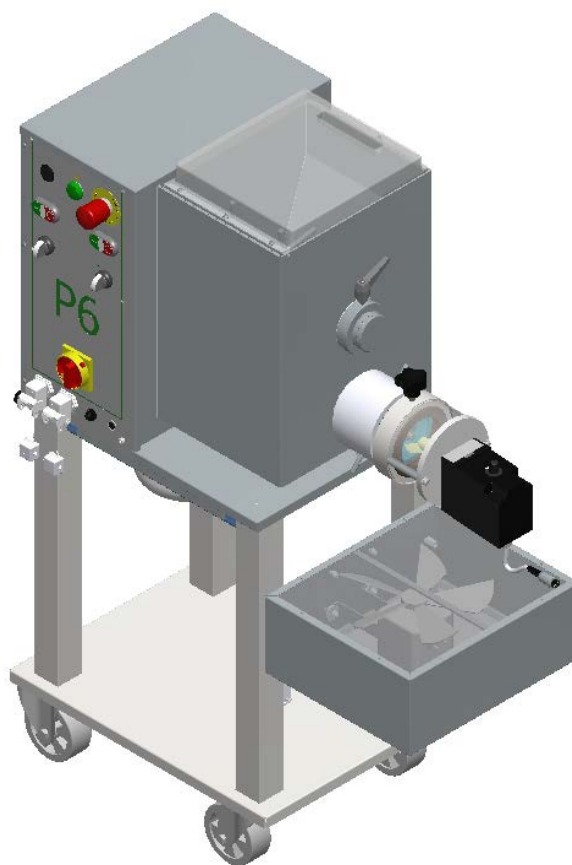
TRANSLATION OF
“ISTRUZIONI ORIGINALI”



IMPERIA & MONFERRINA S.p.A.

AUTOMATIC FRESH PASTA MACHINE

P6



User and maintenance manual

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REVISIONS

REVISIONS				
MODEL	LANGUAGE	DATA	VERSION	NOTE
P6	English	05/13	00	FIRST RELEASE

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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 insists on the obligation that the persons running the machining centre and those who carry out the maintenance carefully read this handbook with attention.

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 FRESH PASTA MACHINE “P6”

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.

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. (Chapter 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. (Chapter 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 SUGGESTIONS FOR PASTA PRODUCTION

Any type of flour or durum flour or flour/durum flour mixture can be used for the dough.

The dough must be kneaded with eggs alone or an eggs/water mix.

The water can be replaced in part by finely-chopped spinach or vegetables to obtain green pastas or tomato puree to obtain red pastas or other ingredients: in these cases it is advisable to use hard grain durum flour.

For good dough, around 300 ÷ 350 gr. of liquid is required for every kilogram of flour.

This liquid may consist of eggs alone, just water or an egg/water mixture. Since the moistness of the flour varies according to type, climate and where it is stored, the amounts indicated must be adapted to the type of flour being worked by adding or decreasing the quantity of liquid slightly.

The dough is just right when, at the end of kneading, it is in the form of grains the size of coffee beans. If the dough coalesces into a even mass it means that too much liquid has been poured in. In this case, before extruding the dough, add a little more flour and let it mix for a bit longer.

If, however, the dough does not form little balls but remains very floury, add a little more liquid.

Here below we give a few recipes for different types of dough.

Remember that ingredients can at all times be modified and quantities changed according to your experience and taste.

Preparation for pastry for ravioli:

Fine flour 70%

Hard grain durum flour 30%

5 eggs per Kg of dough + water

Knead for approximately 10 minutes

The moistness of the mixture between eggs and water must be around 32%.

Preparation of dough for tagliatelle:

Fine flour 70%

Hard grain durum flour 30%

5 eggs per Kg of dough + water

Or

Hard grain durum flour 100%

5 eggs per Kg of durum flour + water

Knead for around 15 minutes with around 33% moisture.

Preparation of durum flour pasta:

(e.g. rigatoni, fusilli, conchiglie, spaghetti, etc.).

For this type of pasta only hard-grain durum flour with 30 ÷ 33% water is used.

When different types of flour are used it is a good idea to mix them well before adding liquid.

To take account of the customer's taste, salt in the rough measure of 2 gr. per Kg of flour can be added to the dough, taking care to dilute it well in water.

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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
- **2004/108/EC** Electromagnetic compatibility Directive
- **2006/95/EC** 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 in IMPERIA & MONFERRINA S.p.A.

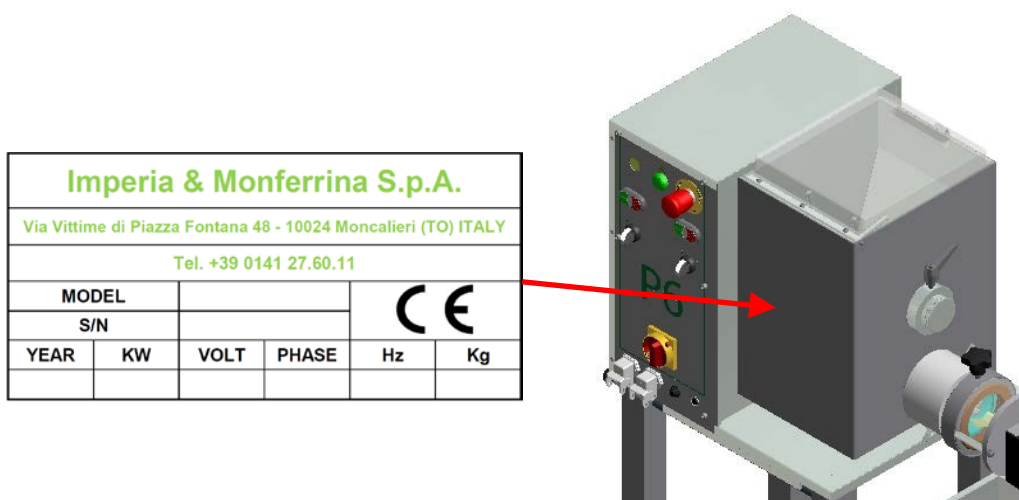
2.2.2 Machining centre Certification

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 2006/95/EC and the Electromagnetic Compatibility Directive 2004/108/EC.



NOTE

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



2.2.3 Foreseen and Unforeseen Uses

The machine has been designed, built and outfitted exclusively for the production of drawn pasta, obtained from raw materials such as durum wheat flour or bread wheat flour with the addition of water and/or eggs.

The pasta extruders, to obtain the different shapes, may be of two types, in bronze or in Teflon.

The pasta obtained with bronze extruders has a rougher and more opaque surface.

With Teflon extruders, the pasta is smoother and with a more glossy surface. These extruders are more delicate than those in bronze and the hourly pasta production output is slightly higher.

A different use to that specified shall be considered improper use. In any case, the machine has been designed for professional industrial use.

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.

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 and mobile 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.

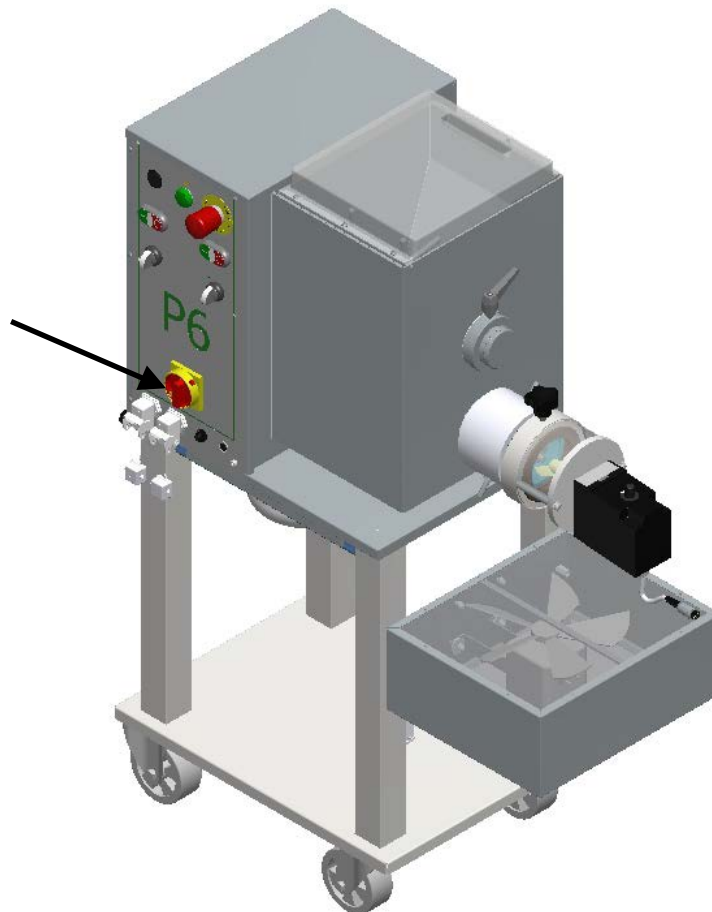
Cut-out the machine electrical supply acting on the main switch.

After cutting out the power supplies, padlock the cut-out levers

WARNING



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



2.4.2 Fixed and Mobile Protections

Function: To segregate hazardous zone of the machining centre

Characteristics and method: Protections are fixed and mobile.

Fixed protections:

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.

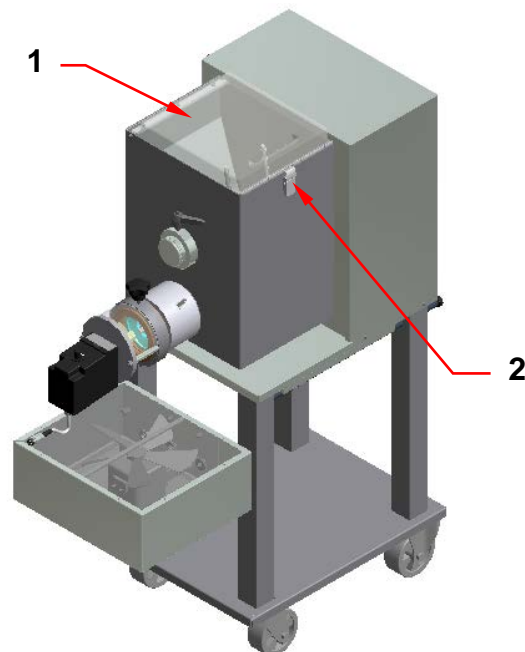
Mobile protections:

The machine is fitted with a safety cover (1) with a safety hook (2) that stops the processing if the cover is lifted.

WARNING



For maintenance it is not sufficient to open the access door to cut out the system power supplies. 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

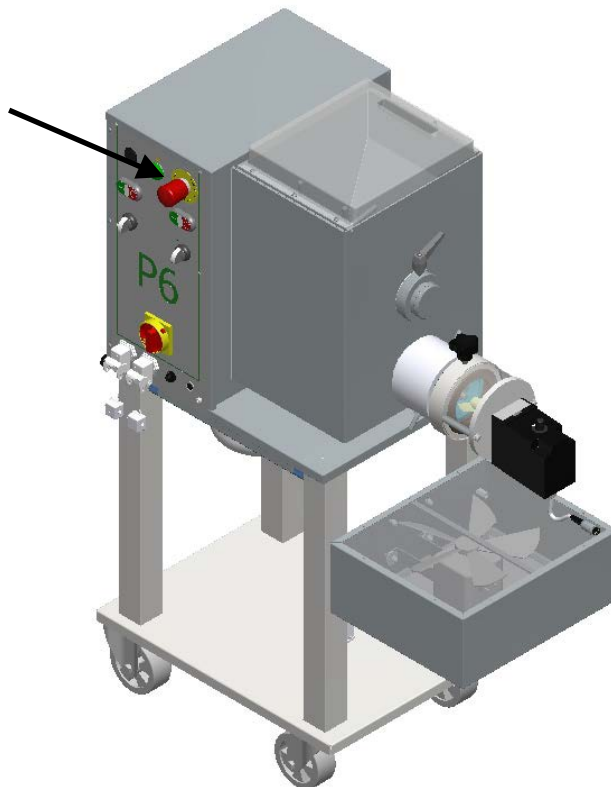


For maintenance work, it is not sufficient to press the emergency push-buttons to cut out the machine power supplies.

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 and mobile 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 and mobile 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



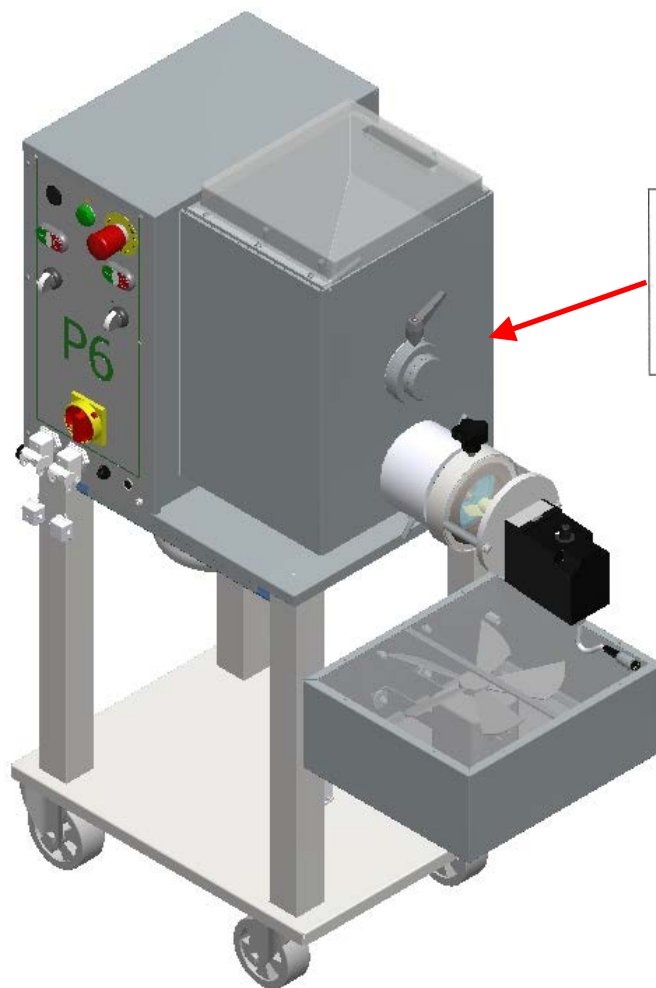
It is strictly forbidden to remove the warning plates affixed on the machining centre.

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



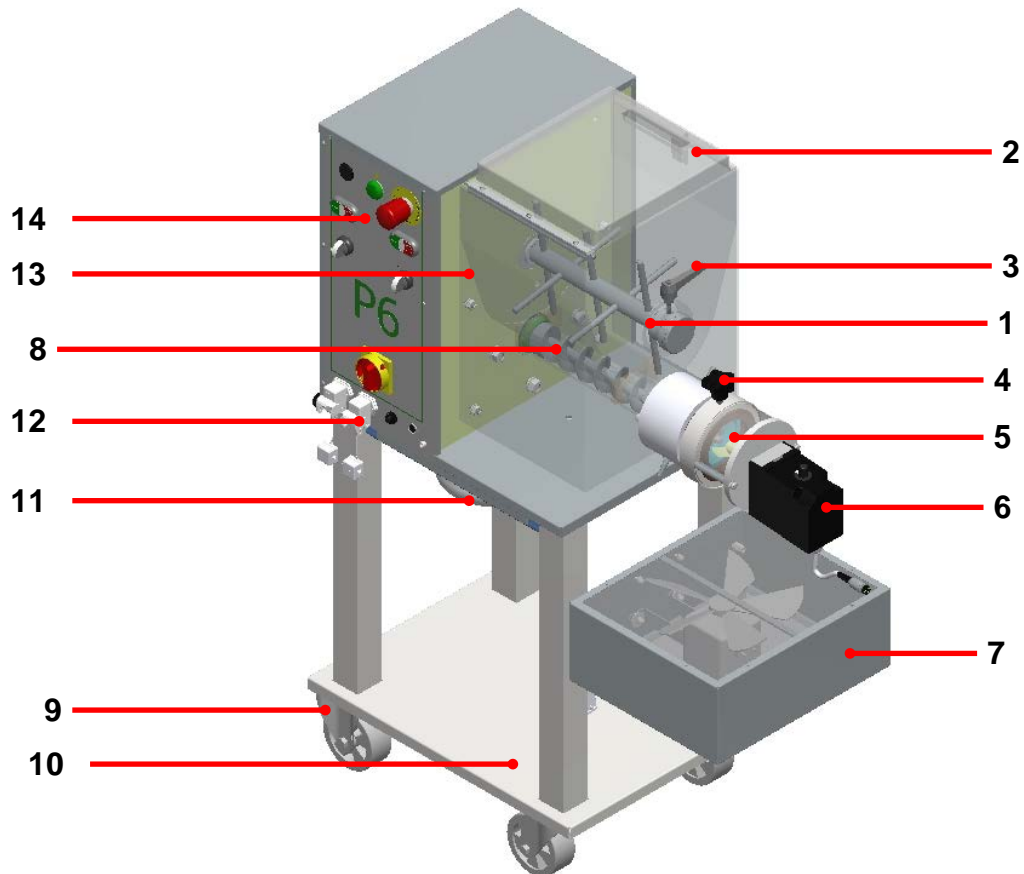
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3. GENERAL DESCRIPTION

3.1 MACHINE MAIN COMPONENTS



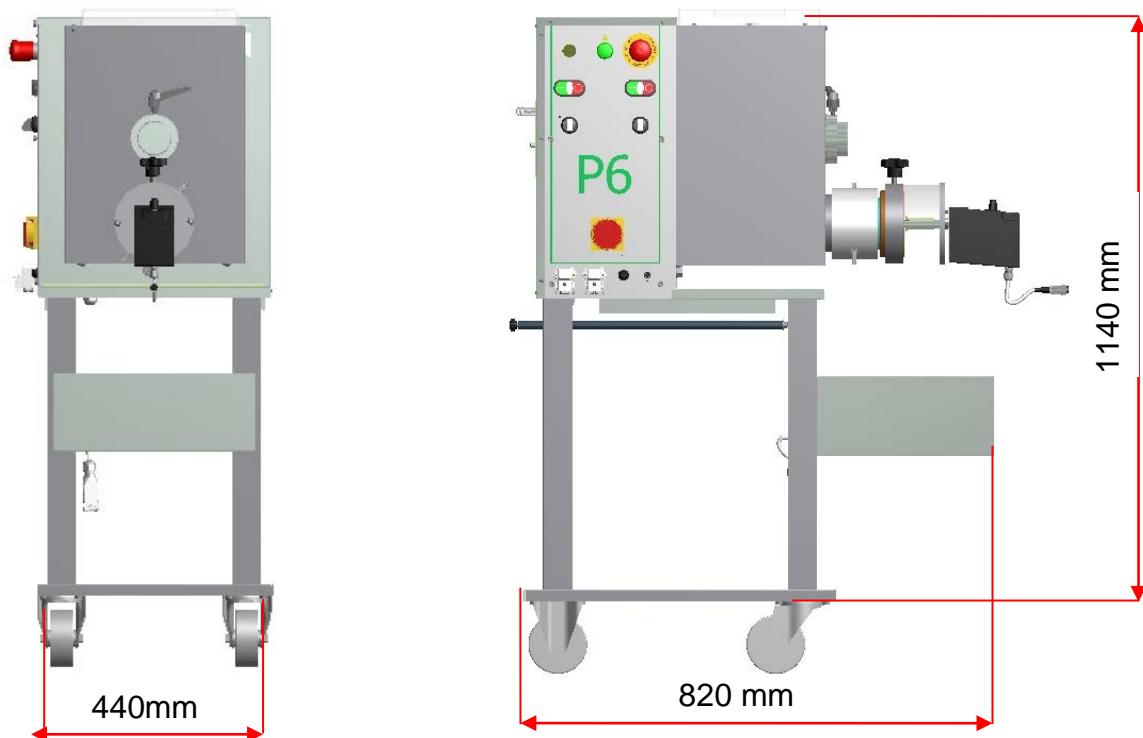
Legend:

1	Stainless-steel shaft
2	Safety cover
3	Mixer shaft clamp/release lever
4	Dough-cutter motor clamp/release knob
5	Plate support ring nut
6	Dough-cutter motor
7	Cooler blower
8	Stainless-steel feeder
9	Wheel block
10	Truck
11	Electric motor
12	Plugs for electrical link with the cooler blower and optional units
13	Tank
14	Control panel

3.2 TECHNICAL SPECIFICATIONS

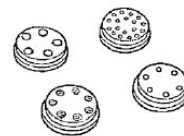
The following table contains the machine technical data.

General	
Mixing tank capacity	6 Kg
Dough production	15 ÷ 18 Kg/h
Three-phase or single-phase motor	1,5Hp
Weight	107 Kg

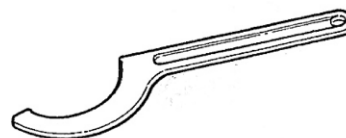


3.3 ACCESSORIES SUPPLIED

N4 dough plates (the type of plate is chosen by the customer when the order is placed).



N1 plate ring nut support tightening spanner.



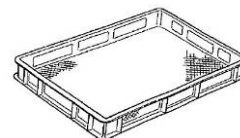
N° 1 dough-cutter motor



N° 2 knives for standard dough cutter motor (one with one blade and one with two blades).



N° 1 sieve

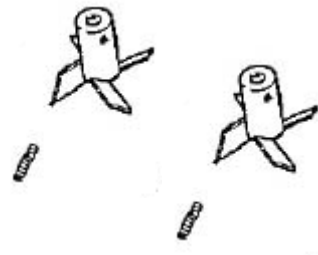


N° 1 cooler blower.

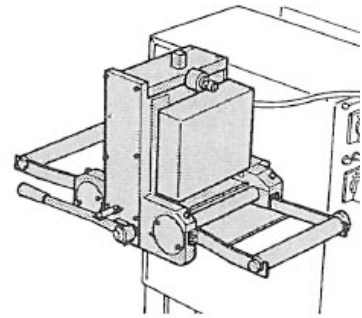


3.4 OPTIONAL ACCESSORIES

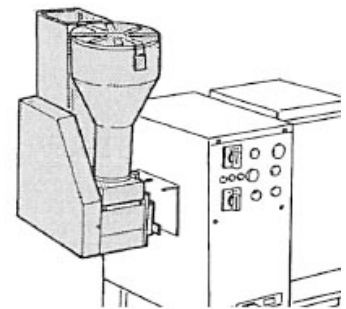
N° 1 knife for 4-blade pastry cutter motor



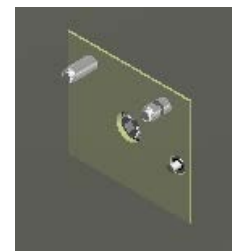
Ravioli unit.



Gnocchi unit



Attachment point, for optional units, at the rear side of the machine.



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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.

If one or more components are found to be damaged, do not proceed with the installation and notify the manufacturing company of the fault found, agreeing with same on the action to be taken.

The machine will be able to operate according to the foreseen technical parameters providing it is correctly arranged on the workshop floor so that it is stable during operation.

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



CAUTION

Electrical connections are to be carried out by skilled experts who have been appropriately trained.

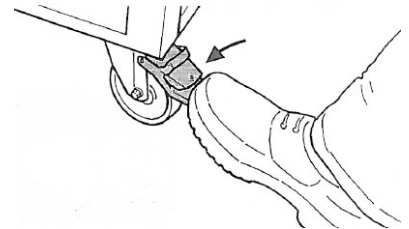
4.1.2 Installation



WARNING

All the operations described below are with the tank without the flour.

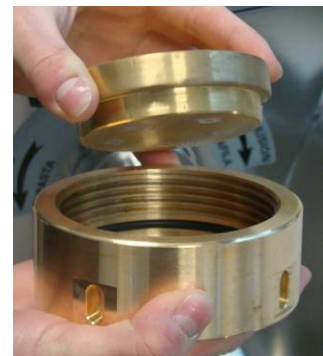
Position the machine on perfectly level ground and lock the wheels with the wheel locks provided.



Unscrew the plate support ring nut.



Insert the plate required into the ring nut and screw the ring nut with plate into the machine again.



Check that, after tightening the draw-plate with the proper ring nut, the shaft transmitting the motion to the Archimedean screw is well inserted in the seat on the Archimedean screw itself



If you wish to produce short pasta, choose the suitable dough-cutting blade from the two supplied. Insert the spring supplied into the blade and fit it onto the pin on the dough-cutter motor.



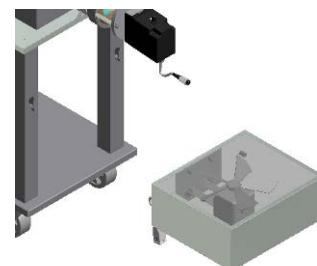
CAUTION

Handle the dough-cutting blades carefully.

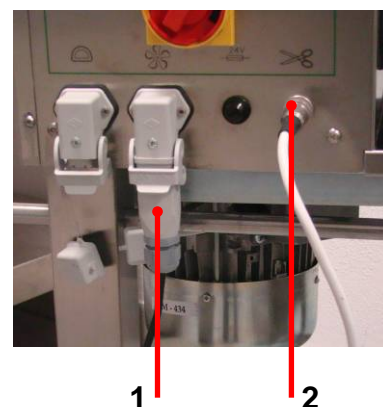
Fit the dough-cutter motor onto the machine by fixing it with the knob shown in the figure.



Fit the cooling blower onto the trolley using the screws provided



Plug the cooler blower (1) and the dough-cutter motor (2) into the sockets under the control panel.



4.2 380 V ELECTRICAL CONNECTION

Check that the main switch knob is in the "0" and connect the power plug of the unit to the wall outlet.



CAUTION!

Before starting the machine, make sure the voltage specified on the ID plate corresponds to the mains voltage.

Supply phase check

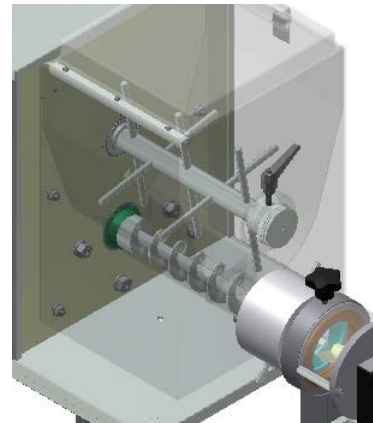
Start-up the machine by turning the knob of the master switch to the right (position 1) and press



the green button



The mixer shaft (that can be seen through the upper Plexiglas cover) must turn in an anticlockwise direction as shown in the front of the machine.



CAUTION!

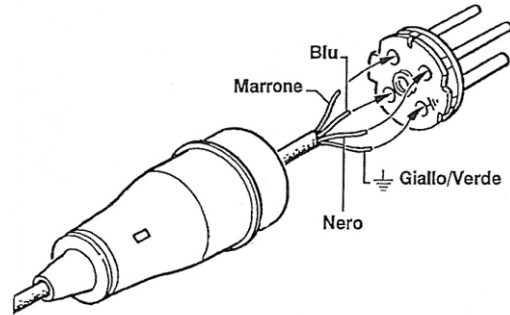


If the mixer shaft is turning in the opposite direction, press the EMERGENCY button 3 immediately to stop the machine.

Remove the power supply plug from the socket and swap the position of the brown and black wires as shown in the figure.

The yellow-green ground wire must never be removed.

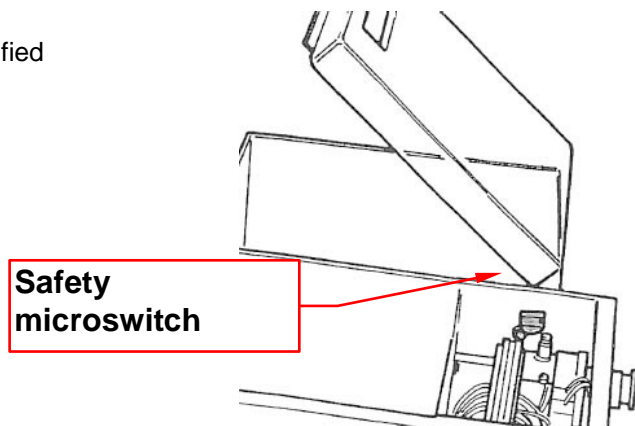
You are recommended to get an electrician to perform this operation.



Safety microswitch check

Check regularly that the safety microswitch function properly. The microswitch should stop the machine if the tank Plexiglas cover raise.

If the machine does not stop call in a qualified electrician to restore microswitch operation.



All the above-mentioned operations of installation are to carry out with the mixing tank empty.

4.3 220 V ELECTRICAL CONNECTION

Check that the main switch knob is in the "0" and connect the power plug of the unit to the wall outlet.

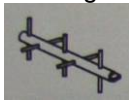
CAUTION!



Before starting the machine, make sure the voltage specified on the ID plate corresponds to the mains voltage.

Supply phase check

Start-up the machine by turning the knob of the master switch to the right (position 1) and press



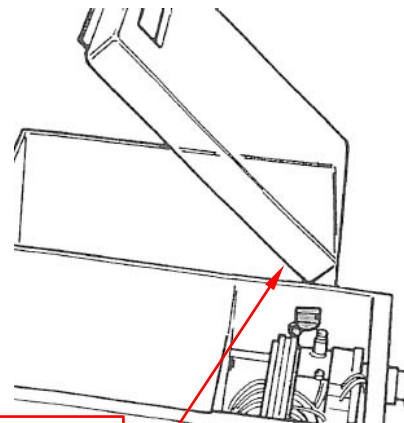
the green button



Safety microswitch check

Check regularly that the safety microswitch function properly. The microswitch should stop the machine if the tank Plexiglas cover raise.

If the machine does not stop call in a qualified electrician to restore microswitch operation.



Safety microswitch

All the above-mentioned operations of installation are to carry out with the mixing tank empty.

4.4 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.

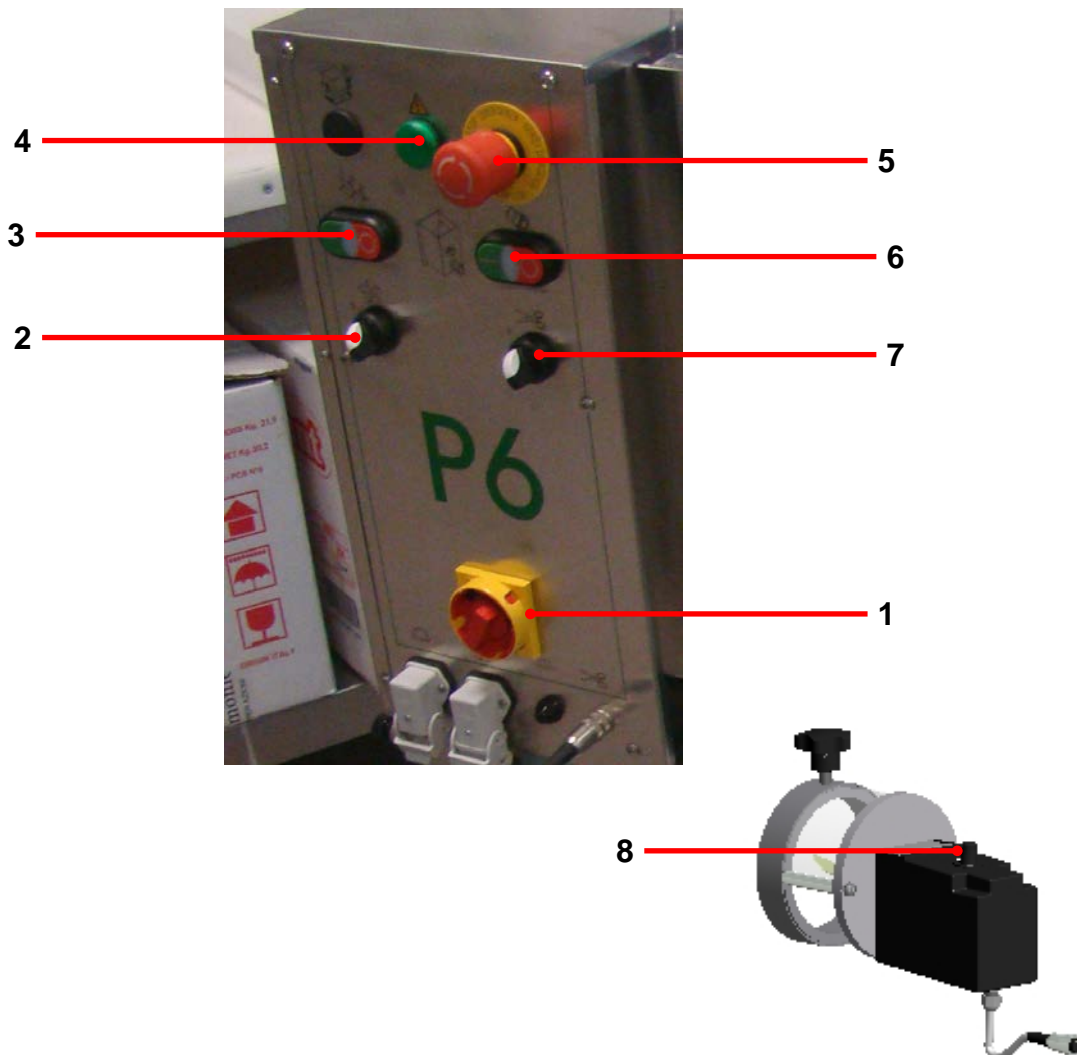
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5. USE

5.1 DESCRIPTION OF THE CONTROLS



Legend:

1	Main switch
2	Cooler blower on / off selector
3	KNEAD on / off button
4	Machine on signalling lamp
5	Emergency stop button
6	EXTRUDE on / off button
7	Dough-cutter on / off selector
8	Dough-cutter motor speed adjusting knob

5.2 WORK CYCLE

Before the cycle

- Check the selector switches on the control panel are all at "0".
- Make sure to have respected all precautions described in the Safety section

Work cycle

- Open the cover and fill the mixing tank with the basic ingredients (flour and/or hard-grain durum flour), water and/or eggs.
- You are recommended always to weigh the flour and/or hard-grain durum flour poured into the tank to be able to determine the precise quantity of liquid (water and/or eggs) to be added).
- Break the eggs into a separate vessel thereby preventing any shell falling into the tank and clogging up the plate.
- You are also recommended to beat the eggs well so the yolks blend well with the whites.



WARNING!

Read the advice concerning pasta production contained in the chapter "General Information".

- Further details regarding electrical connections and the components used can be found on the wiring diagram and related bill of materials.
- Close the transparent Plexiglas cover and secure it with the relevant safety catch



CAUTION!

Under no circumstances, may you remove the transparent cover and/or tamper with the safety microswitches

- Turn the master switch knob (1) to the right to position 1.



- Press the green button "KNEAD".
- Add the liquid part (water and /or eggs).

WARNING



Under no circumstances let the machine run with the button green “EXTRUDE” before kneading the flour. This could cause serious mechanical damage



- The friable dough broken up into granules will be ready to be extruded after around 15 minutes.

CAUTION



Do not wear loose garments or protruding elements that could get caught up in the machine

To produce long pasta (tagliatelle, spaghetti, etc.)

- Position the sieve supplied above the cooling blower



- Press the red button and the green button
- Begin to cut the dough manually with a spatula or blade.
- Turn the “COOLING BLOWER” selector to the right and position it at 1. The cooling blower will come in to operation and partially dry the dough leaving the plate.

To produce short pasta

- Position the sieve supplied above the cooling blower.
- Fit the dough-cutter motor, with a blade selected for the length of the cut, onto the plate and secure it by tightening the safety knob.
- Turn the “DOUGH-CUTTER” selector to the right from position 1 and start up the dough-cutter motor.




- Press the green button
- Turn the “COOLING BLOWER” selector to the right and position it at 1. The cooling blower will come in to operation and partially dry the dough leaving the plate.
- Adjust the dough-cutter knife rotation speed with the relative knob.

If the machine stops during the working cycle:


- The thermal protection inside the machine could have tripped as the result of the motor overheating or excessive voltage fluctuation.
- After a few minutes, the thermal protection will be reset automatically and the machine will be ready to continue the working cycle.
- Start up the machine again.
- If the machine does not start again after a few minutes have elapsed and after a number of attempts, you should check that a fuse on the control panel has not blown.
- If necessary, change the fuse that has blown with one with the same amperage rating.
- If the machine does not start after the start-up operation has been performed again, call in Technical Assistance.

5.3 CHANGING THE PLATE

To change the pasta type it is necessary to change the plate in the following way:

- Press the red button  .
- Bring the “COOLING BLOWER” and “DOUGH-CUTTER” back to zero “0”.
- Unscrew the knob and remove the dough-cutter motor.



- Press the green button  and let the machine run for some 10 seconds, reducing the pressure inside the plate.
- Stop the machine by pressing the red button



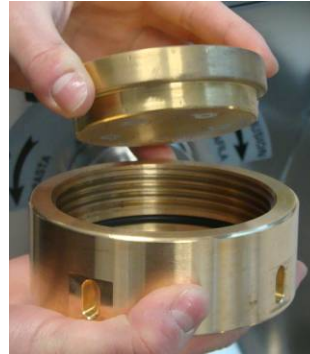
- Loosen the ring nut with the special spanner supplied.



Unscrew and remove the ring nut.

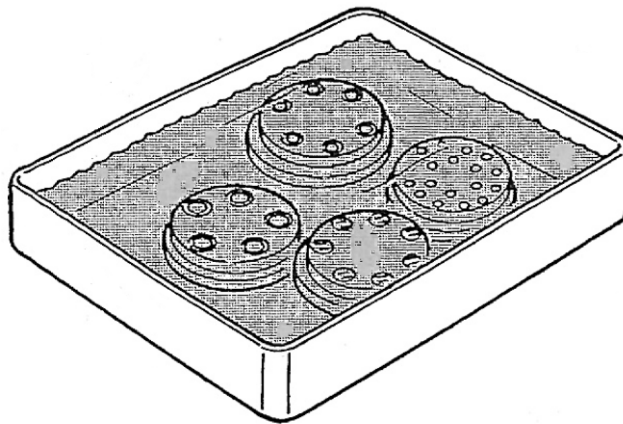


- Remove the plate and replace it with another.



WARNING

After use, the plates must always be immersed in a container full of water to prevent the dough from drying



WARNING

All operations regarding disassembly and assembly of the extrusion are to be carried out with attention and following the checks and precautions described in the "INSTALLATION" paragraph.

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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



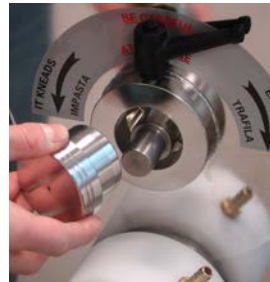
CAUTION

Before starting any type of maintenance work, cut out and lock all energy sources and block the machine safeties. Place a warning signboard near the main switch. "MACHINE BEING SERVICED DO NOT POWER ON".

Before putting back into service, recheck the entire system according to the start-up procedures. Ignoring these precautions could cause serious injuries for the personnel!

To make it easier to clean inside the mixing tank, the shaft should be removed in the following way.

- Turn the locking lever upwards in an anticlockwise direction and remove the ring nut



- Pull the mixer shaft out from above.
- Clean inside the tank and the shaft that has been removed, with a damp sponge.
- Refit the shaft with its ring nut and tighten the locking lever again.



- Use the spanner supplied to loosen the plate support ring nut.



- Unscrew the ring nut and remove it. Remove the feeder and clean it with a damp sponge.
- Remove the plate from the ring nut and plunge it into a container full of water. The dough inside the plate holes must never be allowed to dry.
- Refit the feeder and the plate support ring nut.



WARNING

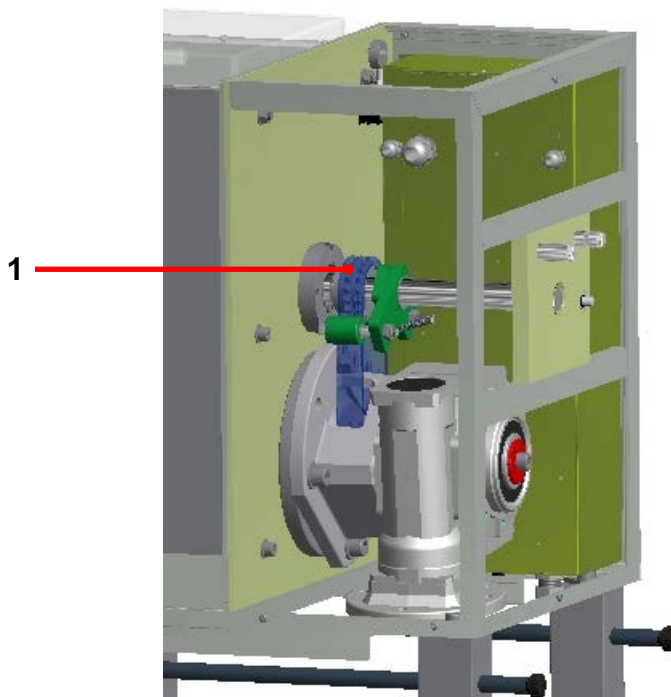
Do not use jets of water to clean the machine. Never fit a plate left out of the water.



CAUTION

After cleaning make sure the sleeve is inserted correctly!

Every six months remove the upper lid and grease the transmission chain (1).



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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

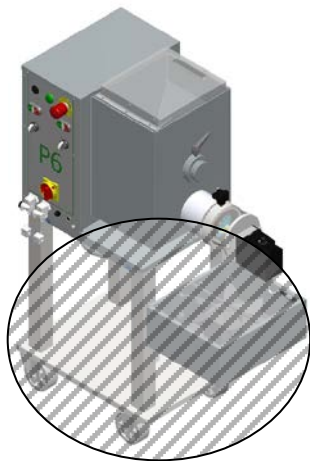
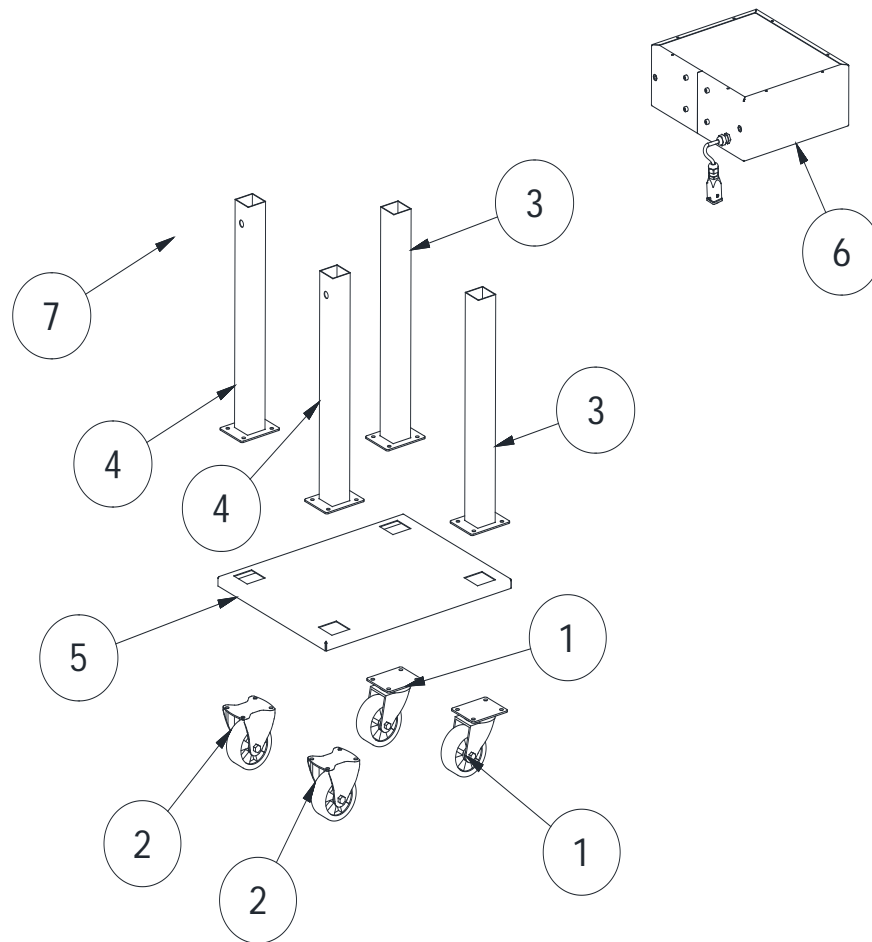
Removed parts that have been replaced are to be delivered to the specific collection centres for disposal.

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.

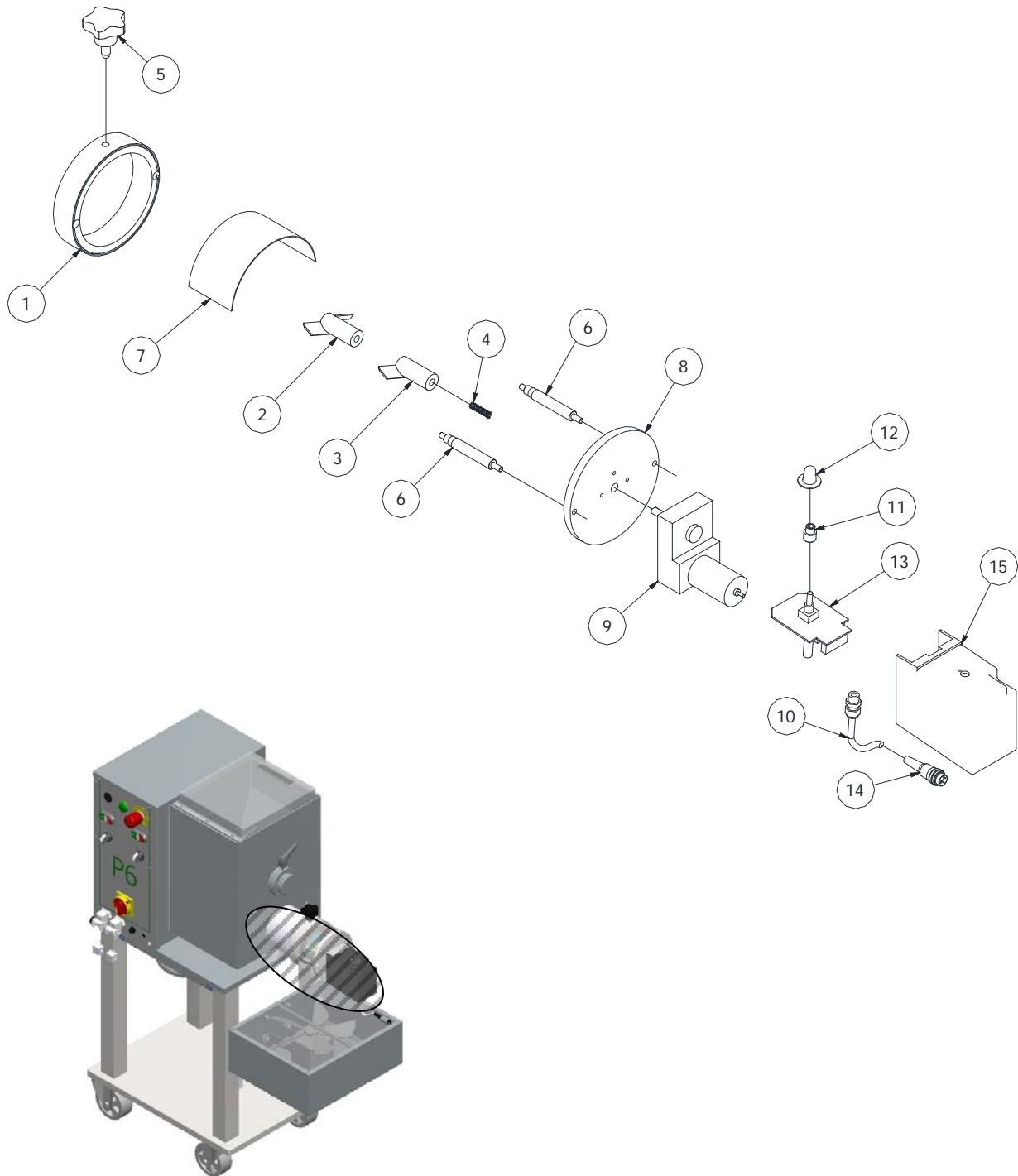
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7.2.1 Table 1 Truck



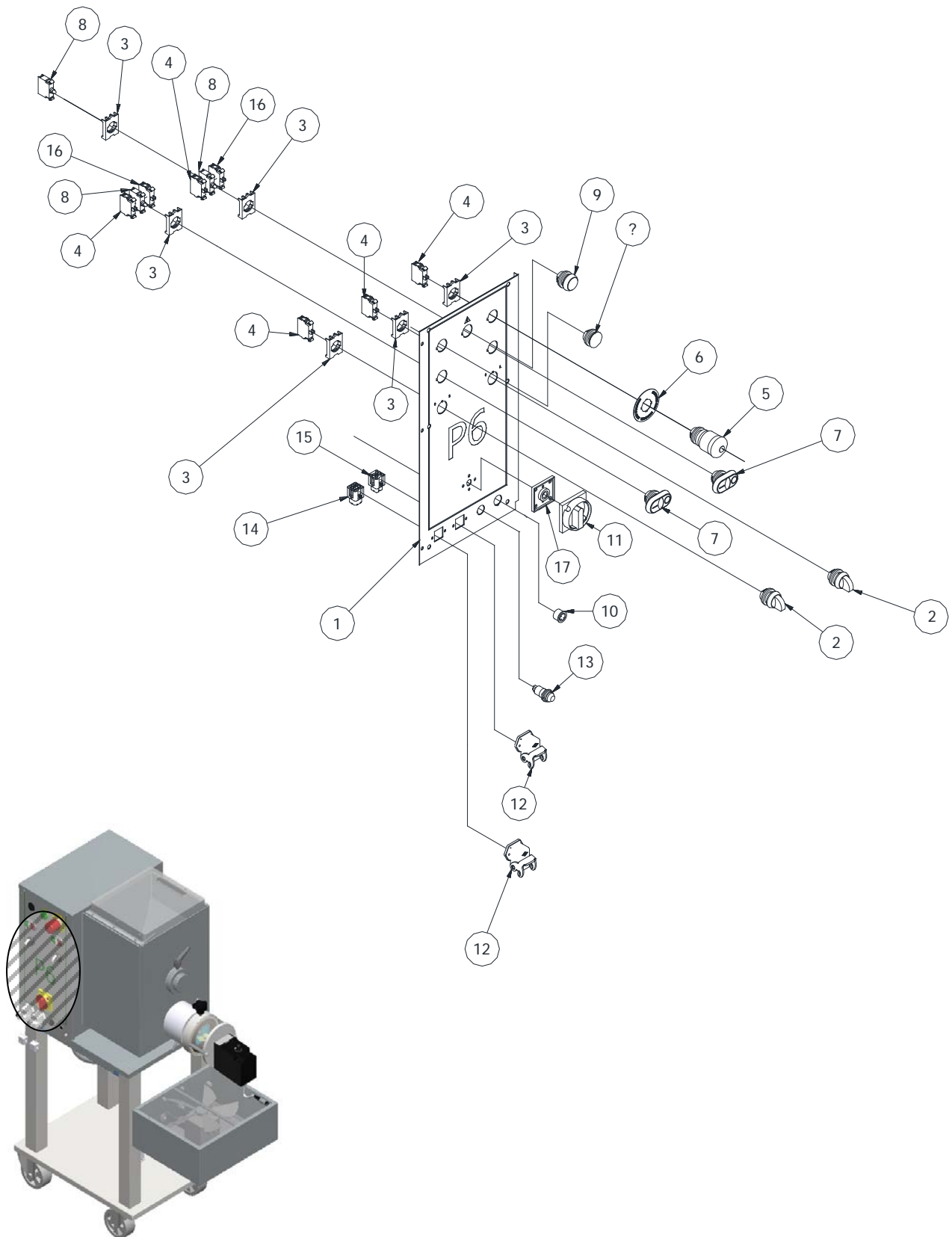
Item	Code	Description	Qty
1	LM-463/1	Pivot wheel with brake	2
2	LM-462	Fixed wheel	2
3	LM-13857	Front legs	2
4	LM-13856	Rear legs	2
5	LM-13858	Sheet covering wheels	1
6	LM-455F	Ventilator	1
7	LM-13859	Ventilator connection ring	2

7.2.2 Table 2 Pastry cutter motor



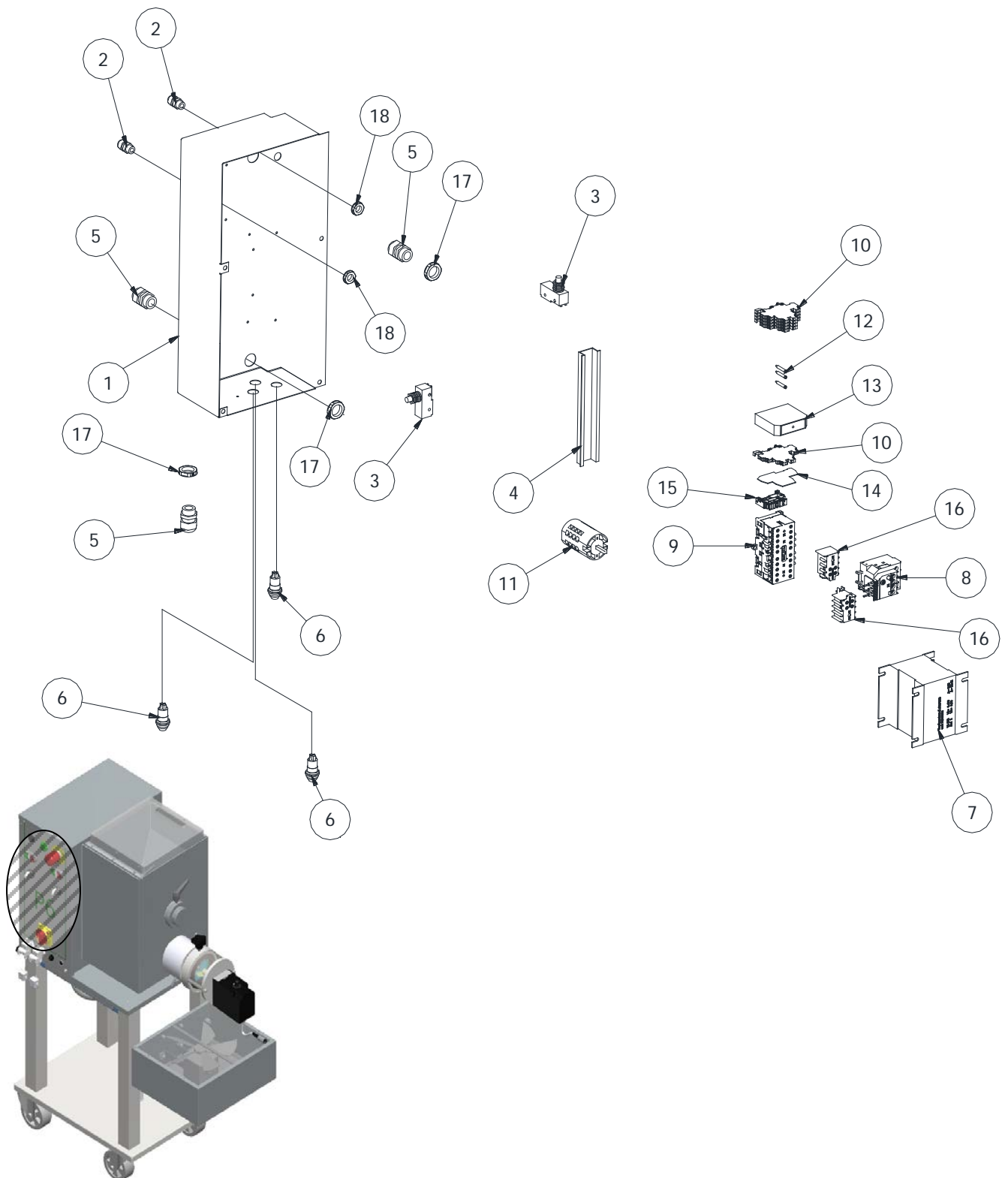
Item	Code	Description	Qty
1	LM-484	Motor bearing ring	1
2	LM-478/A	Pastry cutter knife 1 blade	1
3	LM-478/B	Pastry cutter knife 2 blade	1
4	LM-481/A	Spring pastry cutter knife	2
5	LM-485	Hand-wheel	1
6	LM-479	Pillar pastry cutter motor	2
7	LM-469	Pastry cutter protective screen	1
8	LM-476	Pastry cutter crosspiece	1
9	LM-474	Motor reducer PTI/ASR 24V	1
10	LM-930	Cable gland PG7	1
11	LM-890	Bushing pastry cutter card	1
12	LM-993/A	Knob for potentiometer	1
13	LM-992	Electronic card LAM 02/A without terminals	1
14	LM-2853	3-pole flying plug	1
15	LM-14103	Engine cowling cutter	

7.2.3 Table 3 Control Panel



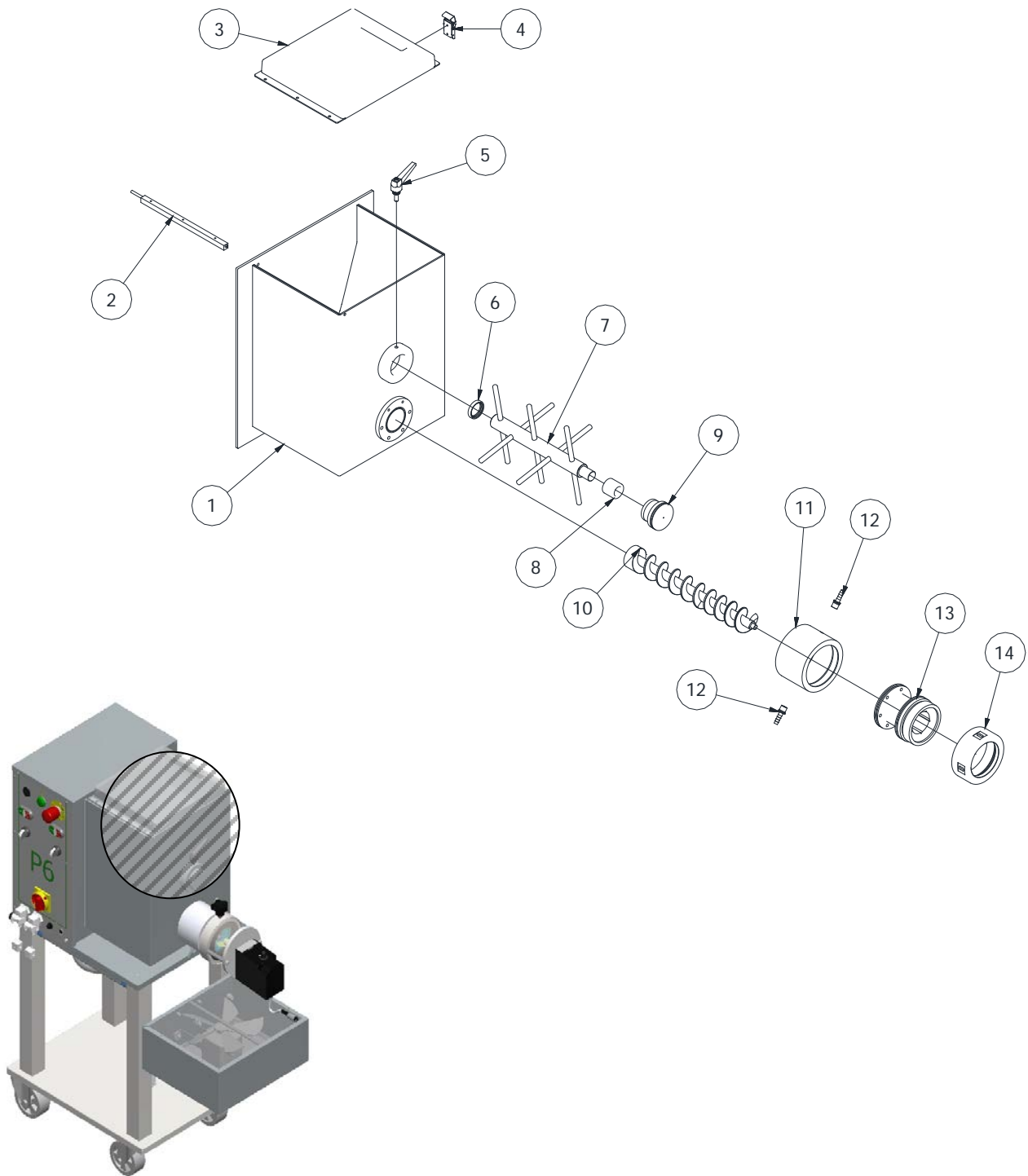
Item	Code	Description	Qty
1	LM-13890	Control Panel	1
2	LM-68415	Selector M22S WKV	2
3	LM-68566	Fastening adapter M22	6
4	LM-62272	Contact NA M22-CK10	4
5	LM-68012	Emergency button M22	1
6	LM-62276	Emergency plate M22-XBK1	1
7	LM-68008	Luminous button M22S-DDLF	2
8	LM-65302	Led M22 White	3
9	LM-65303	Luminous indicator green	1
10	LM-2852	3-pole panel socket	1
11	LM-63787	Padlockable main switch 12A	
12	LM-73530	Case 90°	2
13	LM-859	Fuse carrier	1
14	LM-73531	Body 10A 4 poles +T	1
15	LM-73528	Body 10 ⁰ 3 poles +T	1
16	LM-62275	Contact NC M22 CK01	1
17	DF144	Base fixing master switch	3

7.2.4 Table 4 Switchboard



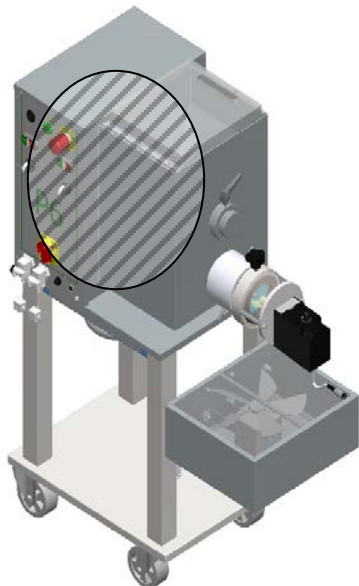
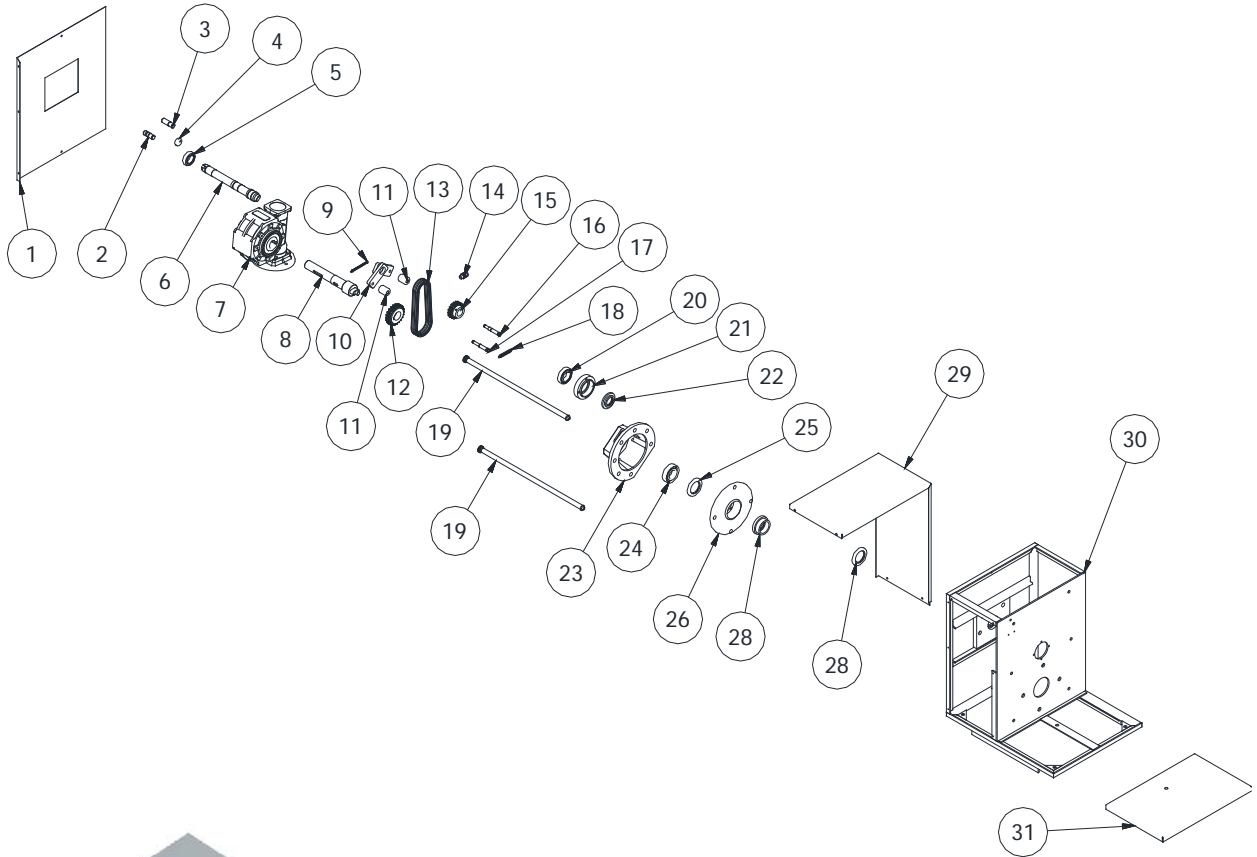
Item	Code	Description	Qty
1	LM-13860	Electronic installation case	1
2	LM-930	Cable Gland PG7	2
3	LM-1608	Microswitch type OMRON Z15GQ	2
4	LM-61654	Omega Bar 35x7,5	0,3 mt
5	LM-853/1	Cable gland PG13,5	3
6	LM-859	Fuse carrier	3
7	LM-74306	Transformer 250VA V=400/24	1
8	LM-73110	Thermal cut-out 1,3/3,1 A	1
9	LM-73100	U-turn meter VB6-30-10-24CA	1
10	LM-65830	2-level terminal 2,5 mm	5
11	LM-63787	General padlock switch 12□	1
12	LM-63784	Vertical interconnection	3
13	LM-68237	Relay ABB RB121A 24V	1
14	LM-66250	Terminal plate	1
15	LM-61675	Block BADL	1
16	LM-68009	Contact aux ABB CA F46	2
17	LM-62461	Nut PG13,5	3
18	LM-62470	Nut G7	2

7.2.5 Table 5 Press tank



Item	Code	Description	Qty
1	LM-13853	Press tank	1
2	LM-13870	Crosspiece tank lid	1
3	LM-401	Tank lid	1
4	LM-2885	Rapid closing inox bent	1
5	LM-1695	Pickup handle M8x20 zined	1
6	LM-406	Lip retaining ring	1
7	LM-13878	Pastry shaft	1
8	LM-408	Bushing	1
9	LM-409F	Konb	1
10	LM-13868	Archimedean screw	1
11	LM-832	Cooling jacket draw-plate	1
12	LM-871	Hose adapter \varnothing 1/4	2
13	LM-13892	Draw-plate holder with cooling	1
14	LM-412	Ring nut blocking draw-plate	1

7.2.6 Table 6 Motorization



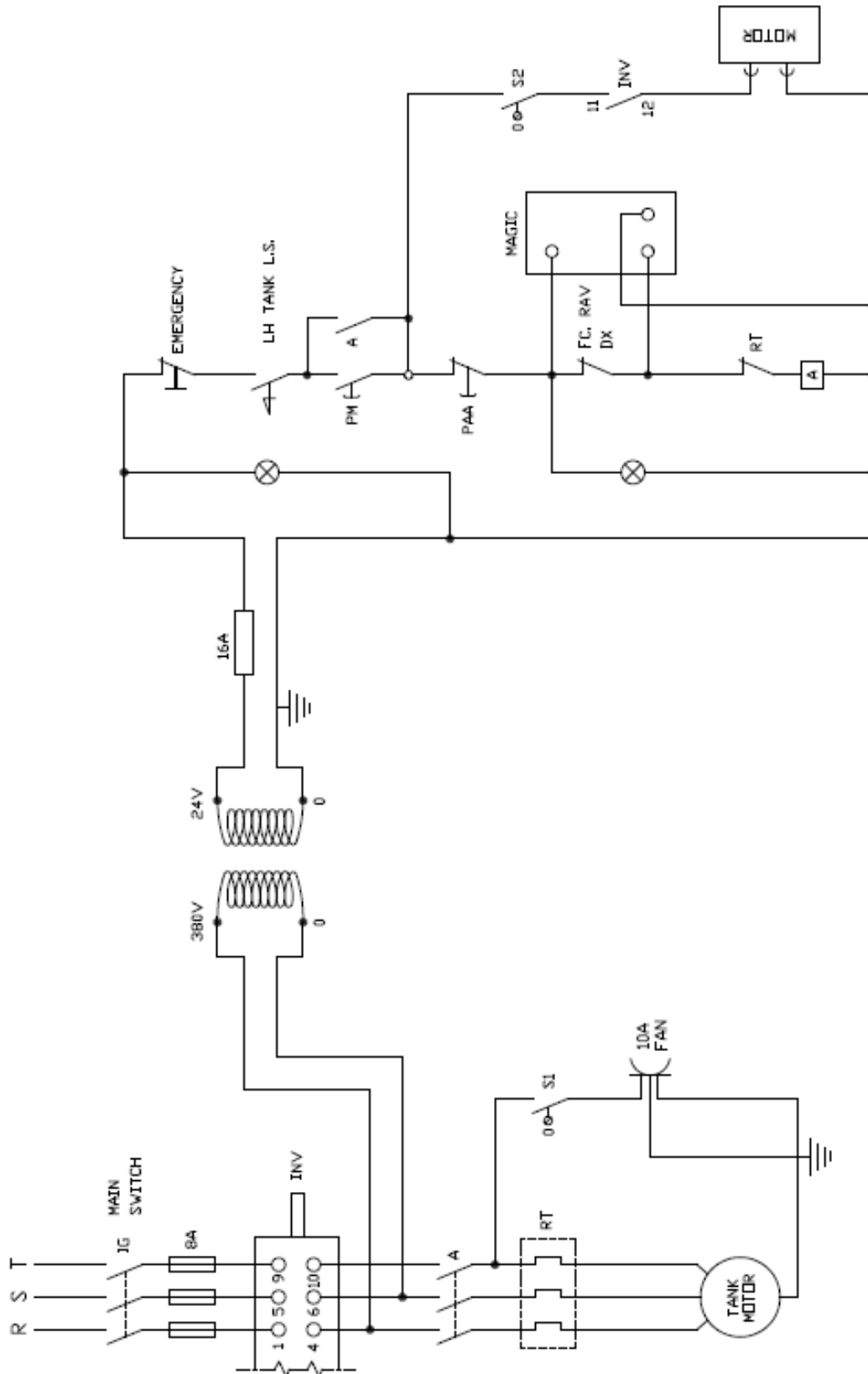
Item	Code	Description	Qty
1	LM-436	Guard	1
2	LM-494	Pin	1
3	LM-493	Pin	1
4	LM-448	Cams	1
5	LM-1612	Radial ball bearing SKF 6005 25/47/12	1
6	LM-13879	Output shaft male clutch	1
7			1
8	LM-13880	Reducing shaft male clutch	1
9	LM-1500	Chain tensioner spring	1
10	LM-491	Chain tensioner arm	2
11	LM-498	Roller	2
12	LM-431F	Pinion	1
13	LM-439	Double roller chain	1
14			1
15	LM-438F	Pinion	1
16	LM-497C	Chain tensioner right	1
17	LM-497L	Chain tensioner left	1
18	LM-490	Chain tensioner spring	1
19	LM-873	Sieve holder rod	2
20	LM-1609	Radial ball bearing SKF 6006 30/55/13	1
21	LM-445	Flange	1
22	LM-444	Ring for OR	1
23	LM-13895	????????????????????????????????????	1
24	LM-422	Oblique ball bearing SKF 7206 30/62/16	1
25	LM-421	Lip retaining ring 40/62/7	1
26	LM-418	Flange	1
27	LM-13864	Bushing OR gate male shaft	1
28	LM-2811	Lip retaining ring 30/42/7	1
29	LM-435	Case	1
30	LM-450F	Finished frame	1
31	LM-458	Upper level	1

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BLANK PAGE

8. WIRING DIAGRAMS

8.1 WIRING DIAGRAM 380 V 50 Hz



8.2 WIRING DIAGRAM - 220 V 50 Hz

