TECHNICAL DOCUMENTATION

TRANSLATION OF ORIGINAL USER INSTRUCTION MANUAL

DELIVERY LETTER

Dear customer,

We would like to inform you that the equipment dealt with in this manual has been designed, built and tested according to that indicated by applicable mandatory standards, precisely provided in the attached Certificate of conformity.

By means of this manual we intend to describe the sections making it up, the dimensional and technical specifications and the use and maintenance instructions.

We would like to confirm that the equipment entails no risks for the operator if used according to the instructions supplied, if incorporated in a machine in turn declared compliant with the MACHINERY DIRECTIVE 2006/42/EC and provided that:

⇒ the installed protections are kept intact;

⇒ the safety devices are kept active;

⇒ the specific instructions indicated in this manual are supplied to the operators;

⇒ periodical maintenance is performed and preservation of components from wear and damage is checked;

⇒ the equipment is used within the intended functional parameters and with the machines for which it was designed and built.

Thank you for having chosen our product, we wish you a profitable future.

Signature

The descriptions and illustrations present in this documentation are not binding.
The reproduction, even partial, and disclosure of this document are not allowed without the express consent of the author.
Any infractions will be prosecuted by Law.
All the names and trademarks cited in this manual are property of their respective Manufacturers.

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1.0 GENERAL INTRODUCTION

This manual has been drafted as a simple and clear guideline for machine installers, operators and maintenance technicians.
We recommend reading these instructions carefully before starting any activity for the first time.
Though drafted with the utmost care, this manual cannot fully replace the experience of the user who must thereby be suitable for the operations carried out.
The instructions contained herein do not replace, integrate or modify any of the standards, laws and/or decrees in force in the country where the equipment is used.
Any reproduction, adaptation or translation of this manual without prior written consent is prohibited, aside from the cases foreseen by the copyright law.
The technical features contained in this manual are not binding for the manufacturer and they may be changed for future supplies without prior notice.
TEM, in an effort to constantly improve its products, reserves the right to change the contents of this manual at any time without being obliged to modify and/or update the manuals of previous machines and/or systems.
Any modification on machine safety will be promptly transmitted to the customer.
TEM will be pleased to accept any proposal by the Customer aimed at improving the machine and will assess its possible implementation.

1.1 Introduction to this manual

Importance of the manual

1) Consider the instruction manual an integral part of the product;
2) Guide to the installation, operation, adjustments, maintenance and disposal of the machine.

Preserving the manual

1) The instruction manual must be considered an integral part of the machine and must be preserved until the machine is scrapped;
2) Use the manual without damaging all or part of its contents;
3) Do not remove or tear parts of the manual for any reason;
4) Keep the manual in a protected, dry and easily accessible place;
5) Should the manual be lost or worn, ask for a second copy from the manufacturer or dealer, specifying the machine type, serial number and year of manufacture;
6) Should the machine be sold, rented, granted in use or leased, these instructions must be attached to it.

Using the manual

Before starting to perform the operations for which the machine is intended, the operator must have fully read and understood the instructions contained in this manual, paying special attention to its safety devices, to the risks of sound emissions and to the general accident prevention rules foreseen by international directives of legislation in force.

This manual is defined by specific sections with indications and descriptions which can be traced by the index of specific topics.

PLEASE NOTE: All the images present in this manual are purely indicative; the manufacturer reserves the right to modify the machines without updating the images.

1.2 Declaration of having received and viewed the manual

The purchaser must fully fill out the "Declaration of having received and reviewed the instruction manual" in the sheet attached to this manual for the machine warranty which will start from the invoice date; the Company stamp and signature of a legal representative must be applied to it.
A copy of this form must be sent via fax (+39 - (0)55 - 80.71.293), e-mail (in pdf format) to TEM (tem@tem.it) or by regular mail (TEM - Via Cimabue, 4-6 - 50028 Tavarnelle Val di Pesa (FI)) within 15 days of machine delivery.
Failure to return the document within the indicated terms or its partial compilation constitutes an automatic declaration of the integrity of the manual and of the complete and careful viewing of the same and frees TEM from all liability thereof.

1.3 "CE" marking

The CE plate is applied to guarantee that the equipment complies with the requirements of the Machinery Directive 2006/42/EC.
Never remove the plate from its original position chosen by the manufacturer.
Never change or forge the technical data provided.
Do not clean the plate with sharp objects (e.g. metal brushes) to avoid ruining the data.
If the plate wears with use or any of its data becomes illegible, ask the manufacturer for a replacement bearing the data contained in these instructions.
Should the declaration of conformity attached to this manual not be present or be lost, you can ask us for a copy indicating the serial number of the machine displayed on the CE plate.

The "CE Declaration of Conformity" is attached to this manual.

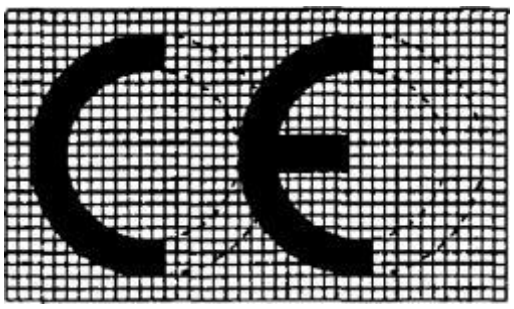


Figure 1 - Declaration of conformity applied to the machine

1.4 Warranty

The machine/s are supplied with TEM's 24-month warranty from the date of delivery (date of issuance of the packing list);

When 24 months from delivery have elapsed, the warranty terminates and any repairs, replacements or service will be carried out charging full expenses according to our current rates;

The warranty does not cover glass parts, knobs, fuses, elastic parts and removable parts made of plastic or parts and components such as microswitches, solenoid valves, etc.;

The warranty does not cover faults caused by tampering or interventions not carried out by TEM personnel or not authorised by them;

The TEM warranty grants the customer the right to have components or parts which are faulty due to poor working quality replaced as quickly as possible;

Damage compensation or production stoppage is excluded from the warranty. Shipping fees, from and to our TAVARNELLE V.P. factory, customs duties, import/export expenses and any other taxes or fees relative to the delivery of machine parts and components covered by warranty to our factory and re-delivery to destination are borne by the customer;

The warranty does not include consumables such as lubricants and cleaning materials, materials or parts subject to wear, and those damaged by improper operation of the machine;

The manufacturer reserves the right to repair or replace faulty parts at his choice;

The warranty does not cover damaged parts caused by transportation, faults caused by poor or incorrect installation or maintenance, incorrect electric or pneumatic supply, carelessness, negligence or incorrect use, and anyway nonconforming with the warnings provided in the instruction booklet;

This warranty will not be applicable for defects resulting from improper or inadequate maintenance, unauthorised modifications or use outside of the specifications indicated for the machine;

The warranty terminates in case of modifications performed on the machine not expressly authorised by the manufacturer;

Tampering, unauthorised replacement of machine parts and use of consumables other than those intended and indicated in the manual could represent an accident hazard and free the manufacturer from all civil and penal liability;

The manufacturer is also free from all liability for accidents which occur to operators ensuing unintended manoeuvres or which this manual advises against;

Damage compensation or production stoppage is excluded from the warranty.

PLEASE NOTE: No other warranty is expressed or implicit.

1.5 References

Main legislative references	• Machinery Directive 2006/42/EC • EMC Directive 2014/30/EC • Low Voltage Directive 2014/35/EU • UNI EN ISO 12100
Service centre	The only one at the manufacturer's head office
Manual	March, 2021
Revision	Rev.1

Table 1 – References

1.6 Glossary

Hazard: Potential source of injury or damage to health;

Risk: Combination of the likeliness and severity of an injury or damage to health which can arise in a dangerous situation;

Danger zones: Any zone within and/or around machinery in which a person is subject to a risk to his health or safety.

Exposed person: Any person wholly or partially in a danger zone.

Operator or worker: The person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

Expert operator or qualified personnel: Operator in charge of fine tuning and putting in service, lubrication, greasing, routine and extraordinary maintenance, expressly authorised by the "Plant manager".

Expert operator or qualified electric personnel: Operator in charge of fine tuning and putting in service, maintenance of the electric part expressly authorised by the "Plant safety manager".

Protective device: Device which reduces the risk, either alone or in conjunction with a guard;

Intended use: Use of machinery in accordance with the information provided in the instructions for use;

Reasonably foreseeable misuse: The use of machinery in a way not intended in the instructions for use, but which may result from readily predictable human behaviour.

1.7 Graphical symbols

	**HAZARD SYMBOLS**		
	**GENERIC WARNING SYMBOL**		**ELECTROCUTION HAZARD**
	**CRUSHING HAZARD**		**CRUSHING HAZARD**
	**WARNING SUSPENDED LOADS**		**WARNING MOVING PARTS**
	**PROHIBITION SYMBOLS**		
	**DO NOT REMOVE THE PROTECTIONS**		**DO NOT LUBRICATE MOVING PARTS**
	**DO NOT EXTINGUISH WITH WATER**		
	**MANDATORY SYMBOLS/**		
	**WEAR SUITABLE CLOTHING**		**USE HELMET PPE**
	**USE PROTECTIVE GLOVES**		**WEAR SUITABLE SHOES**
	**USE PROTECTIVE DEVICES FOR THE EYES**		**USE PROTECTIVE HEARING DEVICES**

Table 2 - Graphical symbols

2.0 PRESENTATION AND DESCRIPTION OF THE MACHINE

2.1 General information on the machine

Name	Machine for the extraction of olive oil
Machine	SPREMOLIVA C.30 FRANTOINO BIO OLIOMIO 80 PLUS OLIOMIO GOLD
Serial number	see Declaration of Conformity
Year of manufacture	see Declaration of Conformity

Table 3 - General information on the machine

Identification plate

The machine is identified by a plate (Figure 2) made upon request by the Machinery Directive 2006/42 EC, displayed at position A (Figure 3)



Figure 2 - Identification plate

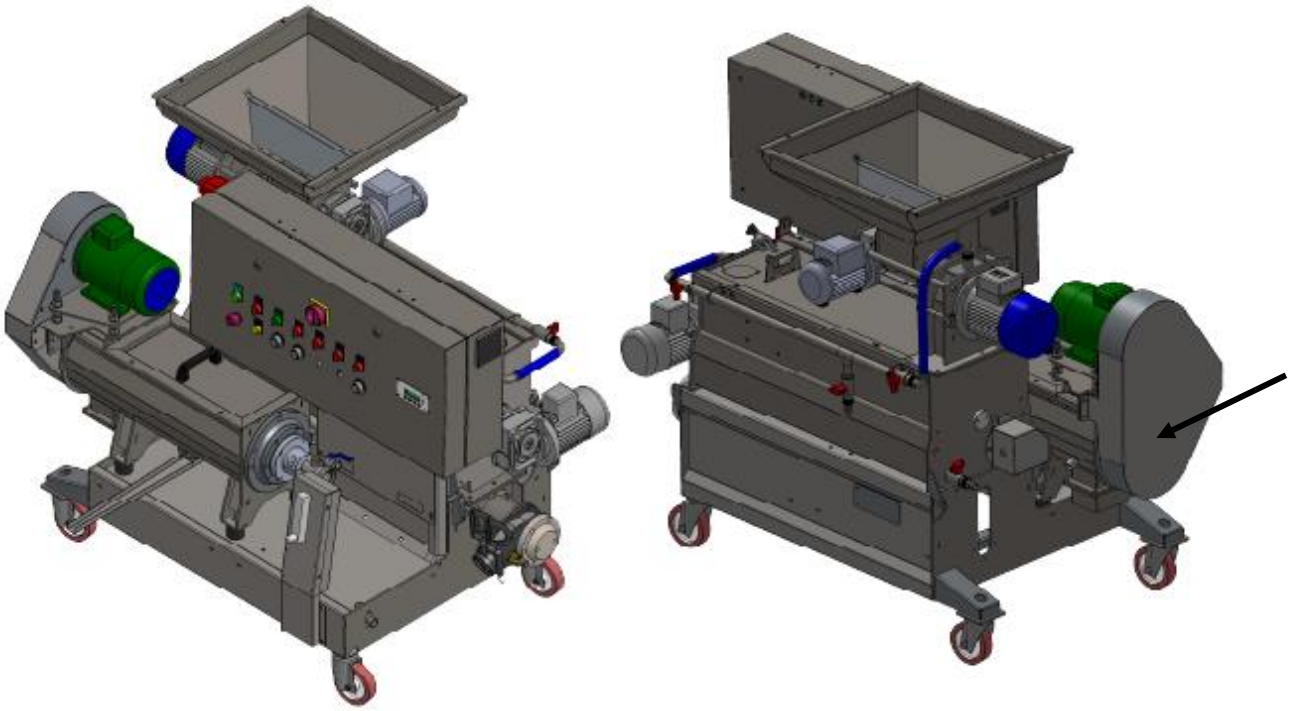


Figure 3 - View of machine with CE plate references

- **Never remove the plate from the original position chosen by the manufacturer;**
- **Do not modify or forge the technical data provided;**
- **Do not clean the plate with sharp objects (e.g. metal brushes) to avoid ruining the data;**
- **If the plate wears down with use or any of its data becomes illegible, ask for another one from the manufacturer bearing the data contained in these instructions.**

Signs present



Figure 4 -Possible labels present on the machine

The Customer must replace any plate, pictogram and warning or danger sign should they be ruined, worn or poorly legible, with others identical or having the same characteristics.

Technical data

Technical Data		SPREMOLIVA C30	FRANTOINO BIO	OLIOMIO 80 PLUS	OLIOMIO GOLD
Loading hopper capacity	Kg	20	20	20	20
Type of malaxer (V=vertical/ H=horizontal)		O	O	O	O
Malaxer capacity	Kg	1x100	2x50	2x50	2x50
Hourly output	Kg	30-40	50-60	70-80	90-100
Power	Kw	3 MF	3 MF	3 MF	4 MF/TF

Table 4 - Technical data of the machine

Overall dimensions

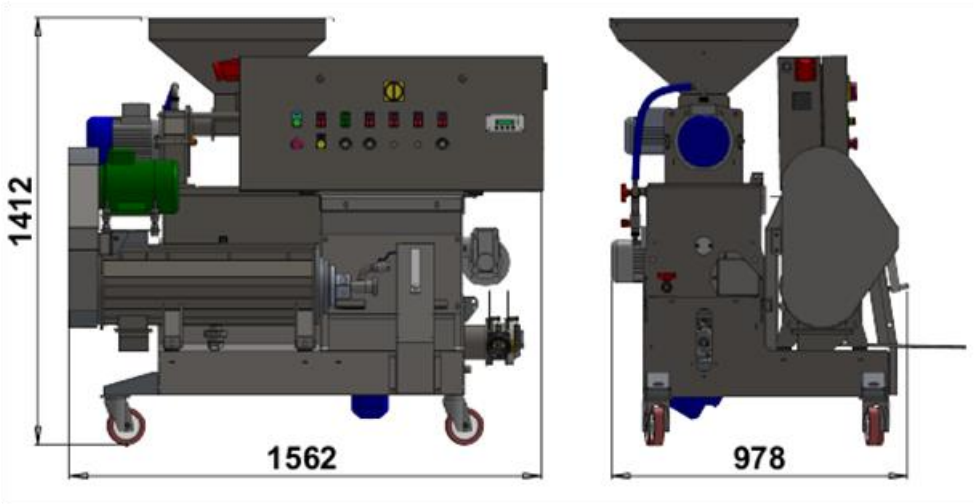


Figure 5 - Dimensions and clearances

2.2 Main components of the machine

1. Loading hopper
2. Olives feeding motor
3. Malaxer motor
4. Flowmeter
5. Oil outlet pipe
6. Waste discharge pump (if provided)
7. Control board
8. Malaxer
9. Decanter

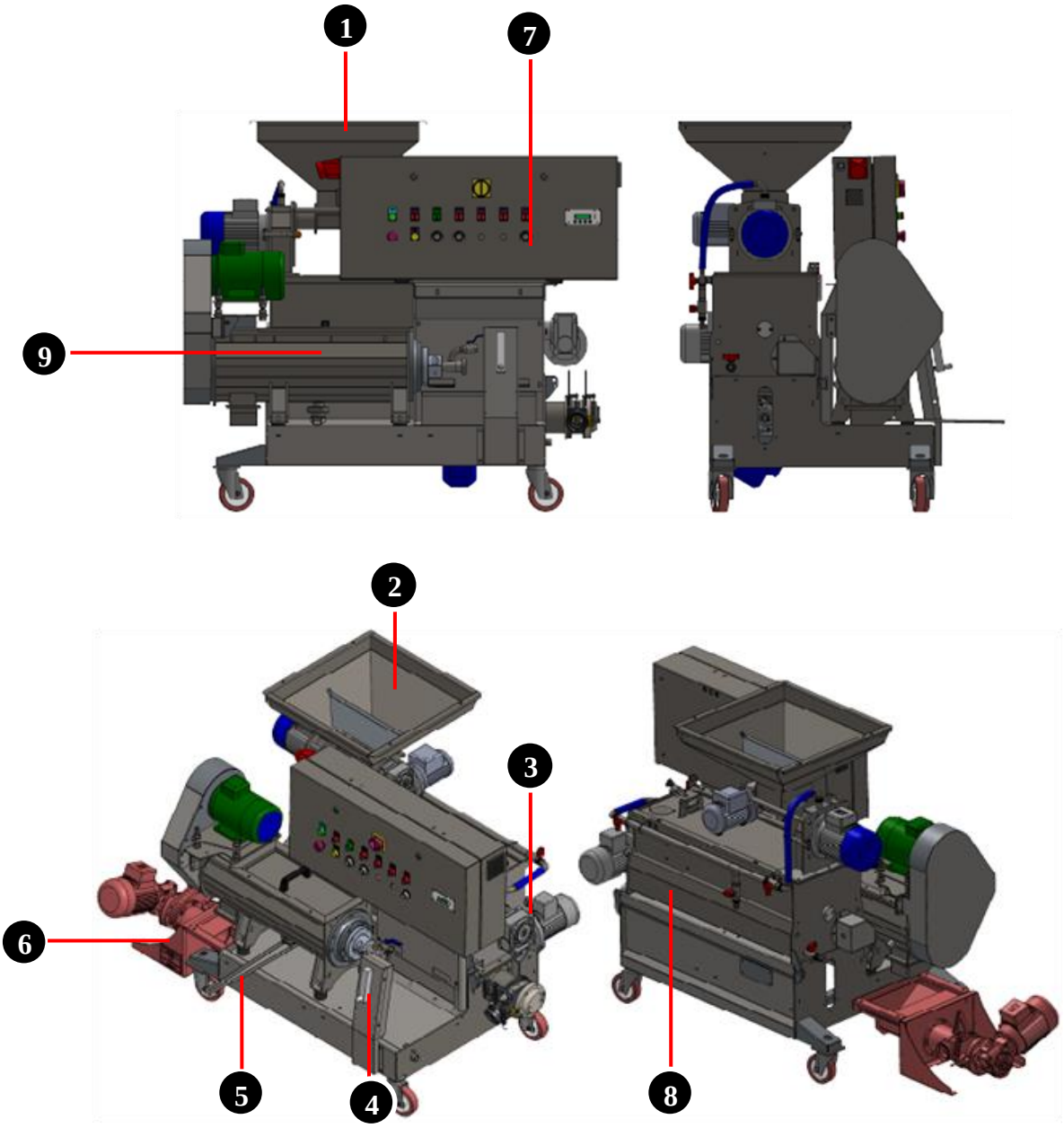


Figure 6

2.3 Use and description

The machine has been designed and built exclusively for extracting oil from olives.
The machine's operating principle is very simple. A primary motorised unit feeds the olives from the HOPPER to the CRUSHER.
The crusher consists of a system of knives which act on a perforated grill. The crushed olives fall into the MALAXER, equipped with a motorised stirrer and a full malaxer sensor.
The paste is transferred inside the DECANTER which separates oil from water and from waste (2 stages).
The oil pours from a PIPE, while waste is ejected by a discharge pump.

2.4 Safety equipment and systems applied

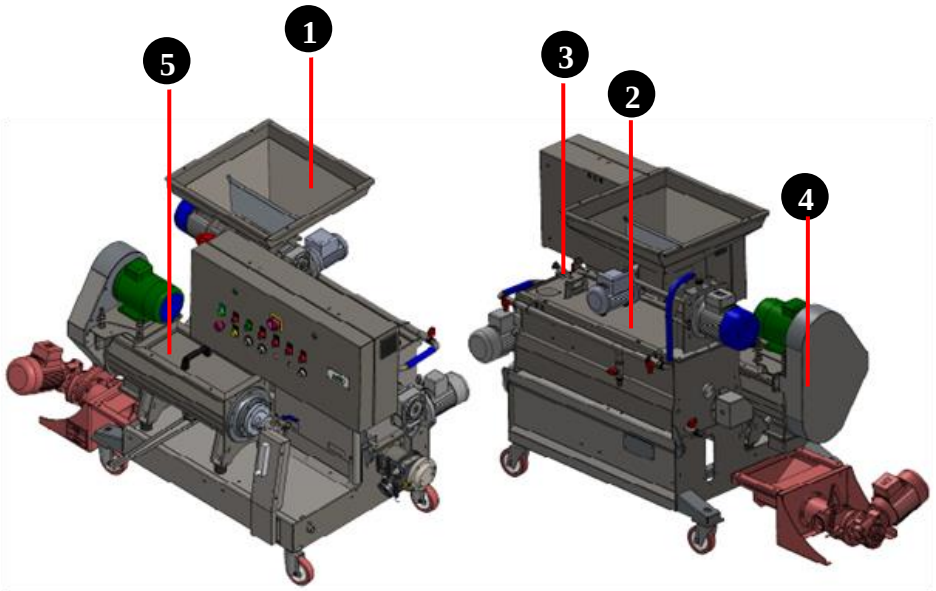


Figure 7 - Identification of safety systems used

1. Safety grill on hopper
2. Malaxer lid bolted onto the frame
3. Malaxer lid open safety sensor
4. Crusher motor and transmission belt guard
5. Decanter lid bolted onto the frame

OPTIONAL (only on special demand):

- BABY DLE (Leaves and branches remover + Washer + Lift) or MINI DLE;
- Oil collection vat with or without filter

2.5 General safety standards

2.5.1 Unlawful, improper and unpermitted use

The manufacturer will not be held liable for any improper use of the machine, incompliant with the purpose for which it was designed and built.
You must always strictly abide by the safety standards and instructions supplied in this manual. It is particularly essential to respect the operational limits indicated. Unauthorised personnel must not approach the equipment while in use.
Use, maintenance and repairs are only allowed for appropriately trained and instructed operators, supplied with safety equipment,
The manufacturer is also exempt from any liability in the event of:

- incorrect installation;
- improper use of the machine/installation;
- tampering;
- unauthorised modifications;
- use of non-original spare parts;
- failure to comply with the instructions supplied;
- failure to comply with the maintenance program;
- exceptional events.

It is prohibited to use the machine:

- in environments open to the public;
- in explosion or fire risk environments;
- in environments with contaminating agents such as dusts, acids, corrosive gases, etc.;
- in environments with the possibility of exposure to radiation.

The work area must be cleaned with the machine stopped and disconnected from electricity.
In standard operating conditions, it is severely prohibited to remove the safety devices or the protective guards.

2.5.2 Responsibility of the user

The Company using the machine is in charge of making sure the operators:

- read and understand the use and maintenance instructions;
- receive formation and training suitable for the tasks entrusted, to fulfil them safely;
- receive specific training regarding proper use of the machine;
- have received suitable personal protective equipment;
- are in healthy physical and mental conditions (not subject to the effect of alcohol, medicine or drugs).

2.5.3 Specific safety indications

⇒ The Machine must not be used for any use different than that laid down in paragraph 2.2;

⇒ Do not remove any safety device and do not try to deactivate their preventive and safety action;

⇒ Do not use any mechanical tool to deactivate any type of protection of interlocking devices;

⇒ Always keep the machine in efficient condition and in good maintenance;

⇒ Regularly check, at least once a year, that no bolts of the bearing structures, covers, doors or motor connections are loose;

⇒ Never carry cloths, rags or anything else near the rotating parts of the machine.

⇒ Wash the machine with toxic-free and foodstuff products;

⇒ Before performing maintenance or removing protective guards, it is mandatory to:

- Disconnect the electric power supply by opening the line switches both on the general panel and the auxiliaries giving the key of the safety lock to the repair operators;
- Make sure that mushroom-shaped switches are activated and locked;
- Place "*machine undergoing maintenance*" signs on the power supply panel.

⇒ Before activating the machine, make sure that the electric power supply system has the necessary line protections, that isolators with equipotential protections are installed and that the wires have suitable insulation cross-section and degree;

⇒ All personnel using, maintaining and installing the machine must know the safety standards and be in perfect psychophysical conditions;

⇒ All personnel not expressly authorised to use the machine must be prevented from having access to it;

⇒ Should unusual noise or operating anomalies be detected, immediately interrupt the action in progress and check the source of these irregularities. In any case contact TEM for the necessary clarifications in order to avoid damage caused by an improper inspection.

3.0 INSTRUCTION MANUAL

3.1 Preparation for use

3.1.1 Unpacking



Upon receiving the machine, check that it has not undergone any damage during shipping. If so:

A. Contact the manufacturer;
B. Prepare written reports;
C. Send a copy to:
⇒ **Insurance company of carrier;**
⇒ **Carrier company;**
⇒ **Manufacturer**

The machine is shipped packaged and fixed to a pallet and protected on the outside by a nylon film or shut in a wooden crate (Figure 8); handle it with a pallet truck or forklift.
The swivel wheels of the machine were removed to fix it to the pallet, using the holes left empty for fixing. Upon receiving the machine, remount the wheels, place it near its worksite and free it from its packaging.
Aside from machine, the package also contains the accessories included in the order and the technical accompanying documentation.

PLEASE NOTE: The packaging material has no particular environmental risks as it consists of:

- Polyethylene - External covering film protecting against atmospheric agents and air bubble sheet protecting against blows;
- Plastic - Various parts of the pack used to protect against blows;
- Wood - Fixing box of mechanical parts and crate

However we recommend disposing of these products separately (separate waste collection) in compliance with current standards for appropriate recycling.

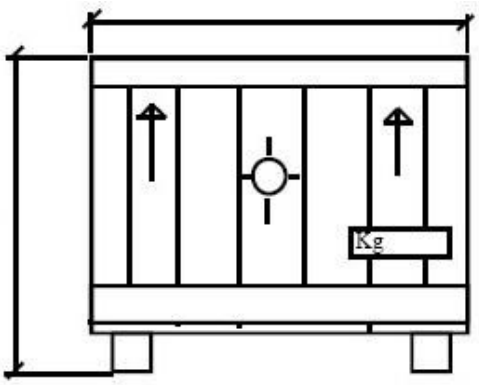


Figure 8 - Typical packaging crate for the machine

3.1.2 Installing the machine

Before starting machine installation operations, the operator must make sure that he has all the equipment necessary for installation.
The machine must be positioned correctly to guarantee its proper operation (Figure 9).
The machine mounted on swivel wheels can even be moved accidentally and therefore be careful of accidental moves.



While handling loads, operators must pay the utmost attention to avoid dangerous movements for themselves or for others.

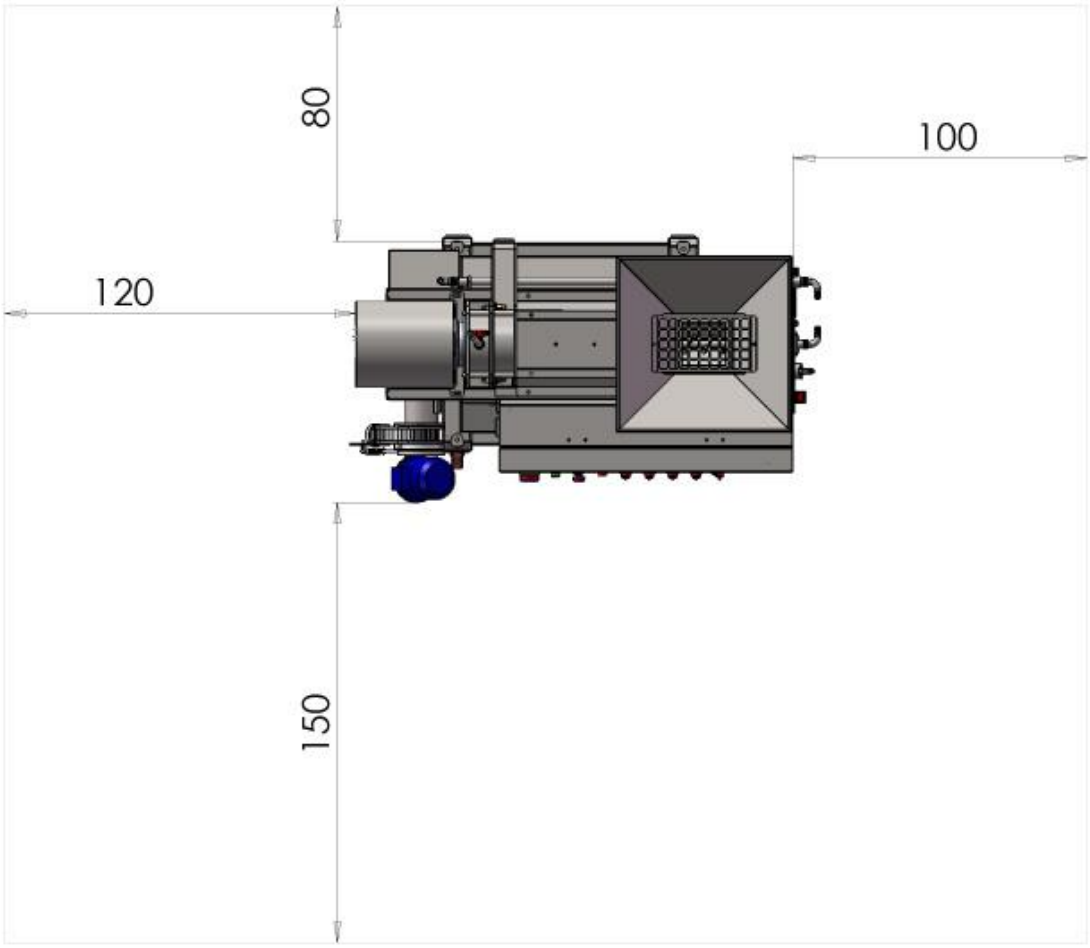


Figure 9 - Recommended clearance space for installation of the machine

3.1.3 Environmental operating conditions

The machine and relative electric equipment have been designed and built for installation in an environment with industrial characteristics and only to be used in closed environments where they are not subject to atmospheric agents.
Different temperatures can be allowed for short amounts of time and not while operating.
Different humidity rates can be allowed for short amounts of time and not while operating.
Different temperatures can only be allowed by replacing some parts of the machine.
Unless specified differently in the contract, the machine is only intended to work regularly in the following environmental conditions (Table 5). Different environmental conditions than those prescribed can cause malfunctioning or breakage with consequent dangerous situations for the health of the operator and of exposed persons.

	ENVIRONMENT	CLOSED
	ROOM TEMPERATURE PRODUCT TEMPERATURE	> 5°C < 35°C >10°C < 30°C
	MAXIMUM ALTITUDE	1500 m above sea level
	MAXIMUM OUTSIDE HUMIDITY	50% R.H at 40°C

Table 5 - Environmental operating conditions

Personal protective equipment (PPE)

For machine installers

	Suitable Clothing		Protective helmet
	Protective gloves		Protective footwear

For machine operators

	Suitable Clothing		Protective footwear
	Protective gloves		Protective helmet

For maintenance operators

	Suitable Clothing		Protective helmet
	Protective gloves		Protective goggles

Table 6 - Personal protective equipment

In order to protect the operator, this list is not comprehensive.
The operator must integrate the mandatory personal protective systems and those prescribed by the employer with work clothing (suitable for the type of environment and activity carried out to prevent useless risks) which does not belong to the PPE category but which must be used according to the requirements of the employer.

Lighting and air conditioning

All the rooms where continuous work activity is carried out must have sufficient natural lighting so that the cut-off, command, control and emergency devices are always visible. This lighting must be integrated with artificial lighting if necessary. For this purpose portable lighting devices must be kept available for workers to be used when needed.
PLEASE NOTE: Do not connect auxiliary lighting devices to the machine's electric panel.

A proper air exchange must be guaranteed by means of appropriate air conditioning systems to guarantee the best health conditions for workers.
The temperature in the work rooms must be suited to the human body during working time, taking into consideration the work methods applied and the physical stress placed on the workers.

Acoustics

The machine complies with standard acoustic emission values.
Noise tests were conducted in normal working conditions with the machine in the automatic cycle, in an industrial building with class 1 instruments (IEC804), and they recorded the following acoustic pressure values (Table 7), detected in the operator's work position. (Figure 10).

POSITION OF THE OPERATOR	L_{pA} dB[A]
P1	85

Table 7 - Detected sound pressure level

- L_{pA} dB[A] = Noise emission level, time-weighted average with curve A.
- P1 = Survey carried out at the NOISIEST SPOT (coinciding with operator position when manning the machine) of the ideal perimeter of the machine, traced 1 metre away at a height of 1.55 m ± 0.075 m above the floor

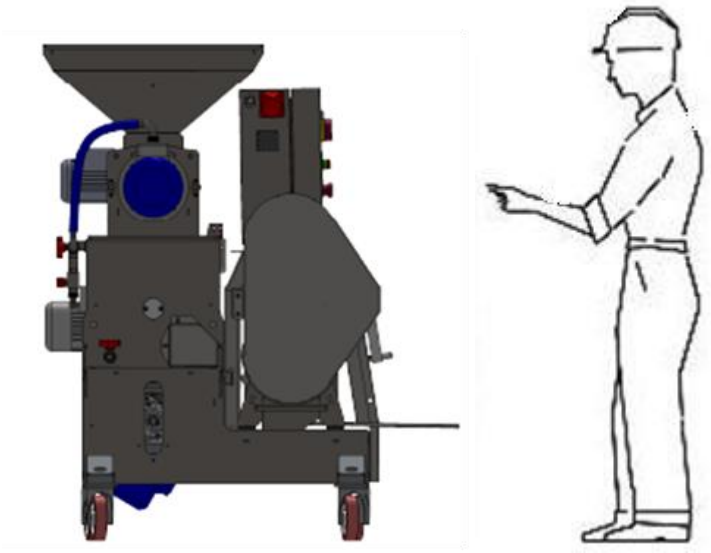


Figure 10 - Position of operator during noise detection test

The employer must comply with the acoustic criteria foreseen by standards so that the noise pressure level produced by the machine/s does not exceed the acceptable value of 80 dB (Table 8) should it be installed in special conditions or following changes made in the environment.

L_{pA} dB[A]	PROVISION
>80	Information to workers regarding risks and preventive measures, as well as periodical visits at their request
>85	Preventive and periodical visits, PPE availability
>90	Mandatory use of PPE, access restrictions

Table 8 - Sound pressure limits and relative provisions

Explosion or fire hazard

As the risk analysis has shown, the machine does not have fire risks; however it must be included in the analysis process based on the environment and the standards regulating that application. The machine has been designed and built to prevent any risk of fire or overheating caused by the machine itself or by any risk of explosion; however this machine must not work in zones subject to fire and/or explosion risks.
PLEASE NOTE: The machine is absolutely not designed to work in the presence of any type of flammable liquids. The manufacturer will not be held liable in any way for hazards resulting from improper use in this sense.

Electrical system

The operations described in this paragraph must be performed with disconnected power supply and by specialised personnel.
In compliance with the standards in force, the panel is equipped with self-locking line disconnection switch.
TEM will not be held liable for damage or accidents caused by improper installation of electrical equipment intended for other projects or not manufactured by TEM.

Power supply and circuit protection

The converter must be earthed in compliance with standards regarding high leakage currents (over 3.5 mA).
Should local or national regulations require residual current devices for protection upstream, use a type A device for single-phase converters and a type B device for three-phase converters, in compliance with the IEC 60755 standard.
Choose a suitable model, which includes:

- High-frequency current filtering;

- A timer which prevents tripping caused by the load of the stray capacitance when starting. A timer cannot be applied on 30 mA devices; in that case choose a device immune from tripping interference.

If several converters are included in the installation, each should have a residual current device.
Keep the power cables separate from circuits with low level signals (detectors, PLC, measuring devices, video, telephone).
If using cables longer than 50 m between the converter and the motor, add outlet filters.

3.1.4 Connections for starting up the machine

3.1.4.1 Electric connections

Before connecting the machine, make sure that the features of the electric power mains (see table below) match those indicated on the machine data plate and that the system is earthed.

Connections for Olive Oil Plants by MORI TEM
PLEASE NOTE: For each TF system, it is always necessary to provide for an additional 4-pin 16A socket, along with the sockets below. For the machines in the single-phase and three-phase versions with or without pump, it is necessary to prepare a selective-delayed residual current device for utilities with inverters with the features below: 0.3 mA SELECTIVE CLASS A DIFFERENTIAL or 0.3 mA (not 0.03) CLASS B or C DIFFERENTIAL to be used only for the panel to which the olive press must be connected.

Moreover, provide for a 3/4" gas connection for drinking water (minimum pressure 1.6 bar) to add water to the olive press. The water supply must always be on. Where possible, also prepare an additional water pipe with a water gun to wash the crusher and the malaxers by keeping the pipe attached to the decanter.

WARNING!!! For each machine and for each system a selective-delayed residual current device must be provided for utilities with inverter. All the models below are equipped with inverter.

1. Insert the plug coming from the control panel in your wall socket;
2. Insert the plug coming from the leaves and branches remover (if you have one) in the socket on the side of the control panel.

The plug and the socket are blue (MF) or red (TF).

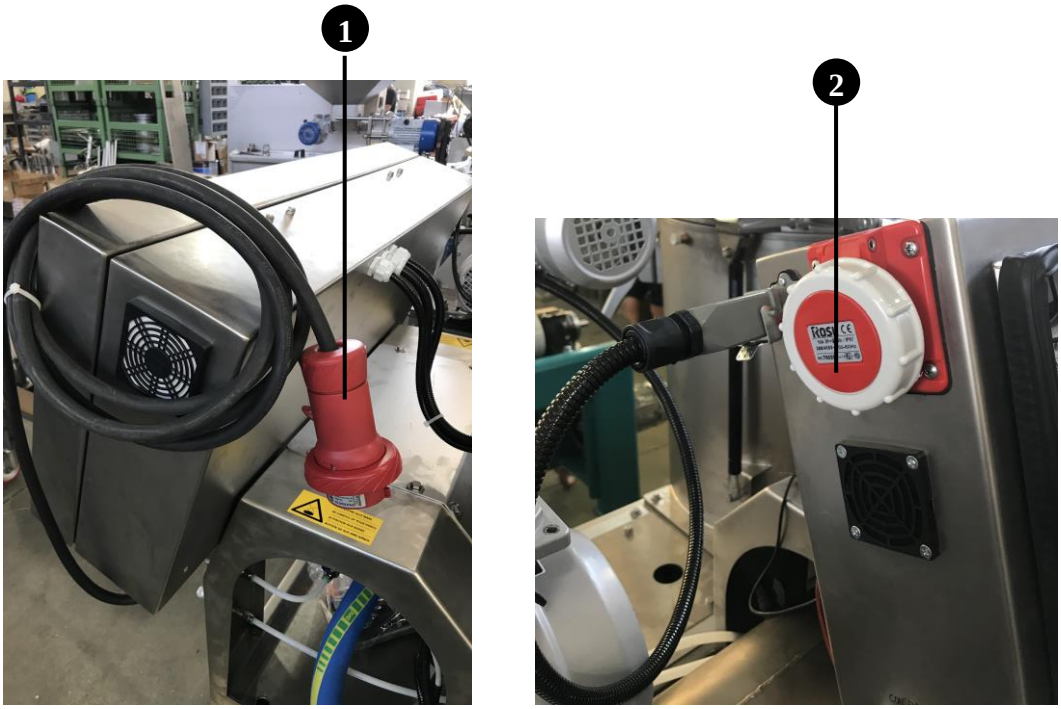


Figure 11

3.1.4.2 Hydraulic connections

- Connect the water feed tube to the water inlet (1);
- Prepare an oil collection container to put under the machine (2) and connect the paste drain pipe to the discharge pump (3), if provided; if not, prepare a waste container to put under the pump.

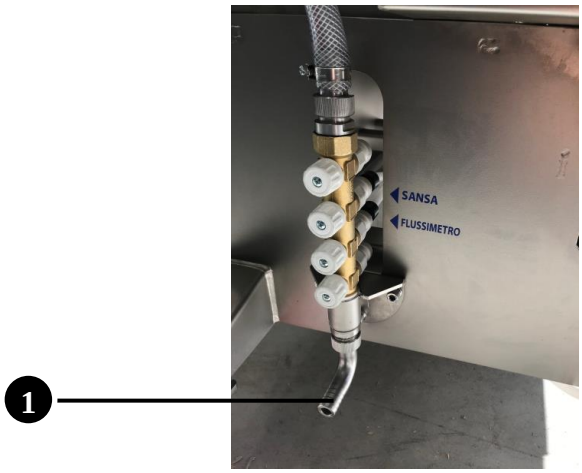


Figure 12

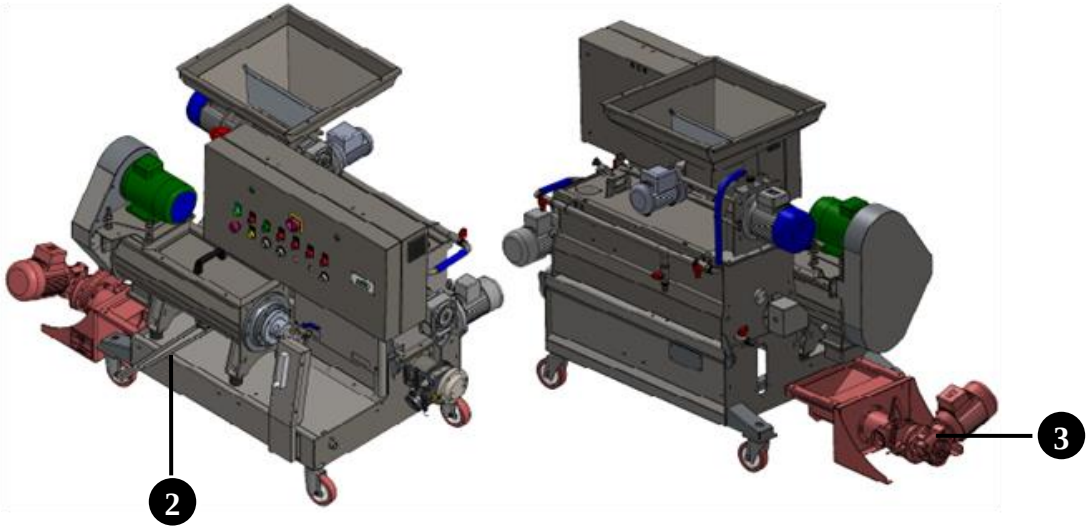


Figure 13

If you wish to heat the paste, pour water in the cavity until it is completely full (4) and then switch on the selector in the control panel (5).
Not all the versions have the heating system and the temperature regulator on the control panel.

IMP! Don’t switch on the selector if you don’t use the heating system.

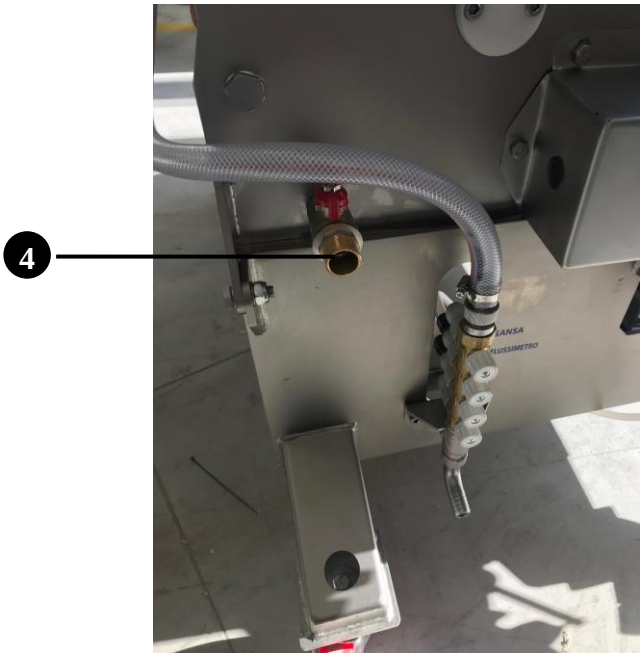


Figure 14

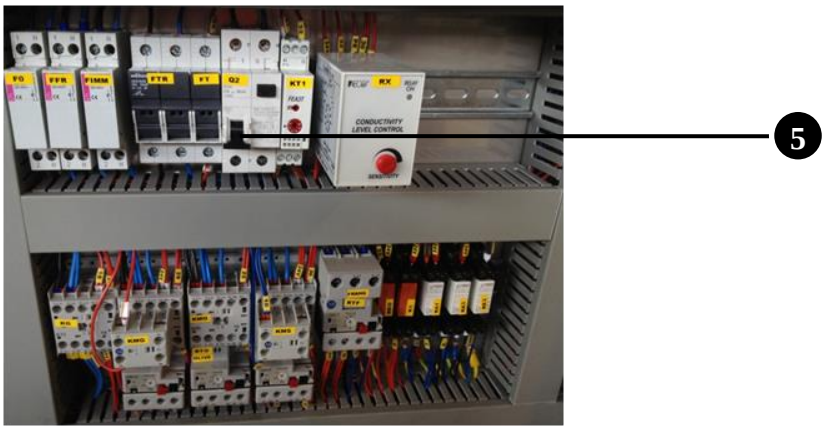


Figure 15

IMPORTANT

- Oliomio GOLD has the temperature management system on the control panel (6)

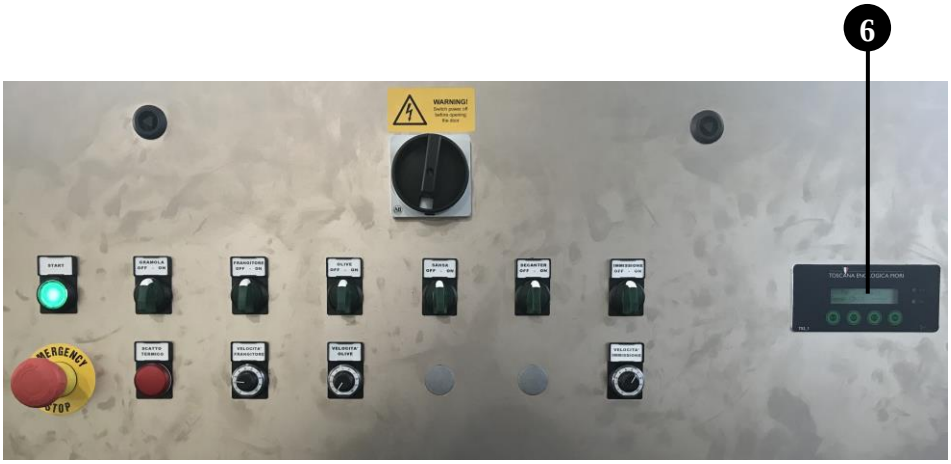


Figure 16

The temperature of the paste can be adjusted through the temperature regulator on the control panel during the working process explained later.



Figure 17

✓ Press C3 to view the temperature of the paste in the decanter. The value will be displayed for about 4 seconds;

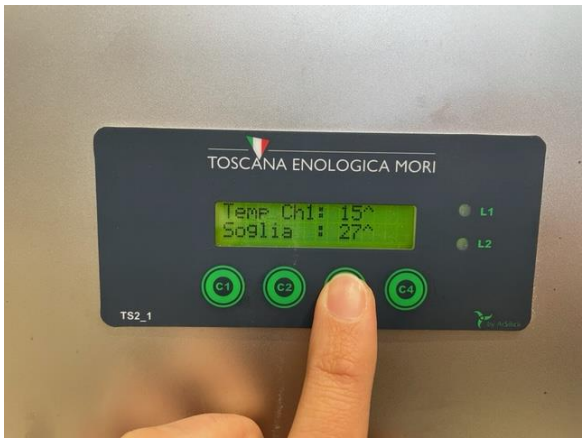


Figure 18

✓ To change this value, hold C3 and press C1 to increase the temperature.



Figure 19

✓ To change this value, hold C3 and press C2 to decrease the temperature.



Figure 20

- Oliomio 80 Plus has temperature management directly on the resistance.

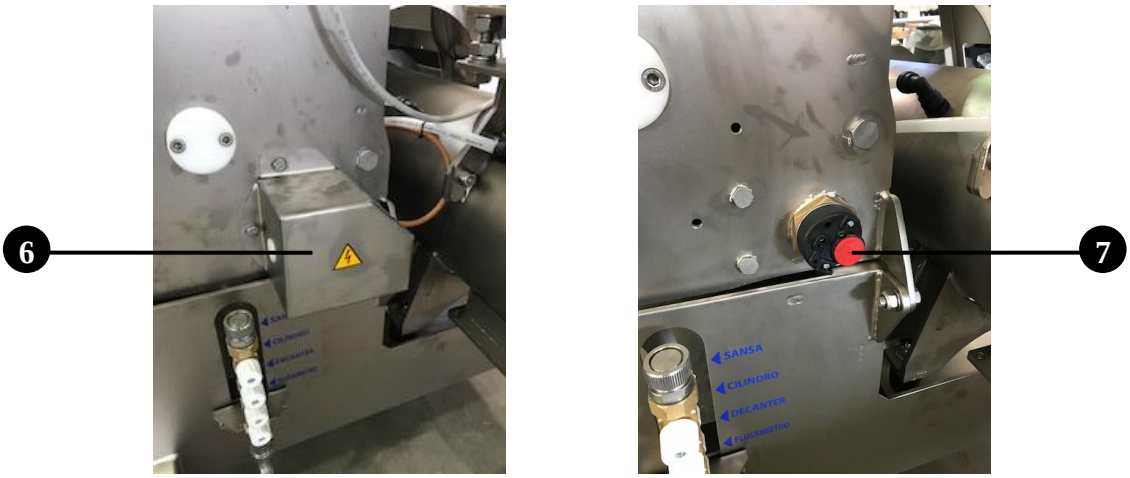


Figure 21

To use the heating on the Oliomio 80 Plus it is necessary to remove the protective cover (6) of the resistance (7) and turn the red part clockwise. In this model it is not possible to decide the temperature. The resistance is always turned on to maximum.

- Frantoino BIO does not have temperature management but only the predisposition
- Spremoliva C30 does not have the ability to manage temperatures

3.2 How to use the machine

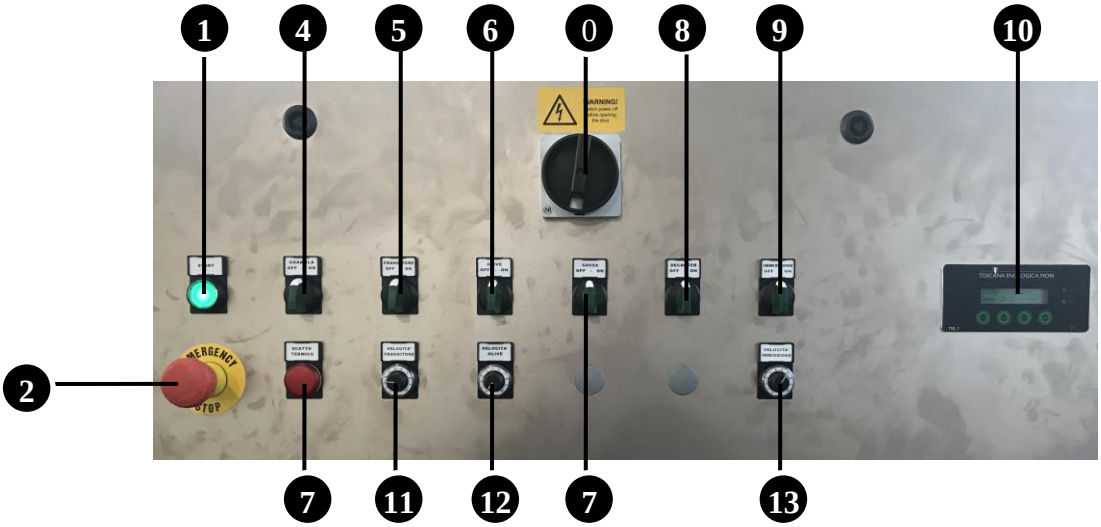


Figure 22 - Control panel

0. Main switch
1. Start
2. Emergency
3. Circuit breakers
4. Malaxer
5. Crusher
6. Olives
7. Waste
8. Decanter
9. Extraction
10. Temperature viewer
11. Crusher speed*
12. Olives speed**
13. Extraction speed

* Only for Oliomio 80 Plus and Oliomio GOLD
** Only for Oliomio Gold

The process can be divided into the following stages:

A. Leaves and branches removal and olive washing stage (see leaves and branches remover manuals, if present)
B. Crushing stage
C. Mixing stage
D. Oil extraction stage
E. Final processing stage

- **Should a greater amount of product need to be fed, the machine must be fastened or anchored firmly to the ground;**
- **The hopper can be fed continuously up to the maximum capacity (≈20 Kgs)**
- **Pay attention to moving parts and to the screws;**
- **Do not insert bulky, wood, iron or any other materials;**
- **It is strictly forbidden to insert your hands and/or tools in the machine's load and unload spouts during the feed and discharge stage.**

3.2.1 Crushing stage

1. Make sure that the lever on the malaxer (1) lid is down

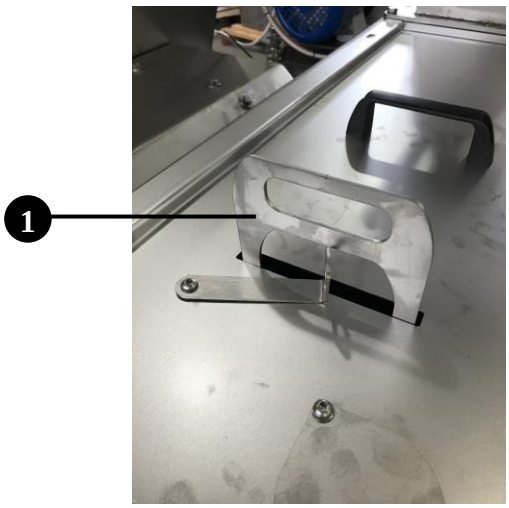


Figure 23

2. Turn the MAIN SWITCH on;
3. Make sure the emergency button is off (it must be fully out);
4. Press START;
5. Switch the CRUSHER on and wait about 2 minutes until it reaches full speed;
6. Switch ON in sequence MALAXER and OLIVES
7. Pour the olives into the hopper; the machine starts crushing.

8. Adjust the CRUSHER SPEED (Only for Oliomio 80 Plus and Oliomio GOLD)
9. Adjust the OLIVES SPEED (Only for Oliomio Gold)

3.2.2 Malaxing stage

1) After the initial filling of the malaxer, wait about 15-20 minutes. This time is indicative and varies according to the type of olives to be processed
2) When the required malaxing time is over, extraction can begin.

3.2.3 Oil extraction stage

1. Switch on WASTE
2. Switch on DECANTER and wait for about 5 minutes until it reaches the maximum RPM.
3. Start extraction by turning on the EXTRACTION switch and setting EXTRACTION SPEED at 3. The oil should start to come out after about 5-10 minutes.

Case 1

If, after the time reported above, the oil does not come out, open the water cock and set the flow meter to 5. Wait a few minutes, the oil should come out. If not, increase the paste introduction regulator, open the flowmeter valve (2) and raise the flowmeter (3) to a maximum of 10 l/h until oil comes out.

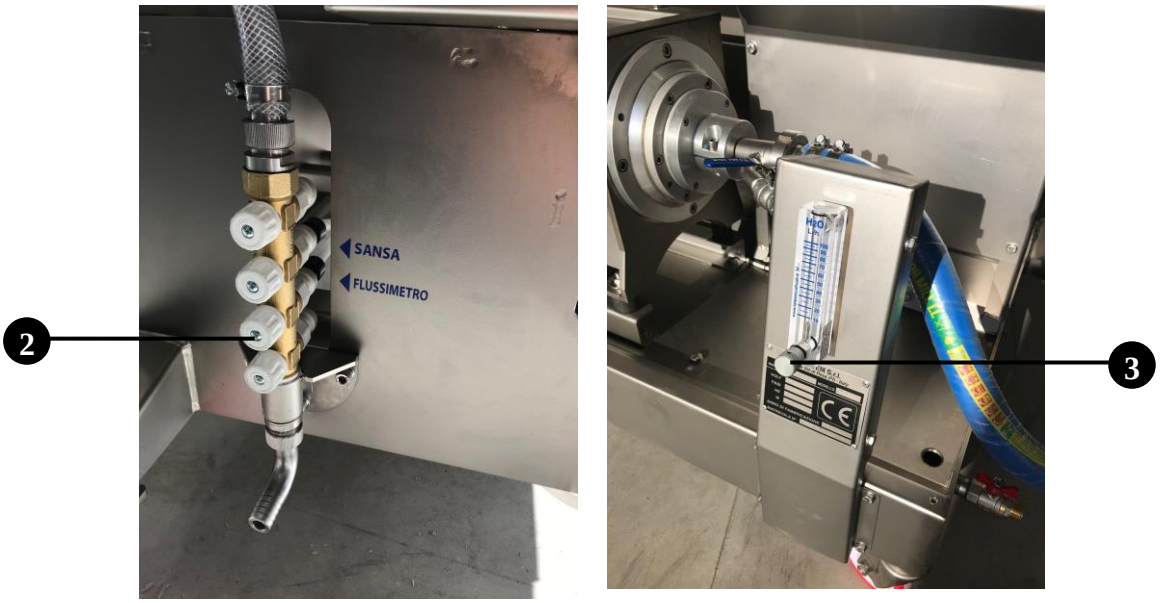


Figure 24

For the first 10 minutes of extraction, it is important to observe the amount of water supplied with the flow meter and the paste introduction adjustment. If the oil coming out is not clear enough, reduce water. Vice versa, increase it if the oil is too clear.

Case 2

If large quantities or dirty oil comes out:

1. Immediately switch the EXTRACTION selector off;
2. Set the CRUSHER SPEED at 10 and wait a few minutes;
3. Set the EXTRACTION SPEED at minimum;
4. Switch the EXTRACTION selector back on;
5. After a few minutes, the oil should come out.
    - If it is still dirty, repeat the operation;
    - If it comes out clear, after a few minutes set the paste introduction regulator halfway or at a point where the oil remains clear.

3.2.4 Final processing stage

To finish all the paste inside the malaxer, lift the steel handle (4) and block it with the stop.

1. If clear oil still comes out at the end of this operation, open the flow meter to 5-10 L/h until the oil stops coming out or when it gets dirty.

   WARNING!!! Perform this operation with the utmost caution and respecting the times. Otherwise the malaxer outlet spout could fill up, blocking the machine.

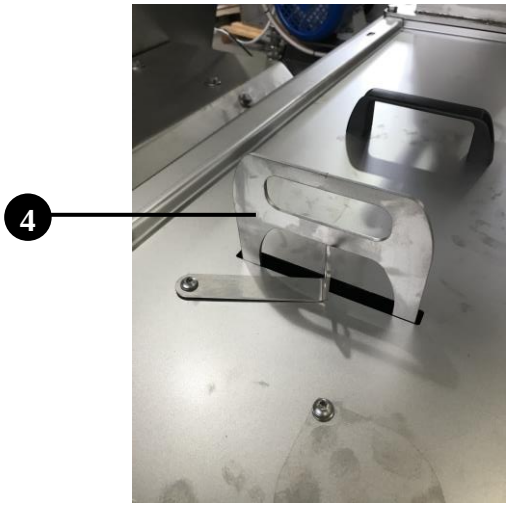


Figure 25

3.3 Adjustments

3.3.1 Nozzles adjustment



Warning: To adjust the nozzles the machine must be completely stationary and disconnected from the power supply!!!

The nozzles are adjusted when the oil coming out is too clear, too dirty or when it does not come out at all.

Before adjusting the nozzles, make sure that you are actually working at an incorrect level.

1. Remove the 4 screws (5) from the decanter lid



Figure 26

2. You must be able to see the nozzles (6) on the decanter. Rotate the cylinder of the decanter by hands to see the nozzles. There are 2 nozzles on the decanter. You must adjust both.

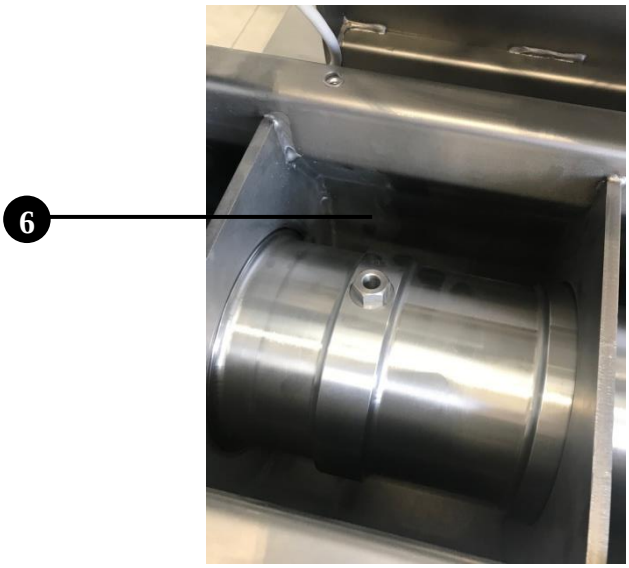


Figure 27

3. When you see the nozzles (2), remove them with the supplied key.
4. The nozzles are set with no washers. If there are slight traces of oil in the pomace, insert one or more washers (max. 6 for nozzle) and refit the nozzles.
   The number of washers differ from many factors. It's necessary to try different configurations to find the right level



Figure 28

3.4 Cleaning

For washing machines of the plant is recommended to use citric acid diluted up to 5%. It' possible to use hot water at about 40 ° -50 ° C.

However, it's also allowed to use a caustic detergent, diluted up to 1%. Before using this cleanser it is advisable to talk with the company.

It's absolutely forbidden to use alkali and detergents.

1. Leave the whole machine on.

2. Open the discharge valve (1).

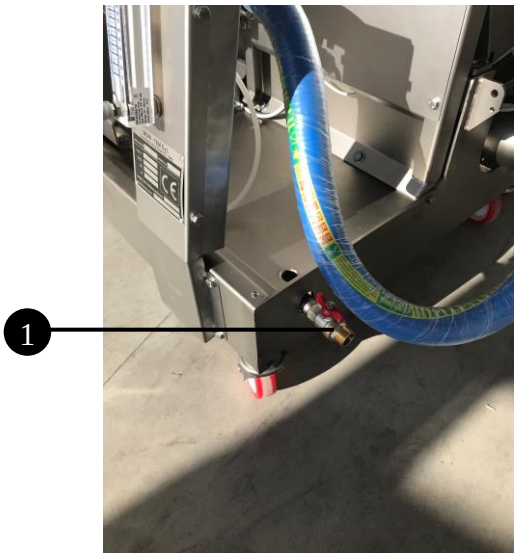


Figure 29

3. Only for Oliomio Gold with washing system, open the crusher washing valve (2) for about 5 seconds. Repeat the operation about 10 times.



Figure 30

4. Only for Oliomio Gold with washing system, open the malaxer washing valve (3) for about 5 seconds and repeat the operation until the malaxer tank is fully clean. Perform this operation slowly, leaving the necessary time between one opening of the valve and the next to prevent too much water from entering and clogging the machine.



Figure 31

5. For all the models, turn off completely the machine. **The machine must be completely stationary and disconnected from the power supply!!!**

6. Pour water into the hopper of the crusher. There must be no traces of paste anywhere into the hopper.

7. Open the cover of the crusher removing the bolts (4). Slide axially the plate with the loading hopper (5) and clean it thoroughly inside.

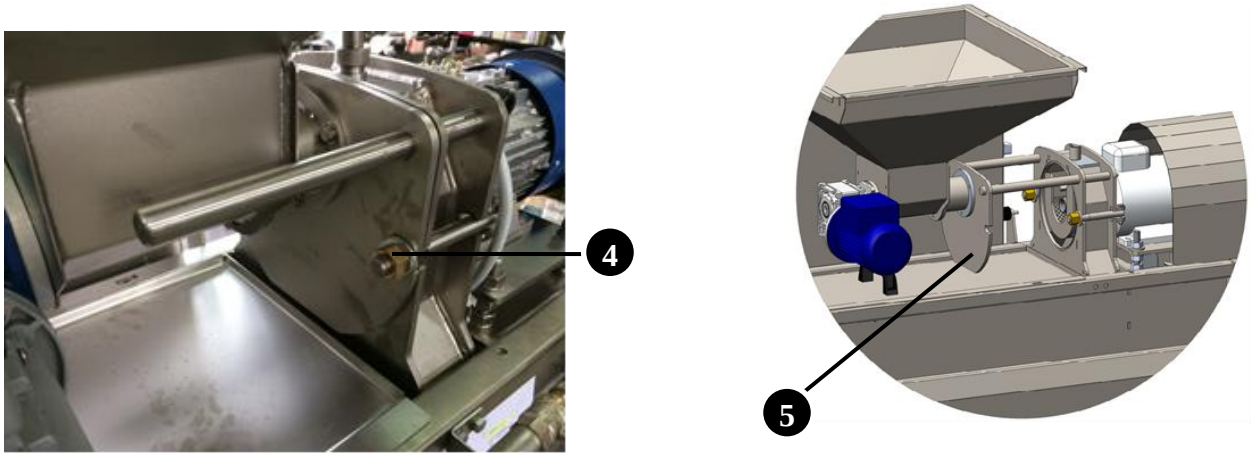


Figure 32

8. Clean the impeller, the knives, the cleaner and the grid. There must be no traces of paste anywhere.
9. Slide axially the plate and mount the bolts to close the crusher.

10. Open the cover of the malaxer removing the knobs (6) and clean it thoroughly inside. There must be no traces of paste anywhere.

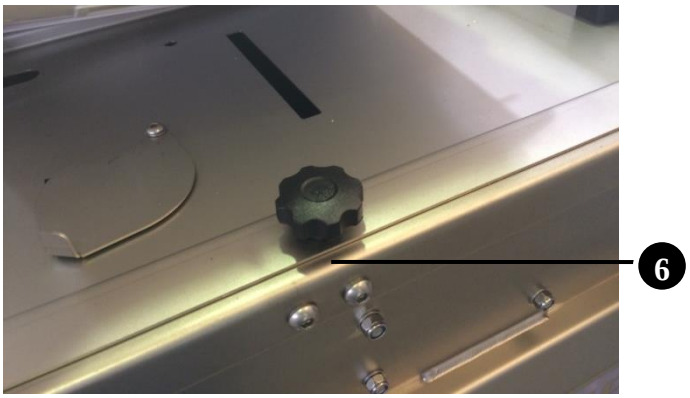


Figure 33

11. Remount the cover of the malaxer

12. Turn all the machine on and waits decanter reaches the maximum RPM (≈5 minutes)

13. Complete washing of the decanter by opening the flowmeter to 30 L/h until clear water exits from the waste discharge.

14. Open the waste valve (SANSA, 7) for about 5 seconds and repeat the operation until clear water exits the waste discharge.

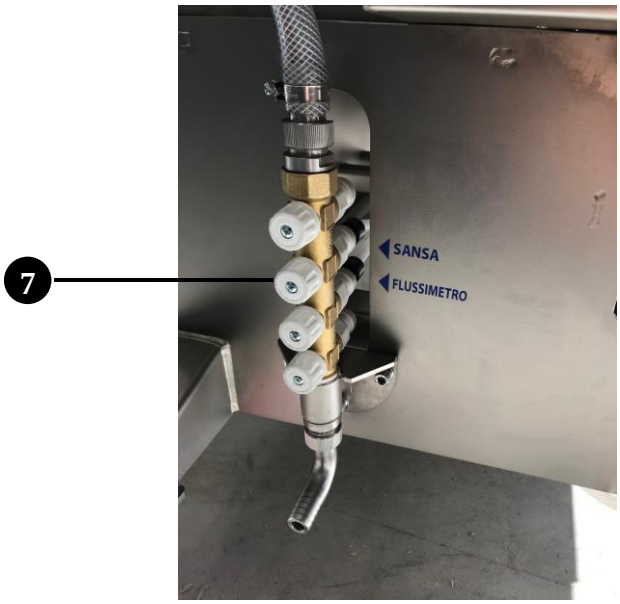


Figure 34

15. Turn OFF the machine completely

3.5 Auger belt tensioning

1. Loose the bolt (1)
2. Tighten clockwise the bolt (2) to move the auger transmission pulley in order to stretch the belts for the necessary extent
3. Tighten the bolt (1)

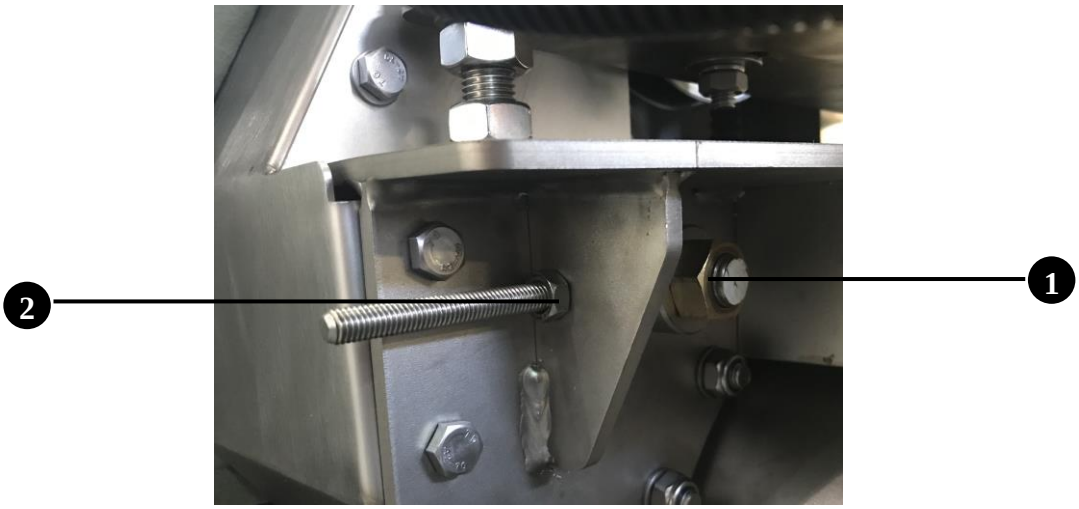


Figure 35

3.6 Greasing the bearings of the decanter

At the end of each working season it is mandatory to grease the bearings of the decanter.
This operation can be done by using a manual greasing pump to pump in the grease. Repeat this operation at least 15 times.
NB.! Use grease ATOMIC RH NILS

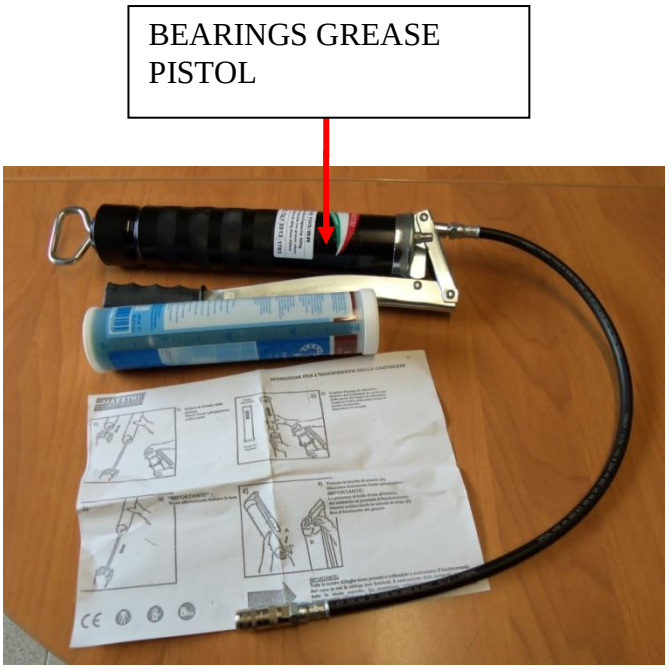


Figure 36

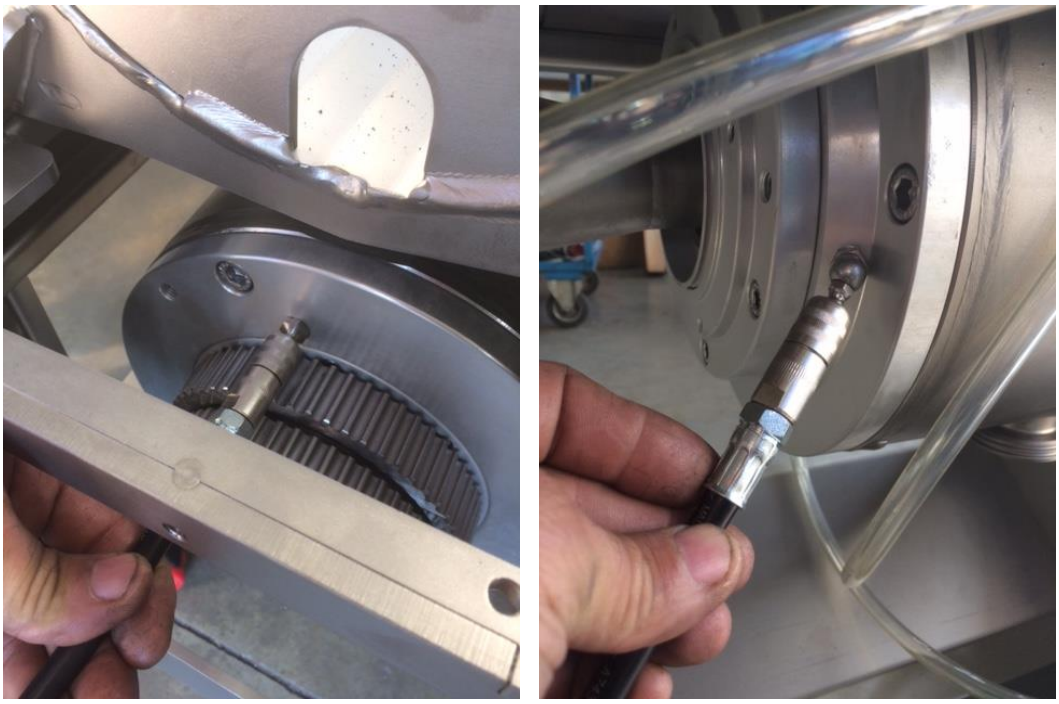


Figure 37

3.7 Decanter release and driving belt replacement

If the decanter becomes clogged, it could happen that the driving belt of the pulley of the screw (the most external to the decanter) “snaps”. In this case it is necessary to stop the machine immediately and release the decanter as described below:

1. Remove all the front and rear screws (1) that lock the transmission carter.

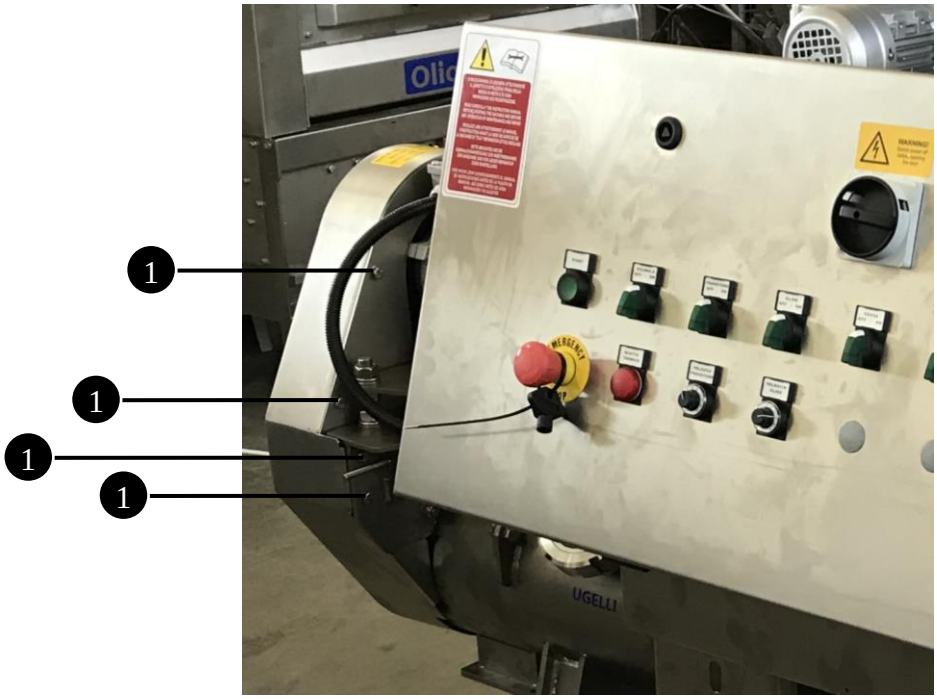


Figure 38

2. Remove the carter
3. Disassemble the screw external belt keeping it slanted inwards and pulling it toward you with a little force, while rotating the pulley anticlockwise.

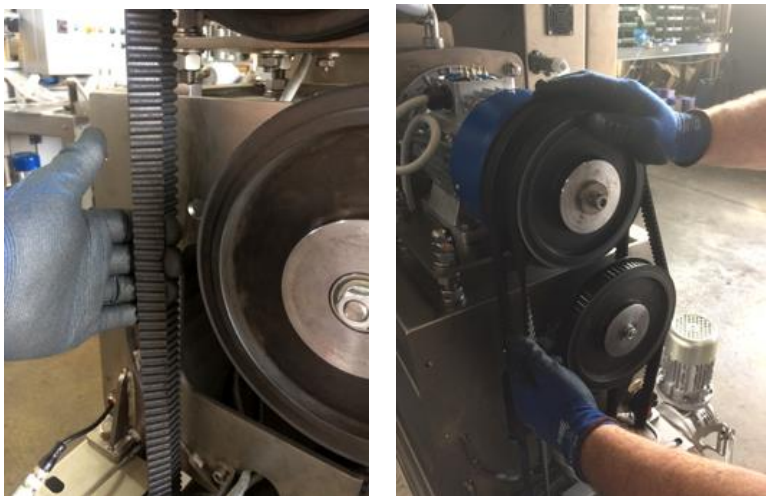


Figure 39

4. Repeat the procedure for the internal belt
5. Take the unlocking key 1

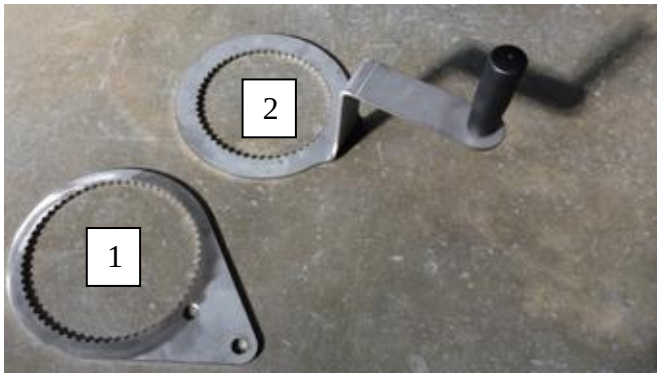


Figure 40

6. Match the teeth of key 1 with the teeth of the internal pulley of the cylinder. It is important to also match the hole on the key with the grease nipple (A)

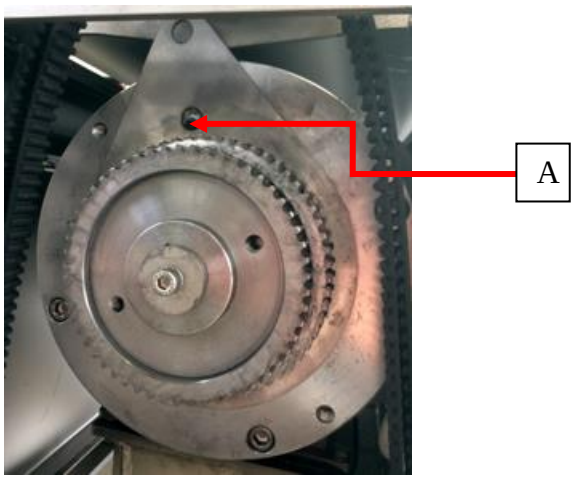


Figure 41

7. Match the teeth of key 2 with the teeth of the screw external pulley



Figure 42

8. Now, to unclog the paste that has remained in the decanter, turn key 2 clockwise and anticlockwise. When the key turns quite freely, this means the decanter is unblocked. Continue to turn the key clockwise to bring the paste out from the discharge. After this operation, the belts can be refitted.
9. Refit the internal belt
10. Insert the belt in the upper belt

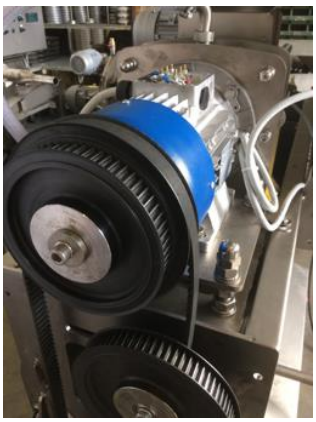


Figure 43

11. Match the teeth of the belt with the internal lower pulley for about ¼ of its width



Figure 44

12. Turn the upper pulley clockwise to refit the belt.
13. Repeat the same operations for the external belt.
14. Refit the carter