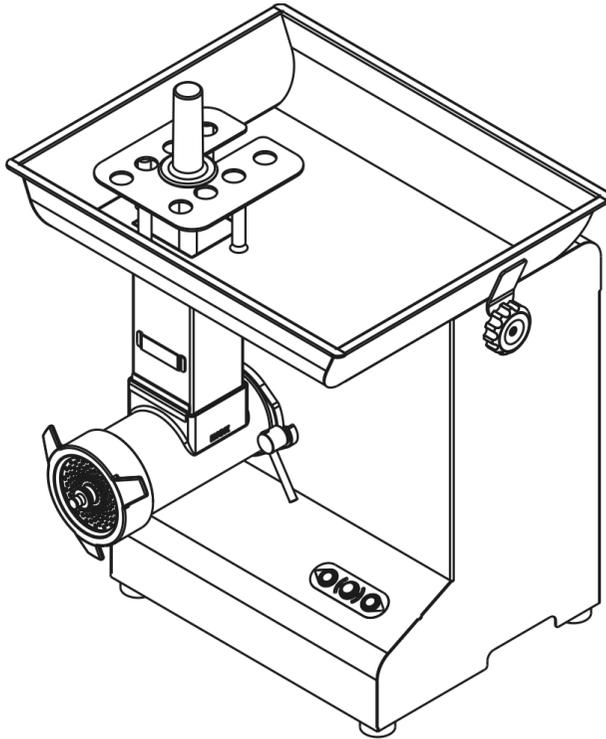




**BMM 32T**

**NON-REFRIGERATED MEAT MINCER**



**English**

BMM\_32\_IND\_008 Ed. 06.2022

**USE AND MAINTENANCE MANUAL**



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# 1 - Delivery and warranty

## 1.1 - Foreward

**ATTENTION!** The symbols used in this manual are meant to draw the reader's attention to points and operations that can endanger the personal safety of operators or risk damaging the machine. Do not use the machine unless you are certain that you have correctly understood these warnings.

**ATTENTION!** For greater clarity certain illustrations in this manual show the machine or parts of it with panels or carters removed. Do not use the machine in these conditions; all protections must be correctly fitted and in perfect working order. This manual may not be reproduced, even partially, and its contents cannot be used for purposes other than those permitted by the manufacturer. Any violations of the above are punishable by law.

## 1.2 - Keeping and using this manual

The purpose of this manual is to instruct the user, through texts and figures, on the warnings and essential criteria concerning transport, movement and use and maintenance of the machine itself. The manual must therefore be carefully read before using the machine. Keep this manual in a safe place near the machine so that it can be easily and quickly reached for any future reference.

If the manual should be mislaid or damaged, ask your dealer or manufacturer for a copy. If the machine is sold, inform the manufacturer of the name and address of the new owner. The manual reflects the state of technology at the time the machine is sold and cannot be considered inadequate if it is subsequently updated on the basis of new knowledge. For this purpose the manufacturer reserves the right to update its products and related manuals without being obliged to update previous products and manuals barring exceptional cases. In doubt, consult the nearest servicing center or the manufacturer. The manufacturer's aim is to continuously optimize its product therefore it is pleased to receive any comments or suggestions on improvement of the machine and/or the manual.

The machine is delivered to the user under warranty conditions in force at the time of purchase. Contact your supplier for any clarifications required.

## 1.3 - Warranty

The user is not authorized for any reason to tamper with the machine. If a fault occurs contact the manufacturer.

Any attempts at dismantling or tampering with any part of the machine in general by the user or unauthorized personnel will bring about the lapse of the **Declaration of Conformity** written according to the **Directive EEC 2006/42**, will render the warranty null and void and will exempt the manufacturer from responsibility for any damage either to persons or things due to such tampering.

The manufacturer is also exempt from all responsibility in the following cases:

- Incorrect installation;
- Improper use of the machine by inadequately trained personnel;
- Failure to comply with the regulations in force in the country the machine is installed in;
- Lack of or insufficient maintenance;
- Use of unoriginal spare parts and spare parts not specifically designed for the model;
- Total or partial failure to follow the instructions.

## 1.4 - Machine description

The meat grinder in your possession is a simple, compact, highly efficiency and powerful machine.

- As it is supposed to be used for chopping food, the components that can come in contact with the product have been carefully chosen to ensure maximum hygiene. The housing is made of stainless steel AISI 304.
- The hopper is made of stainless steel AISI 304 to ensure maximum hygiene and easy cleaning.
- The plates and knives are made of grade AISI 430 stainless steel; therefore, they may rust if they are left immersed or wet. We recommend drying them after they are washed.
- Feed and rotor of cast stainless steel AISI 304 with the possibility of applying the UNGER system in whole or part.
- Possibility of reversing the direction of rotation using a switch.
- Rigid locking of the feed to improve the cut of the meat and extend the life of the plates and blades.
- Ventilated motors either three-phase or single phase with the following advantages:
  - consistency of performance and durability of the engine;
  - increase in the effective operating time due to fewer interruptions;
  - low rate of heat to keep the meat fresh and unaffected.

The models shown in this manual have been produced according to **EEC Directive 2006/42**, as amended.

In case of accident, no liability can be assigned to the manufacturer if the machine has been modified, tampered with, deprived of safety guards or used for purposes not intended by the manufacturer.

## 1.5 - Foreseen use

The machine is designed and manufactured to grind meat or fish up to a maximum temperature of 7°C. After every work cycle, we recommend not leaving any food inside the grinding inlet or on the trays for long periods (maximum 5 minutes).

The meat grinder must be used in professional environments by qualified operators who have read and understood this manual.

Use the machine only when safely supported on a solid work table. The size of the meat to be ground must be such as to fit completely in the inlet feed and not overflow the hopper.

## 1.6 - Forbidden uses

The machine must only be used for purposes foreseen by the manufacturer, in particular:

- **Do not** use the machine to grind food products different from meat or the like.
- **do not** use the machine if not properly installed with all the guards intact and properly installed to avoid the risk of severe injury.
- **do not** use nor store the machine inside a cold room: this could seriously damage the electrical components sensitive to condensate (which forms at low temperatures) and also alter the viscosity of the grease and/or lubricating oil in the gearbox housed inside it, jeopardising the machine's correct operation and causing potential failures.
- **Do not** access electrical components without having previously disconnected the machine from the electrical supply: **risk of electrocution**.
- **Do not** work with products that are larger than what can completely fit inside the loading hopper.
- **Do not** wear clothing that does not conform with accident prevention laws.

Consult the employer for safety prescriptions in force and safety devices to be used.

- **Do not** start the machine if it is not working correctly.
- Before using the machine make sure that any condition which endangers safety has been opportunely eliminated. If any irregularity occurs, stop the machine and notify the head of maintenance.

- **Do not** allow unauthorized personnel to operate the machine.

Emergency treatment in case of accident caused by the electrical current, first remove the victim from the conductor (as he will usually be unconscious). This operation is dangerous as the victim is a conductor in this case and touching him can cause electrocution.

You should therefore disconnect the contact directly from the power line supply valve or, if this is not possible, distance the victim using insulating material (wooden or pvc sticks, fabric, leather, etc.). A doctor should be promptly called and the patient taken to the hospital.

### 1.7 - Machine information

An exact description of the "**Model**", the "**Serial number**" and the "**Year of manufacturing**" of the machine will facilitate fast and efficient responses on behalf of our servicing department. It is advisable to indicate the model of the machine and the serial number each time you contact the servicing department. The data is reported on the plate shown in fig. 1.7.1. As a memorandum, we suggest reporting the data for the machine you have purchased in the table below:

Meatgrinder model.....
Serial number.....
Year fo manufacturing.....
Type.....

#### WARNINGS!

Do not alter the data reported on the plate for any reason.

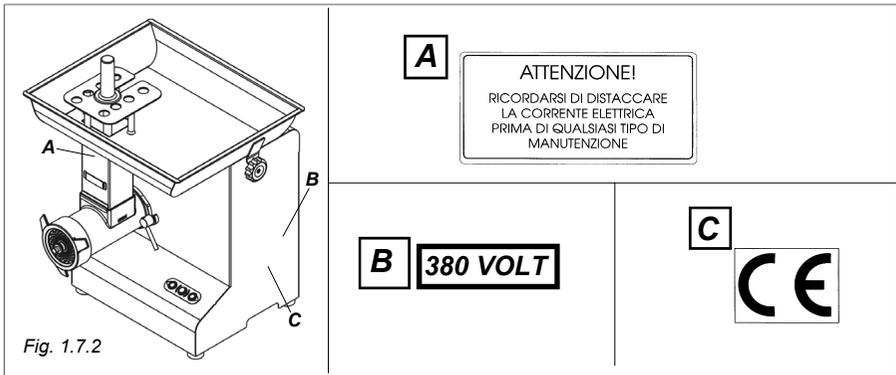
MOD: <b>A</b>			
VOLT: <b>B</b>	WATT: <b>C</b>		
HZ: <b>D</b>	KG: <b>E</b>		
AMPS: <b>F</b>	ANNO: <b>G</b>		
SERIAL NO: <b>H</b>			
<b>I</b>			
	<b>L</b>		

A= model of the machine  
 B= Power supply  
 C= motor power  
 D= motor frequency Hz  
 E= Weight  
 F= Amperage  
 G= Year of manufacture  
 H= Serial Number  
 I= Manufacturer  
 L= Bar code

Fig. 1.7.1

#### 1.7.1 - Warning and danger plates (fig. 1.7.2)

**WARNINGS!** Do not intervene on the electrical components while the machine is connected to the power supply. Risk of electrocution. **Observe the warnings on the plates. Failure to observe them can cause personal injury.** Make sure the plates are fitted and legible. If they are not, fit or replace them.



### 1.8 - Safety protections and devices

**WARNING!** Before using the machine make sure the devices are correctly positioned and in perfect condition. At the beginning of each work shift check that they are fitted and working efficiently; if not, notify the head of maintenance.

#### 1 Product outlet, with plate holes smaller than

**8 mm.** In this case introducing fingers into the mouth is impeded. Upon request an outlet plate with holes having a diameter greater than 8 mm can be installed. In these cases the user will be responsible for the installation of a proper protection on the mouth.

**2 Hand guard.** The hopper has the protection "2" Fig.1.8.1 in compliance with the circular from the Ministry of Work and Social Security n° 66 dated 05/09/79.

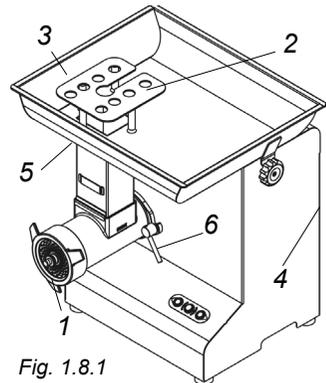
**3 The stainless steel hopper is firmly blocked at the loading mouth.**

**4 Protection carters for electrical components.**

The lower part of the machine is closed by a carter, blocking involuntary access to electrical components inside of it.

**5 Micros on the hopper.** A magnet corresponding to the safety sensor is assembled in the lower part of the hopper.

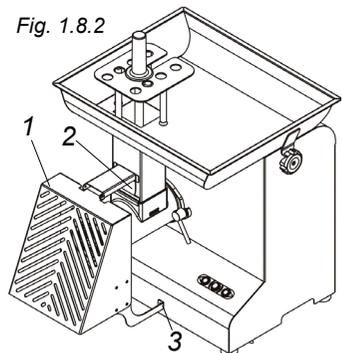
**6 Mouth locking nut.** For a correct functioning of the meat grinder the mouth must be rigidly tightened through these locks.



**ATTENTION!** Do not tamper with the safety devices in any way or for any reason.

#### 1.8.1 - Protection of meat grinder plates with holes greater than to 8mm

When the customer requires the ability to use plates with holes greater than to 8 mm, by law it is required to provide a guard (1) to be inserted in the feed so that the hand of the operator cannot touch it. The guard is attached to the hopper neck (2) so that the magnet comes into contact with the sensor inside the machine, which otherwise will not start.



### 1.8.1 Lock handle for meat output feed

Proper use:

If you want correct operation and precise grinding, all meat grinders need to have the feed tightly locked.

In order to avoid inaccurate fitting, it is important always to follow this installation process:

1. Make sure that the machine is switched off.
2. Insert the mouth, including the ring nut and internal components (worm, knives, plates) into the machine's mouth support.
3. Make sure that it is in the correct position, with the milled rear end of the worm perfectly slotted into the drive pin, then lock it with the locking nuts (ref. 6, see Fig. 1.8.1).

If it cannot be fastened:

- loosen the ring nut, without removing it
- push the mouth until it adheres to the machine body
- take the worm pin and turn it until the screw inserts perfectly into the drive pin
- fasten the mouth with the locking nuts
- take the plate tang and turn it until it inserts precisely into the guide pins on the mouth.
- tighten the ring nut fully

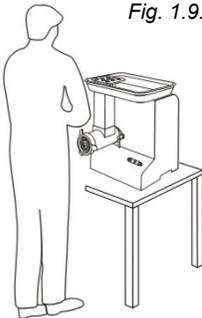


Fig. 1.9.1

### 1.9 - Work position

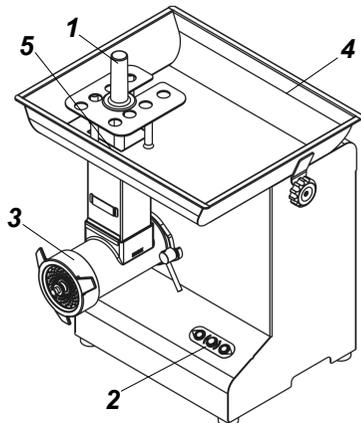
The correct work position for the operator to optimize working with the machine is indicated in fig. 1.9.1.

## 2 - Technical features

### 2.1 - Main parts

To facilitate understanding the manual the main parts of the machine are listed and represented in fig. 2.1.1.

1. Pestle in stainless steel AISI 304 and plexiglass
2. Machine commands
3. Outlet for the ground meat in stainless steel AISI 304
4. Loading hopper in stainless steel AISI 304
5. Loading mouth in stainless steel AISI 304



## 2.2 - Technical features

	Motor	Feed	Hourly production	Outfitted plates
	watt/hp		kg/h.	ø mm
32 Hp 3	2208/3	230-400V/50Hz	700	4,5
32 Hp 4	2940/4	230-400V/50Hz	700	4,5

## 2.3 - Machine dimensions and weight

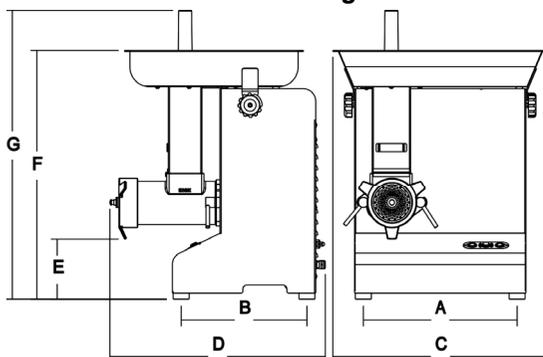


Fig. 2.3.1

A	385 mm
B	315 mm
C	540 mm
D	540 mm
E	150 mm
F	620 mm
G	720 mm
Net weight	65 kg

## 2.4 - Optionals

### 2.4.1 Optional trestle with wheels (A fig. 2.6.1)

Pay attention in moving machine with legs and wheels. First of all remember to **RELEASE THE WHEELS** before move the machine, otherwise it could fall towards the operator causing injuring and damaging the machine itself.

### 2.4.2 Optional polyethylene tray (B fig. 2.6.1)

The polyethylene extracting tray is suitable to support a weight **NOT SUPERIOR** of Kg. 12.

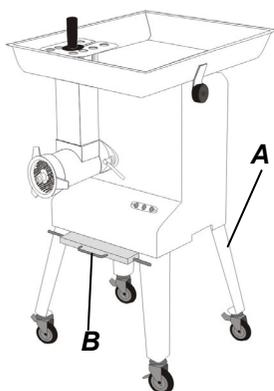
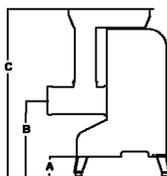


Fig. 2.6.1

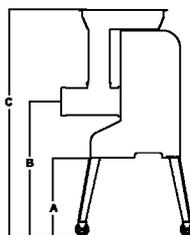


Small legs

A: 131 mm

B: 347 mm

C: 726 mm

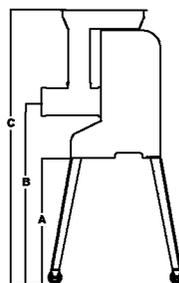


Medium legs with wheels

A: 416 mm

B: 632 mm

C: 1011 mm



High legs with wheels

A: 788 mm

B: 1004 mm

C: 1383 mm

## 3 - Commands and indicators

### 3.1 - List of commands and indicators

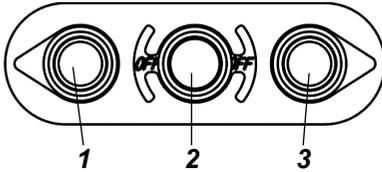


Fig. 3.1.1

**1 - Start pushbutton (continuous):** Press to start the machine.

**2 - Stop pushbutton:** Press to stop the machine.

**3 - Gear inversion pushbutton (discontinuous):** Enables inverting the rotation direction of the propeller.

## 4 - Testing, transport, delivery, and installation

### 4.1 - Testing

The machine you have purchased has been tested on our premises to ensure it is correctly running and regulated.

### 4.2 - Delivery and moving the machine

All the material shipped has been carefully checked before delivery to the forwarding agent. Unless otherwise stipulated by the client or hindered by particularly burdensome transport, the machine is packaged on a pallet and wrapped in cardboard. Upon receipt of the machine check that the packaging is intact. Should the packaging be damaged, sign the shipping agent's transport documents, noting that, for example: "I accept, but ..." and the reason. Once the package has been opened, should it be found that components of the machine have truly been damaged, declare such damage to the shipping agent within three days of the date indicated on the transport documents.

### 4.3 - Installation

**ATTENTION!** The area in which you wish to install the machine must be solid and the surface it rests on must guarantee safe support. Furthermore, it is necessary to position the machine, leaving ample space around it. This allows for better maneuverability while working and guarantees access for periodic maintenance. Ensure that there is sufficient lighting around the machine to guarantee good visibility for the operator of the meatgrinder.

#### 4.3.1 - Package disposal

Package components such as cardboard, nylon and wood are compatible with solid urban waste and can therefore be disposed of freely. Nylon is a pollutant material; if burned it produces toxic fumes. Do not burn and do not dispose of in the environment but dispose of according to laws in force. If the machine is delivered in countries in which there are no particular laws, dispose of the packaging according to what is prescribed by the laws in force.

#### 4.3.2 - Moving the machine

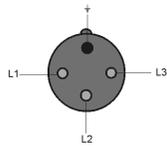
**ATTENTION!** Handle the machine carefully and with extreme ATTENTION, avoiding that it accidentally falls, which could seriously damage it. Due to the solid weight of the machine, at least two people are required for moving it.

## 4.4 - Connecting the electrical system

**ATTENTION!** Check that the electrical supply line corresponds with the data reported on the machine identification plate. Each intervention must be carried out only by qualified personnel who are expressly authorized. Make the connection to a network outfitted with an efficient floor plug.

### 4.4.1 - Three-phase machine: 380 V-50Hz and 220 V 50 Hz

In these set ups the machine is outfitted with a feeding cable with a section of 4 x 1.5 mm. This is a connection to a three-pole + grounding three-phase plug.

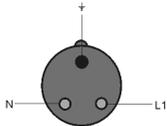


Connect the cable to the three-phase feeding network, interlacing a 16-Amp magnetothermic differential switch.



### 4.4.2 - 220 Volt-50 Hz single-phase machine

In this set up the machine is outfitted with a feeding cable with a section of 3 x 1.5 mm. This is connected to a three-pole single-phase plug.



Connect the cable to the 220 Volt-50 Hz single-phase feeding network, interlacing a 16-Amp magnetothermic differential switch.



*N: usually it is of blue colour or by N° 4 indicated*

In set ups with voltages different from those mentioned, consult the manufacturer. If the feeding cable must be prolonged, use a cable with the same section as the one installed by the manufacturer.

## 5 - Start up and stop

### 5.1 - Checking the correct electrical connection

Connect the plug to the electrical outlet; Press the start pushbutton ("1" Fig. 3.1.1 ), checking the rotation direction of the tools (in the 380 three-phase version). The rotation direction must be counter-clockwise.

If the rotation direction is incorrect, disconnect the machine from the electrical supply and contact the dealer in your area.

**Note:** For the machines connected to a single-phase line and made for such feeding, the correct rotation direction is directly defined by the manufacturer.

### 5.2 - Checking the presence and efficiency of the protection and safeties

- 1 - Product outlet.** Check that the plates on the product outlet have holes with a diameter smaller than 8 mm. If they do not, the outlet must be installed with a proper protection.
- 2 - Hand guard** The hopper must have a hand guard.
- 3 - Stainless steel hopper.** The stainless steel hopper is firmly welded onto the casing.
- 4 - Electrical component protection carters.** Make sure they are fitted, intact and correctly fastened to the internal parts of the machine.

### 5.3 - Checking the efficiency of the stop pushbutton

While the machine is connected to the power supply and the tool is moving, press the stop pushbutton "2" Fig. 5.3.1. The machine must stop.

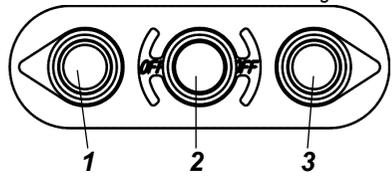


Fig. 5.3.1

### 5.4 - Starting the machine

To start the machine just press the start pushbutton "1" Fig. 5.3.1 after having correctly connected the plug to the electrical outlet and the machine will start.

### 5.5 - Stopping the machine

To stop the machine just press the stop pushbutton "2" Fig. 5.3.1 and the machine will stop.

## 6 - Using the machine

### 6.1 - Warnings

**ATTENTION!** Only authorized personnel can operate the machine.

Before using the machine, the operator must make sure that all the protections are in place and that the safety devices are fitted and efficient. If not, turn off the machine and notify the head of maintenance. The product to be ground must be in pieces that can enter the loading mouth and they must be pushed with the help of a proper pushing utensil (pestle) **NEVER USE YOUR HANDS FOR THIS.**

**The machine is not designed to operate inside a cold room: this could seriously damage the electrical components sensitive to condensate (which forms at low temperatures) and also alter the viscosity of the grease and/or lubricating oil in the gearbox housed inside it, jeopardising the machine's correct operation and causing potential failures.**

### 6.2 - Setting up the outlet or the proper pushing device (pestle).

The machine can be set to use three different meat cutting units:

- A - Enterprise or normal
- B - Partial UNGER
- C - Total UNGER

- The system -C- (total UNGER), includes: a AISI 304 stainless steel rotor "1" to transport the meat, a AISI 430 steel fringer plate "2", a first knife "3" and the related perforated plate "4" both in AISI 430 steel, a second knife "5" with the final perforated plate "6" both in AISI 430 steel, a spacer "7" in AISI 304 stainless steel.

- The system -B- (partial UNGER), replaces the knife "5" and plate "4" with the spacer "7".

- The system -A- (Normal) is the easiest method of transport, composed only of the AISI 304 stainless steel rotor, a knife and an output plate, both in AISI 430 steel.

It is not possible to mount the plates of the B or C unit on models with A grinder; it is necessary to change the entire unit.

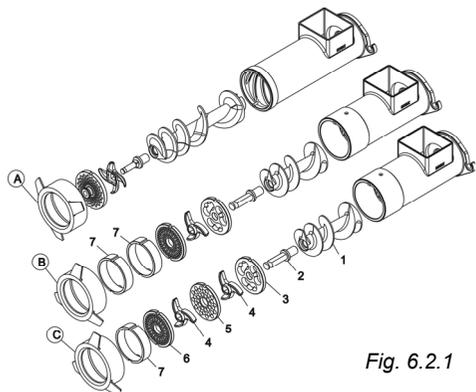


Fig. 6.2.1

### 6.3 - Using the meatgrinder

- 1 Make sure the feeding tension corresponds to the value reported on technical plate.
- 2 Lightly tighten the ring nut on the meatgrinder and put in a little meat, press the start pushbutton, making sure that the rotation direction of the propeller is counter-clockwise.
- 3 If the meat coming out is cut well then the nut has been sufficiently regulated; on the contrary, tighten the nut some more until reaching the perfect cut of the meat.
- 4 Stop the machine by pushing the stop pushbutton.

### 6.4 - Dismantling and cleaning the mouth after use

- 1 Empty the mouth and inlet collar completely and then start the machine without any meat in it.
- 2 When you are sure that no processing residues are left in the collar and mouth, switch the machine off and disconnect it from the mains electricity.
- 3 Loosen the nuts fastening the mouth
- 4 Detach the mouth completely and place it on a support surface.  
You can now dismantle the components of the mouth.
- 5 Loosen the ring nut fully until it slides off.
- 6 Extract the plate and knives, followed by the worm.
- 7 Clean every component.

### 6.5 - Assembling the mouth after cleaning

After properly cleaning each component, reassemble the mouth.

1. Insert the grinding worm.
3. Insert the knife and plate, while making sure that the knife is mounted with the blade facing the grinding plate.
4. Screw on the ring nut and tighten it slightly.
5. Mount the mouth on the machine by following the instructions of Paragraph 1.8.1.

### 6.6 - Using the spanners for fastening and loosening the ring nuts and the extractor for plates and screws for BMM 32-42

- BMM 32

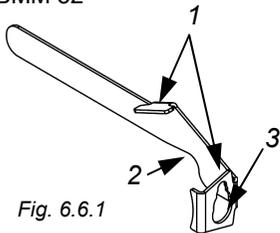


Fig. 6.6.1

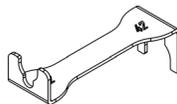
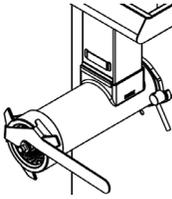


Fig. 6.6.2

The spanner for the BMM 32 machine is made up of:

- 1: two folded edges for fastening onto the rim and crests of the ring nut;
- 2: an indent on the lower section for wrapping around the tang of the plate;
- 3: a slotted hole to be used as an extractor for the plate and the worm.

Depending on the versions, the hole might be absent and replaced by a separate dedicated "extractor" spanner (FIG. 6.6.2).



### LOCKING THE BMM 32 RING NUT

Using the two folded edges (REF. 1 - Fig. 6.6.1), with a linear movement from left to right, fasten the spanner onto the ring nut so that the lever can leverage on two of the three crests and on the tang of the plate. The two edges must be positioned so that they lie before the crests and the lever indent (REF. 2 - Fig. 6.6.1) must wrap around the tang of the plate.

Push the lever downwards so that it turns clockwise, as shown in Fig. 6.6.3.

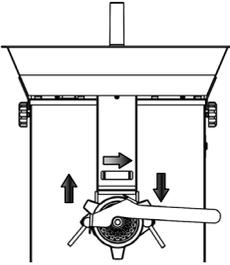


Fig. 6.6.3

### LOOSENING THE BMM 32 RING NUT

Using the two folded edges (REF. 1 - Fig. 6.6.1), with a linear movement from right to left, fasten the spanner onto the ring nut so that the lever can leverage on two of the three crests and on the tang of the plate. The two edges must be positioned after the crests and the lever indent (REF. 2 - Fig. 6.6.1) must wrap around the tang of the plate.

Push the lever downwards so that it turns anti-clockwise, as shown in Fig. 6.6.4.

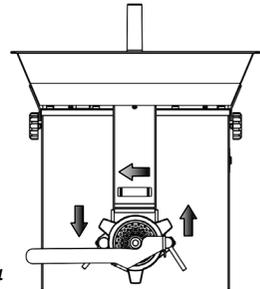
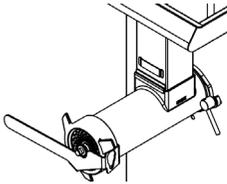


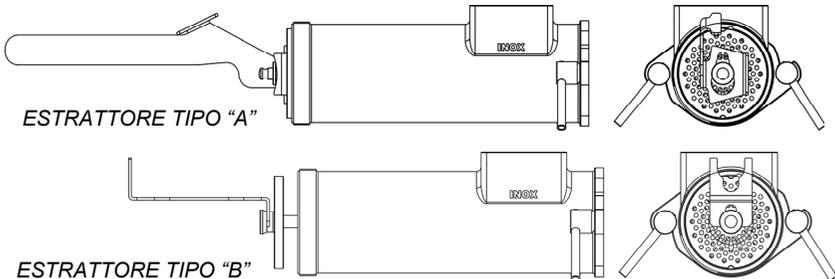
Fig. 6.6.4

### EXTRACTOR FOR THE BMM 32 PLATE AND SCREW

Depending on the version, we can have two different types of extractors:

TYPE "A" - slotted hole already present on the spanner for tightening the ring nut (Fig. 6.6.1);

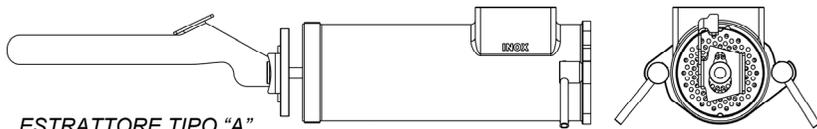
TYPE "B" - dedicated extractor spanner (Fig. 6.6.2).



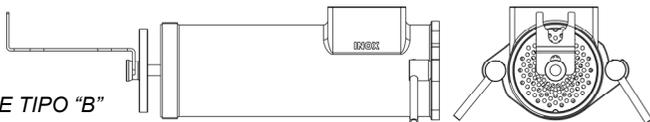
### Extracting the BMM 32 plate

After having loosened the ring nut, position the edge of the spanner with the slotted hole in front of the plate.

With a linear movement, using the hole with the larger diameter, insert the lever on the tang of the plate until it rests against the wall of the latter.



*ESTRATTORE TIPO "A"*



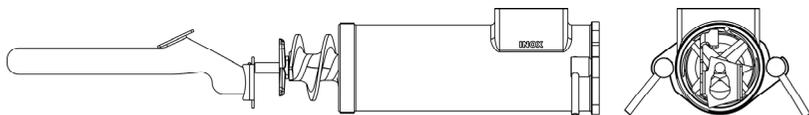
*ESTRATTORE TIPO "B"*

While slightly lowering the lever, using the medium-size hole, grip the tang of the plate. With a linear movement pull the lever towards you: the plate attached to it will be extracted from its housing.

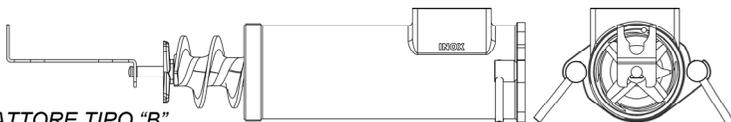
#### Extracting the BMM 32 screw

With a linear movement, using the hole with the larger diameter, insert the lever on the screw pin. While slightly lowering the lever, using the small-size hole, grip the groove on the pin.

With a linear movement pull the lever towards you: the pin attached to it will make the screw detach from its housing.



*ESTRATTORE TIPO "A"*



*ESTRATTORE TIPO "B"*

## **7 - Maintenance**

**ATTENTION!** Every maintenance and cleaning operation must only be carried out with the machine at a standstill and disconnected from the electrical power supply.

The area in which maintenance will be done must always be clean and dry.

Do not allow unauthorized personnel to intervene on the machine.

Any possible replacement of parts, including the utensil, must be made with original spare parts at authorized workshops or directly by the manufacturer.

### **7.1 - Lubrication**

The machine does not require any lubrication.

### **7.2 - Cleaning the machine**

**ATTENTION!** Disconnect the machine from the electrical power supply before cleaning it. Do not clean the machine with jets of water. After washing, dry the machine. Only use non-toxic detergents which are designated for cleaning components for food use. Plates and knives are made of AISI 430 steel, if left wet or to soak, they can rust. It is advisable to dry them after washing.

### 7.3 - WEEE Waste of Electric and Electronic Equipment



This symbol, crossed out wheeled bin, on the product or on its packaging indicates that this product must not be disposed of with your other household waste.

Separate waste collection of this appliance is organised and managed by the manufacturer. It is the user's responsibility to contact the manufacturer and follow the waste treatment system the manufacturer has adopted for separate waste collection.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

## 8 - Problems and solutions

### 8.1 - Problems, causes and solutions

Problems	Causes	Solutions
The machine does not start	<ul style="list-style-type: none"> <li>- The differential switch is on position "0".</li> <li>- The outlet switch is on position "0"</li> <li>- The push-button "on" does not work.</li> <li>- The electrical motor is faulty.</li> <li>- The safety devices are removed or not present.</li> </ul>	<ul style="list-style-type: none"> <li>- Turn the switch to position "I"</li> <li>- Turn the switch to position "I"</li> <li>- Call the technical service centre</li> <li>- Call the technical service centre</li> <li>- Check safety devices</li> </ul>
The screw propeller does not turn in the sense indicated by the arrow (on three-phases model)	Reverse phase wire on plug	Contact Technical Support
The product is not minced correctly	<ul style="list-style-type: none"> <li>- The plate and the knife are not tightened correctly</li> <li>- There is some rust on the plate and knife, they do not stick perfectly to each other (on the surface of the plate)</li> <li>- The feed opening is not installed correctly</li> <li>- Loose ring nut</li> </ul>	<ul style="list-style-type: none"> <li>- Tighten correctly the plates and knife</li> <li>- Replace the faulty plate and knife</li> <li>- Install correctly the feeding opening</li> <li>- Tighten the ring nut properly</li> </ul>

# 9 - Electrical diagrams

## 9.1 - Single-phase electrical diagram

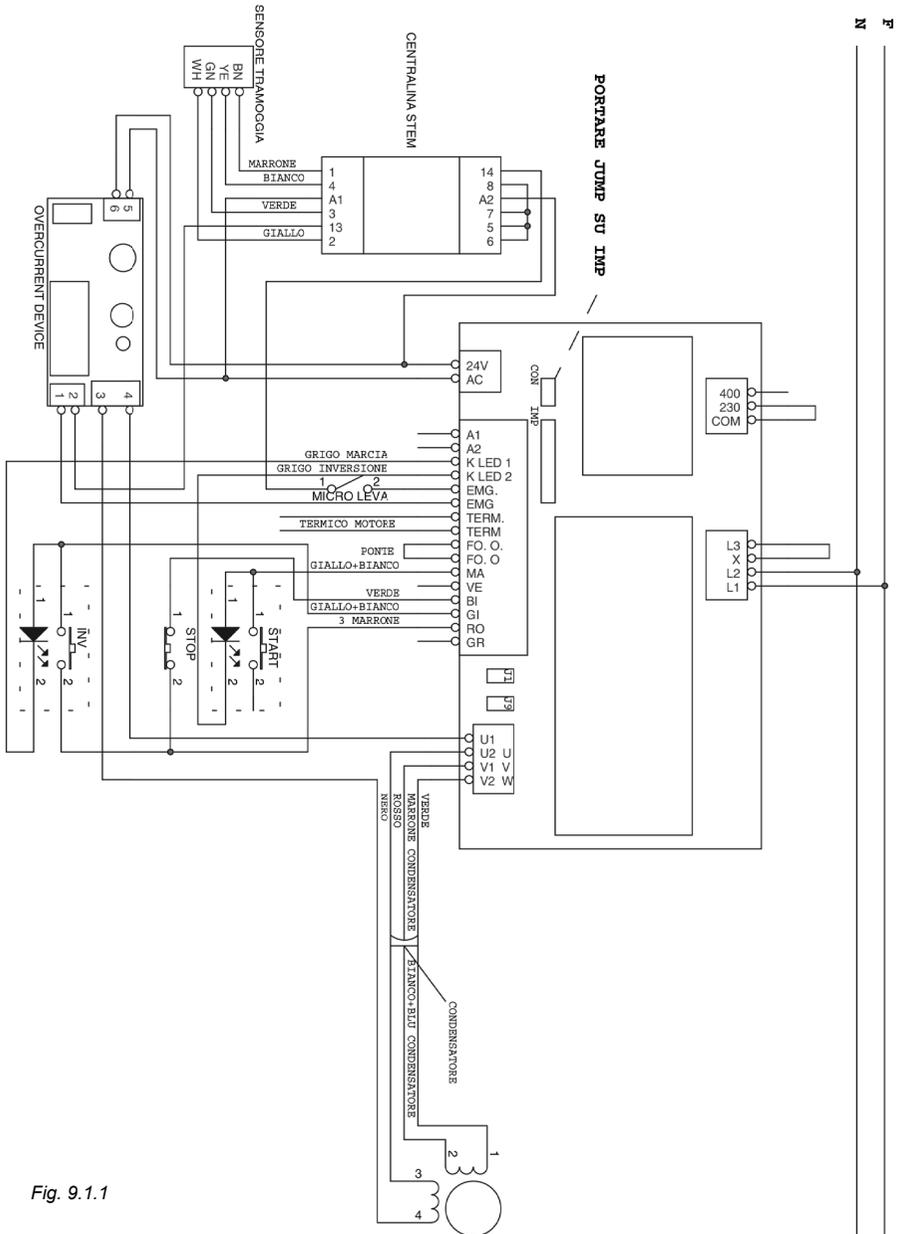


Fig. 9.1.1

## 9.2 Three-phase electrical diagram

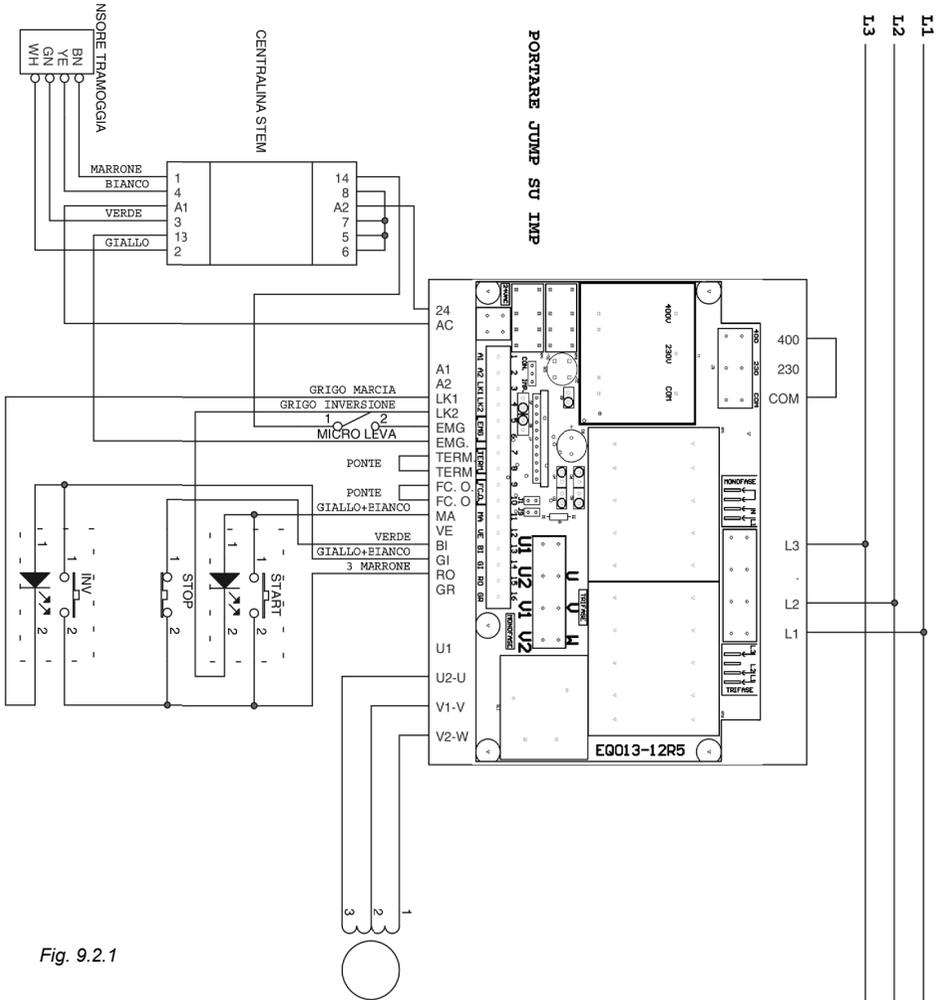


Fig. 9.2.1

### 9.3 - Single-phase electrical system

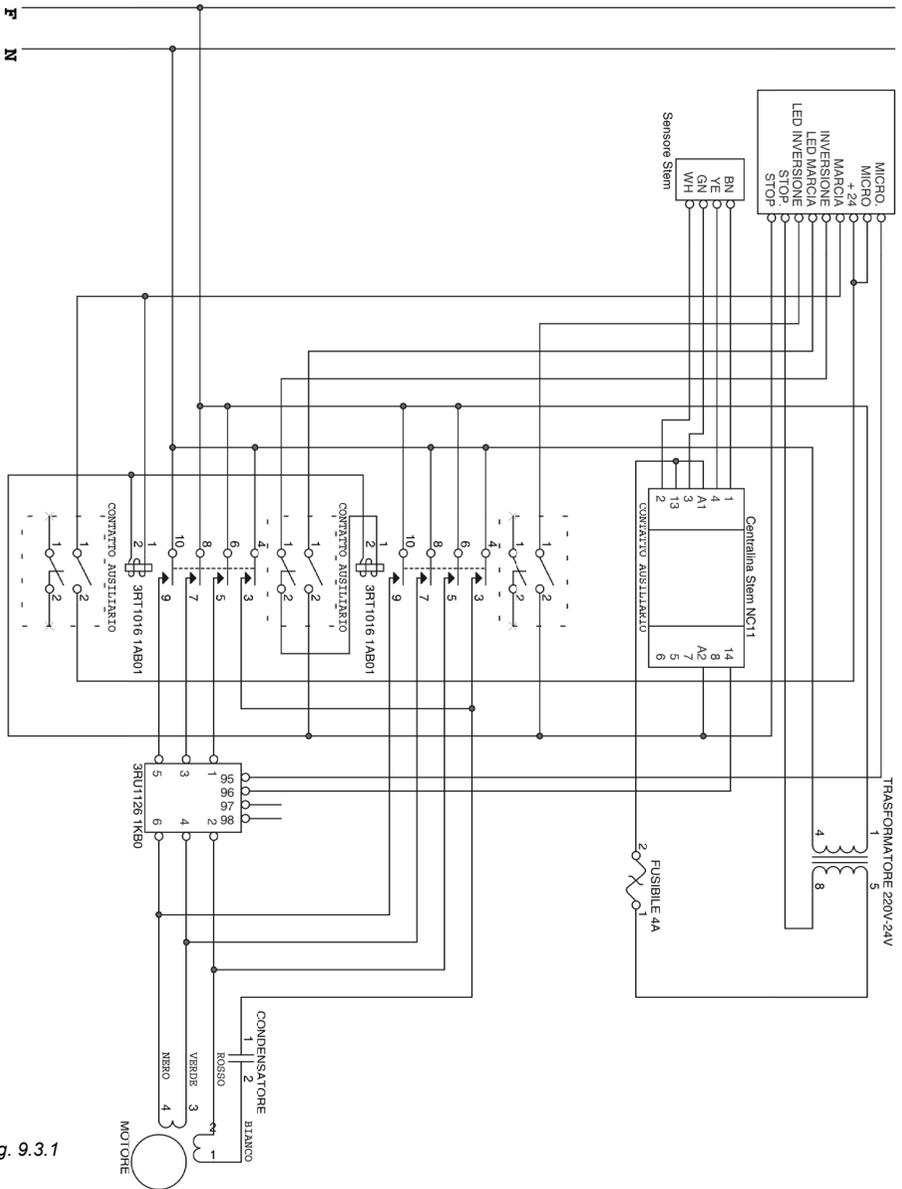


Fig. 9.3.1

9.4 Three-phase electrical system

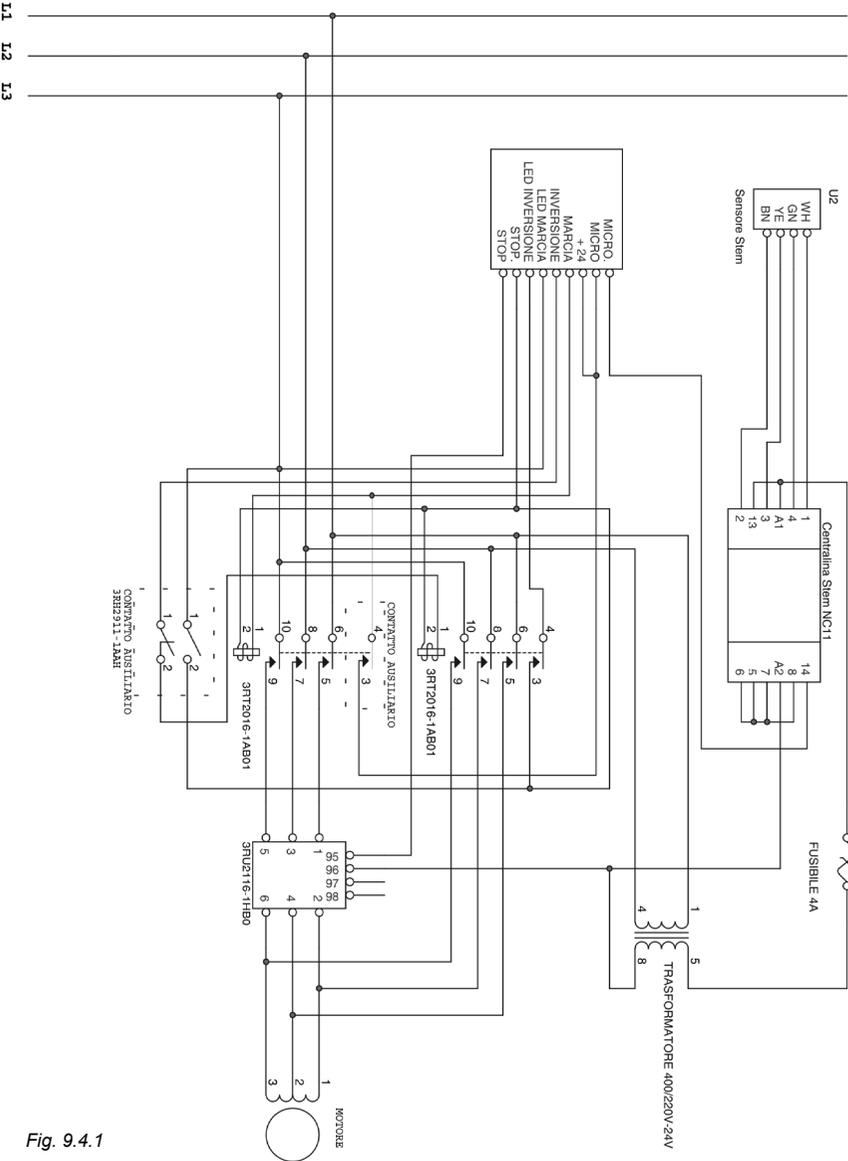


Fig. 9.4.1







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