



BONE SAW



SO 160

Bone Saw CE blade 1600
mm painted



SO 160 PRO

Bone Saw CE blade 1600
mm anodised



SO 180 PRO

Bone Saw CE blade 1800
mm anodised



User and Maintenance Manual
Original Instructions - Vers. 1.0

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Summary

General Data	7
Version of the User and Maintenance Manual	8
Official Language of Preparation of the User And Maintenance Manual	8
Purpose of the User and Maintenance Manual	8
Employee Recipients of the User and Maintenance Manual	9
Definitions of the Employee Recipients of the User and Maintenance Manual	9
Preservation of the User and Maintenance Manual	10
Request A Copy of the User and Maintenance Manual	10
Recommendations Concerning the use of the User and Maintenance Manual	10
Colours Used	11
Basic Pictograms Used	11
Specific Pictograms	12
Warranty Information	13
Warranty Duration	13
Warranty Terms and Conditions	13
Ordering Spare Parts	13
Colours and Safety Signs	15
Safety Colour	15
Contrast Colour	15
Geometric Forms and General Meaning	16
Units of Measurement Used Within the Manual	17
Instruction, Information and Training Delivered	18
Personal Protective Equipment (PPE)	20
Choice of PPE	20
Obligations of the Employer	21
PPE Leaflet	21
Delivery of PPE	21
To be Read Immediately	23
Directives Applied	24
Use	24
Contraindications Of Use	25
Description	26
Structure	28
Bone Saw	29
Machine Powering	30
Motors and Mechanisms	31
Transmission: Motor Pulley, Idler Pulley	32
Blade	33
Portioning machine	34
Pusher	35
Blade guard	36
Blade guide	37
Cutting Surface	38
Door	39
Opening (closure) door	40



Monitoring of the State of the Door	41
Safety Switch	41
Replacing the Blade	42
Blade Extraction	42
Blade Insertion	43
General Rules	44
Adjustments	45
Blade Position Adjustment	45
Upper Pulley Tilt Adjustment	46
Blade Voltage Adjustment	48
Portioning Machine Adjustment	49
Blade Guard, Blade Guide and Blocks Adjustment	50
Electrical Panel	52
Commands	53
Run Cycle Button	54
Stop Cycle Button	54
Mushroom Stop Button	55
Transportation and Movement	57
Grip Points and Handling	57
Dimensional Characteristics	58
Installation	59
Lighting	61
Lighting Requirements	61
Tasks and Position of the Worker	63
Energy Requirements	64
Electricity	64
Power Line Connection	65
Check Correct Rotation Direction	66
Machine Preparation	67
Programming the Machine	67
Work Cycle	68
General Warnings during Processing	71
Residual Risk	72
Maintenance	76
Maintenance Management	76
General Maintenance Conditions	77
Routine Maintenance	78
Preventive Maintenance	78
Scheduled Maintenance:	78
Corrective Maintenance, Fault Maintenance	78
Maintenance Table	79
Cleaning	80
General Indications	80
Cleaning Operations	82
Inspection of the Machine during Cleaning	83
Mechanisms, Components Subject to Friction, Rotary Parts, Etc.	83
Electric System and Control System	83



Machine Disposal _____	84
Dismantling _____	85
Directive 2002/96 - Electrical and Electronic Equipment Waste (WEEE) _____	86
Directive 2002/95 - Restriction of the Use of Certain Hazardous Substances in Electrical And Electronic Equipment (Rohs) _____	86
Implementation and Testing _____	86
Warning Signs _____	87
CE Marking _____	87
General Safety Precautions _____	88
General Safety Warnings _____	88
Obligations of the Employer where the Machine is being Used _____	88
Vibrations Generated By The Machine _____	89
Airborne Noise Generated by the Machine _____	89
Electromagnetic Fields Exposure Assessment (Emc) _____	93
Internal Control Board _____	94
"EC" Declaration of Conformity. _____	95
Certification of Correct Installation and Testing for the Purchaser _____	96
Certification of Correct Installation and Testing for the Manufacturer _____	97



Index of figures

Figure 1 - Pictograms Obligation of Use of PPE	20
Figure 2 - Specific Pictograms Intended Use of PPE	20
Figure 3 - General View Painted Model	26
Figure 4 - General View Anodised Model	27
Figure 5 - Internal View Painted Model	27
Figure 6 - Cut Diagram	29
Figure 7 - Machine Powering	30
Figure 8 - Electric Motor	31
Figure 9 - Transmission Pulleys	32
Figure 10 - Blade	33
Figure 11 - Portioning Machine	34
Figure 12 - Pusher	35
Figure 13 - Blade Cover	36
Figure 14 - Blade Guide	37
Figure 15 - Cutting Surface	38
Figure 16 - Door	39
Figure 17 - Door Opening	40
Figure 18 - Safety Switch	41
Figure 19 - Blade Cover Extraction	42
Figure 20 - Blade Extraction	43
Figure 21 - Blade Position Adjustment	45
Figure 22 - Upper Pulley Tilt Adjustment	46
Figure 23 - Blade Voltage Adjustment	48
Figure 24 - Portioning Machine Adjustment	49
Figure 25 - Blade Guard and Blade Guide Height Adjustment	50
Figure 26 - Blade Guide Blocks Adjustment	51
Figure 27 - Electrical Panel	52
Figure 28 - Commands	53
Figure 29 - Run Cycle Button	54
Figure 30 - Stop Cycle Button	54
Figure 31 - Mushroom Stop Button	55
Figure 32 - Machine Support Feet	60
Figure 33 - Machine Positioning	62
Figure 34 - Tasks and Positions Assumed by the Worker	63
Figure 35 - Electrical Connection	65
Figure 36 - Machine Rotation Direction Change	66
Figure 37 - Work Cycle: Cutting	69
Figure 38 - Work Cycle: Piece Removal	70
Figure 39 - Warning Signs	87



Index of Tables

Table 1 - Meaning of Safety Colours	15
Table 2 - Meaning of Contrast Colours	15
Table 3 - Units of Measurement	17
Table 4 - Instruction, Information and Training Delivered	19
Table 5 - PPE Delivery Recording Form	21
Table 6 - Dimensions and Mass of Packed Machine	57
Table 7 - Dimensional Characteristics	58
Table 8 - Electrical Characteristics	64
Table 9 - Noise Values Recorded	91
Table 10 - Emc Evaluation	93



The symbol



indicates the presence of a part to be filled in



General information

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	web: www.trespade.it



Name:	BONE SAW		
Model	<input type="checkbox"/> SO 160	<input type="checkbox"/> SO 160 PRO	<input type="checkbox"/> SO 180 PRO
Serial number			
Year of construction			
Customer			

Repairer	



Version of the User and Maintenance Manual

This version of the manual is Vers. 1.0 of July 2014 (Original Instructions), prepared in compliance with:

Machine Directive 2006/42 /EC - Annex I (Essential Requirements of safety and health protection relating to the design and construction of machinery) - 1.7.4. Instructions;
EN 62079: 2002 Preparation of Instructions - Structure, content and presentation;
UNI 10893: 2000 Product technical documentation - Instructions for use - Arrangement and order of the contents.

Official language of preparation of the User and Maintenance Manual

The official language of preparation of the User and Maintenance Manual is Italian.

The original manual shows on the front cover the wording "Original instructions - Vers. X.Y". In the other countries belonging to the EU, the User and Maintenance Manual in Italian is accompanied by a translation into the relevant language; the version translated by the manufacturer on the front cover shows the following wording (in the relevant language) "Translation of the original instructions"

The manufacturer disclaims any liability for translations made without its permission.

Purpose of the User and Maintenance Manual

The User and Maintenance Manual is an integral part of the machine and is delivered with the same.

The purpose of this manual is to assist employees who will be operating the machine during all the life stages of the same in order to carry out their duties in safety. The recipients of the User and Maintenance Manual are listed in the relevant paragraph.

The contents include all the information necessary to:

- identify the qualifications that must be held by the machine operators such as: installers, operators and maintenance technicians;
- acquire knowledge relating to the pictograms shown on the machine;
- perform handling operations on the machine;
- unpack the machine;
- correctly position the machine;
- connect the machine to the energy supply sources;
- gain knowledge of the correct and safe use of the machine as defined by the manufacturer;
- acquire knowledge of the unintended and non permitted uses of the machine as defined by the manufacturer;
- acquire knowledge concerning the technical specifications of the machine;
- acquire knowledge of the functioning of the machine and its limits;
- gain knowledge regarding the need for the use of Personal Protection Devices
- becoming familiar with the procedures for the safe performance of preventive maintenance on the machine;
- becoming familiar with the procedures for the safe performance of cleaning on the machine;
- becoming familiar with the procedures for the management of waste that may be produced by the machine;
- becoming familiar with the procedures for the safe decommissioning of the machine



Employee Recipients of the User and Maintenance Manual

The employee recipients of this manual are:

- the handlers;
- the transporters;
- the installers;
- the users;
- the maintenance technicians;
- the repairers;
- the breakers

Definitions of the employee recipients of the user and maintenance manual

Handlers

They must be able to prepare, if necessary, the product in relevant packaging, and to verify the correct position with respect to the packaging, closing it adequately.

They must, if necessary, perform unpacking in compliance with the instructions indicated in the user and maintenance manual and/or on the packaging. The operations described above are performed with the help of lifting devices where necessary in conditions of safety for persons, for the product and for the environment.

Transporters

They must be able to place the product, possibly packaged, on a means of transport, if necessary with the aid of lifting and containment devices, to adequately stow it and position it, to transport the same product to its destination and offload it from the means of transport, performing in reverse the afore-mentioned operations, and perform all these operations in conditions of safety for persons, for the product and for the environment.

Installers

They must place, by express or implicit delegation of the purchaser and with the cooperation of the seller, the product in conditions of safe operation for persons, for the product itself and for the environment, providing the user/operator with the basic information of use and maintenance in conditions of safety.

Maintenance

Technicians

They must perform the normal operations of control, verification, adjustment and, possibly, minor repairs, according to the maintenance plan provided by the manufacturer and in conditions of safety for persons, for the product and for the environment.

Repairers

They must perform diagnosis of faults and abnormal behaviour of the product, possibly referring to the information provided by the user, rectify damage, carrying out the necessary repairs, replacements and adjustments that will restore the product to a state of ability to function correctly and in a safe condition for persons, for the product itself and for the environment.

Breakers

They must be able to recognise when decommissioning of the product and removal of the parts that constitute it is convenient and where necessary selecting the appropriate materials, eliminating safely and correctly from an environmental perspective any non-reusable parts and consigning the others to recycling.



Users/Operators

They must be able to operate the product in conditions of safety for persons, for the product itself and for the environment, carry out a basic diagnosis of the faults and abnormal operating conditions and perform simple adjustment, verification and maintenance operations.

Preservation of the User and Maintenance Manual

The manual should be retained for future reference, in a safe place and accessible to all persons that may need to consult it. The manual must always accompany the machine, both in the case of resale and in the case of lease/ceased lease.

Request a copy of the User and Maintenance Manual

In case of loss or deterioration of the Manual, the user is advised to promptly request a new copy from the manufacturer indicating the specific references reported in the General Information section.

Recommendations concerning the use of the User and Maintenance Manual

The machine must not be used by persons who have not read, understood and learned the instructions contained in this Manual and in any case, the machine must not be used by untrained personnel.

The instruction manual can in no way replace training of the staff, especially in the case of particularly delicate operations.



READING THE USER MANUAL OF THE MACHINE WILL FACILITATE RECOGNITION OF ANY HAZARDOUS SITUATIONS WHICH MAY RESULT IN INJURY TO ONESELF AND TO OTHERS.



Colours used

Within this manual, the colours are used as indicated below.

Blue

Red

Orange

Black

Application requirement

Prohibition

Danger

Current information

Basic pictograms Used

The pictograms used in this manual are those that are internationally known and are based on the symbols shown below



Indicates the presence of a hazard



Indicates the presence of a prohibition



Indicates the presence of a requirement

Specific pictograms



Before carrying out any operation, read the User and Maintenance Manual



Do not insert the lower limbs



Do not insert the upper limbs



Important note read carefully



OPERATOR



Person in charge of installing, operating, adjusting, maintenance and cleaning of the machine



**QUALIFIED
TECHNICIAN**



Specialist, specially trained and qualified to perform both actions for the commissioning and start-up of the machine and extraordinary maintenance or repairs that require specific knowledge of the machine, its operation, its safety devices and methods of intervention



**HAZARDOUS
ZONE**



Any zone within and/or in proximity to a machine in which the presence of an exposed person constitutes a risk in terms of the health and safety of such a person;



**EXPOSED
PERSON**



Any person that is wholly or partly in a hazardous zone



**ORDINARY
MAINTENANCE**



Series of preventive or other measures applied to the machine by the operator and to the works such that these fulfil all their functions for the entire service life



**SPECIALIST
MAINTENANCE**



A series of operations performed by qualified technicians



Warranty Information

We would point out to the Manager in charge of the department of the company where the "BONE SAW" machine will be installed, before using the same, is required to inform all those who are involved in its operation of the conditions of its use and of the relevant contraindications of use; this information is reported in this manual and through which it is possible to obtain maximum performance from the machine.

Warranty duration

The warranty period agreed between the parties is established as months.



The Seller

The Purchaser

Place

Date

Note

In case of non-compliance with the duration of the warranty, the provisions of the Italian Civil Code pursuant to Art. 1495 are applicable.

In other countries refer to the relevant legislation in force.

Warranty Terms and Conditions

All the electrical, electronic and mechanical parts subject to wear are not covered by the warranty.

For the mechanical parts, the warranty only relates to the spare parts and not to labour or the relevant transfer for assembly.

Any defective parts to be repaired must be sent to us **Free Port** and will be repaired and returned to us **Ex Works**.

Ordering Spare Parts

Any ordering of spare parts must be accompanied by the following references; those marked with an asterisk* are shown in this manual.

- ⇒ * Name of the machine
- ⇒ * Serial number
- ⇒ * Year of manufacture
- ⇒ Detail



IMPORTANT

Within the manual there are two forms relating to the CORRECT INSTALLATION AND TESTING PERFORMED.

These forms must be completed and signed following successful installation and testing.

The first form must remain an integral part of this manual.

The second form must be sent to the Manufacturer of the machine. Indicate on the form the date of commissioning of the machine

ATTENTION

Failure to complete the forms or their non-delivery to the manufacturer will void the warranty.



The instructions, drawings and documentation contained in this manual are of a confidential technical nature and the strict property of the manufacturer and may not be reproduced in any way, in whole or in part.



Colours and Safety Signs

The colours and safety signs used in this manual have been defined in accordance with the requirements of the standard UNI 7543-1: DECEMBER 2004

Colours and safety signs Part 1: General prescriptions

The information regarding requirements of the standard is presented in order to improve understanding of the contents of this manual.

Safety Colour

The colour of characteristics defined, to which a specific safety-related meaning is assigned.

Safety Colour	Contrast colour	Application examples
Red	Stop Prohibition	Stop Signal Emergency stop device
	Location of equipment fire	Location of fire extinguisher
Yellow (in the manual replaced by orange for reasons of readability)	Attention Warning or hazard	Warning signs (fire hazards, explosion, radiation, toxicity, etc.).
Green	Safety situations Rescue equipment Emergency department	Signs of passage and emergency exits Emergency showers First aid and rescue stations
Blue	Requirement or prescription	Sign of requirement to use PPE Safety technical instructions

Table 1 - Meaning of safety colours

Contrast colour

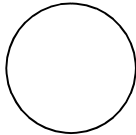
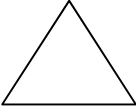
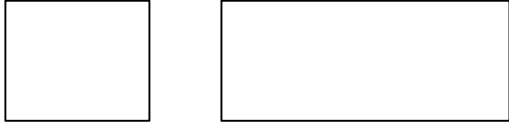
Colour of defined characteristics, intended to emphasise another one.

Meaning	Safety Colour	Contrast colour	Colour of the sign graph, symbol or pictogram
Prohibition	Red	White	Black
Location fire fighting equipment	Red	White	White
Warning or hazard	Yellow (in the manual replaced by orange for reasons of readability)	Black	Black
Rescue or medical assistance	Green	White	White
Information requirement or prescription	Blue	White	White

Table 2 - Meaning of Contrast colours



Geometric shapes and general meaning

Geometric Shape	Meaning
	Prohibition - Requirement or Prescription
	Warning or Hazard
	Rescue or medical assistance Information Location fire fighting equipment Additional signal



Units of measurement used in this manual

The units of measurement used are those defined by the "International Measurement Units System" (SI).

Physical quantity	Symbol of physical quantity	Name of the SI unit	Symbol of the SI unit
Voltage	V	volt	V
Intensity of electric current	I, i	ampere	A
Frequency	F	hertz	Hz
Power	P	watt	W
Electrical resistance and conductance	R	Ohm	Ω
Electric capacitance	C	farad	F
Magnetic flux density	B	tesla	T
Electric field intensity	E		V/m
Magnetic field intensity	H		A/m
Luminous intensity	I_v	candle	cd
Length	l	metre	m
Mass	m	kilogram	kg
Temperature	T	degree Celsius	°C
Time range	t	second	s
Speed	v	metre per	m/s
Acceleration	a		m/s²
Force	F	newton	N
Energy, work, heat	E, Q	joule	J
Heat	Q	calorie	cal
Heat	Q	1 cal = 4,187 J	
Substance quantity	n	grinders	grin
Luminous intensity	I_v	candle	cd
Illuminance		lux	lx
Sound pressure level	dB	decibel	$L_p = 10 \log_{10} \left(\frac{p}{p_0} \right)^2 = 20 \log_{10} \left(\frac{p}{p_0} \right)$ dB
Pressure	p	pascal	Pa
Pressure	bar	1 bar = 0.1 MPa = 100 kPa = 1 000 hPa = 10⁵ Pa	

Table 3 - Unit of measurement



Training, information and training carried out

Definitions

Training

An educational process through which to transmit to workers and to other persons involved in the corporate system of prevention and protection the knowledge and procedures useful for the acquisition of skills for the safe performance of their respective tasks within the company and for the identification, reduction and management of risks.

Information

A set of activities aimed at providing knowledge for the identification, reduction and management of risks in the workplace.

Instruction

A set of activities to workers concerning the correct use of equipment, machinery, systems, substances and devices, including personal protective equipment, and the relevant work procedures.

We would point out to the Manager in charge of the department of the company where the "BONE SAW" machine will be installed, before using the same the requirement to inform all those who are involved in its operation of the conditions of its use and of the relevant contraindications of use. The objectives of such action should be to implement a thorough training and instruction program in order to obtain, from employees, use of the machine in conditions of maximum safety. During training, it is advisable to carry out tests to determine the level of learning.

The information relating to the use of the machine and the related risks are reported in this manual.

The employer must ensure that the machine operator is trained before commencing work and consequently authorised for its use.

This information is in this manual also enables obtaining of maximum performance from the machine.



THE DEPARTMENT MANAGER, BEFORE AUTHORISING USE OF THE MACHINE, MUST ENSURE THE PROVISION OF INFORMATION, TRAINING AND INSTRUCTION EITHER PERSONALLY OR DELEGATED TO A THIRD PARTY. THE TRAINING MUST END WITH A TEST IN ORDER TO DETERMINE THE DEGREE OF LEARNING OF THE MACHINE OPERATOR.

The actions of information, training and instruction should be reported in the attached table.



Subject	Trainer	Employee Assigne	Date
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	
		First name Surname Signature	

<p align="center">EMPLOYER First name Surname</p> <p>Signature</p>	<p align="center">Health and Safety Office First name Surname</p> <p>Signature</p>	<p align="center">Workers' Health and Safety representative First name Surname</p> <p>Signature</p>
---	---	--

For acknowledgement:

Table 4 - Training, information and instruction carried out

Personal Protective Equipment (PPE)

Pursuant to the specific Directive 89/686/EEC and subsequent amendments and additions, «PPE» means any device or item designed to be worn or held by an individual for protection against one or several risks that could endanger health and safety. All PPE must be compliant with the provisions of the Directive in question.

Choice of PPE

The manual contains information on the PPE to be worn or held by the worker.

The obligation of the use of PPE is highlighted by the specific pictograms of which a few examples are listed below.



Wear
Suitable
Gloves



Wear
Suitable
Footwear



Wear
Suitable
Ear protector



Wear
Suitable
Goggles

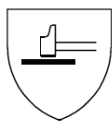


Wear
Suitable
Mask

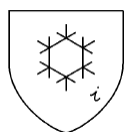
Figure 1 - Pictograms obligation of use of PPE

The employer must identify the correct PPE depending on the specific risk.

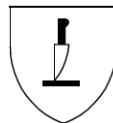
The example above is related to the choice of gloves, in compliance with the provisions of annex C of the standard EN 420:2004 - Protection Gloves General Requirements and test methods:



Impact



Cold



Cutting



Hot



Ionising Radiations

Figure 2 - Specific pictograms PPE intended use

It is advisable to always check the correct choice of the class of protection of the PPE.



Obligations of the Employer

It should be noted that in Italy, the employer must in any case implement the provisions of the Consolidated Law on Safety at Work Legislative Decree 81/2008.

Elsewhere in Europe, the employer must comply with the legislation in force in the country where his company operates.

PPE information note

It is advisable to read the Information Note that accompanies the PPE.

The information note must contain instructions regarding the duration and the expiry dates of storage of the PPE.

With regard to interpretation of the period, the relevant part of the standard UNI 10913 is reported: APRIL 2001 - Personal Protective Equipment Guidelines for preparation of the information note.

Duration (required)

The duration of possible use must be indicated (for example, the maximum number of wash cycles, after which it is assumed that the PPE loses its characteristics).

Note that if such information is not reported in the information note, it is considered that the PPE is not subject to the limitations of duration apart from normal wear determined by the conditions of use.

3:17 Storage expiry date (required)

If the PPE is subject to ageing, the storage expiry date must be provided (at least month and year).

Delivery of PPE

It is advisable to record the PPE delivered. Here is an example of a recording form.

	DELIVERY OF PPE	No. 1
Employee	Title	Task
Description Personal Protective Equipment	Delivery date	Signature for receipt

Table 5 - PPE delivery recording form

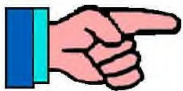


**The Company FACEM SPA as manufacturer of the machine
BONE SAW**

disclaims any liability for damage caused by misuse, neglect, and the failure to follow the safety instructions in this manual.



Furthermore, any liability relating to damage that occurs during transportation, unpacking and handling is declined.



When the machine has been installed at the company, the Employer must carry out an assessment of the risks relating to the use of the machine, in relation to its production structure and to the relevant phases of: use, maintenance, cleaning, etc...

This assessment must be carried out in accordance with the provisions of the Consolidated Law on Safety in the Work Place, Legislative Decree 81/2008 and subsequent amendments and additions. For use in other countries, reference should be made to the relevant legislation.

Read this first



ATTENTION

BEFORE

- ⇒ **HANDLING THE MACHINE;**
- ⇒ **USING THE MACHINE;**
- ⇒ **MAKING ADJUSTMENTS;**
- ⇒ **PERFORMING OPERATIONS;**
- ⇒ **CARRY OUT CLEANING;**



CONSULT THE USER MANUAL



DELIVER A COPY OF THIS MANUAL TO THE MAINTENANCE DEPARTMENT MANAGER.

THE DEPARTMENT MANAGER MUST PROVIDE THE MACHINE OPERATOR WITH AN EXTRACT OF THIS MANUAL CONTAINING THE INFORMATION RELATING TO THE DUTIES THAT THE SAME MUST PERFORM.



Directives Applied

This machine has been designed, manufactured and tested in compliance with the provisions of the Applicable directives such as: Directive 2006/42/EC Directive 2006/95/EC Directive 2004/108/EC Regulation 1935/2004/EC and their subsequent applicable updates.

This type of machine is among those referred to in Annex IV of Directive 2006/42/CE:

...

4 sq.m. Band-saws with manual loading and/or unloading for working with wood and material with similar physical characteristics or for working with meat and material with similar physical characteristics, of the following types:

4.1 blade saws in the fixed position during cutting, with table or support of the workpiece of fixed or alternative movement;

...

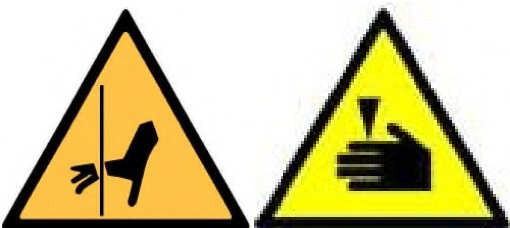
This machine complies with the safety objectives established by Directive 2006/95/EC, as provided for by the RES 1.5.1 concerning Electricity of Annex I to Directive 2006/42/CE In accordance with the provisions of the above mentioned RES, Directive 2006/95/EC might not be cited in the Declaration of Conformity contained in this manual.

Use

The "**BONE SAW**", henceforth also referred to as machine is intended to be used within the context of the slaughtering and meat processing sector, both domestic and commercial/industrial. This machine enables the cutting of bones, frozen and similar meat into adjustable size pieces.



For its operation, the machine requires the constant presence of an operator.



WARNING - The presence of the blade is a constant cause of the following risks:

- **Cutting and amputation with the blade in motion;**
- **Cutting and puncturing with the blade stationary.**

Contraindications to use



All the operations necessary for preparation of the machine must be carried out by qualified technicians.



In the event of modifications made by the user, the same is required to remove the CE marking affixed by the company FACEM SPA.



Everything that is not expressly referred to in this manual is prohibited.



The machine cannot be used in a potentially explosive environment.

Description

The machine is designed as shown in the figure, and mainly consists of:

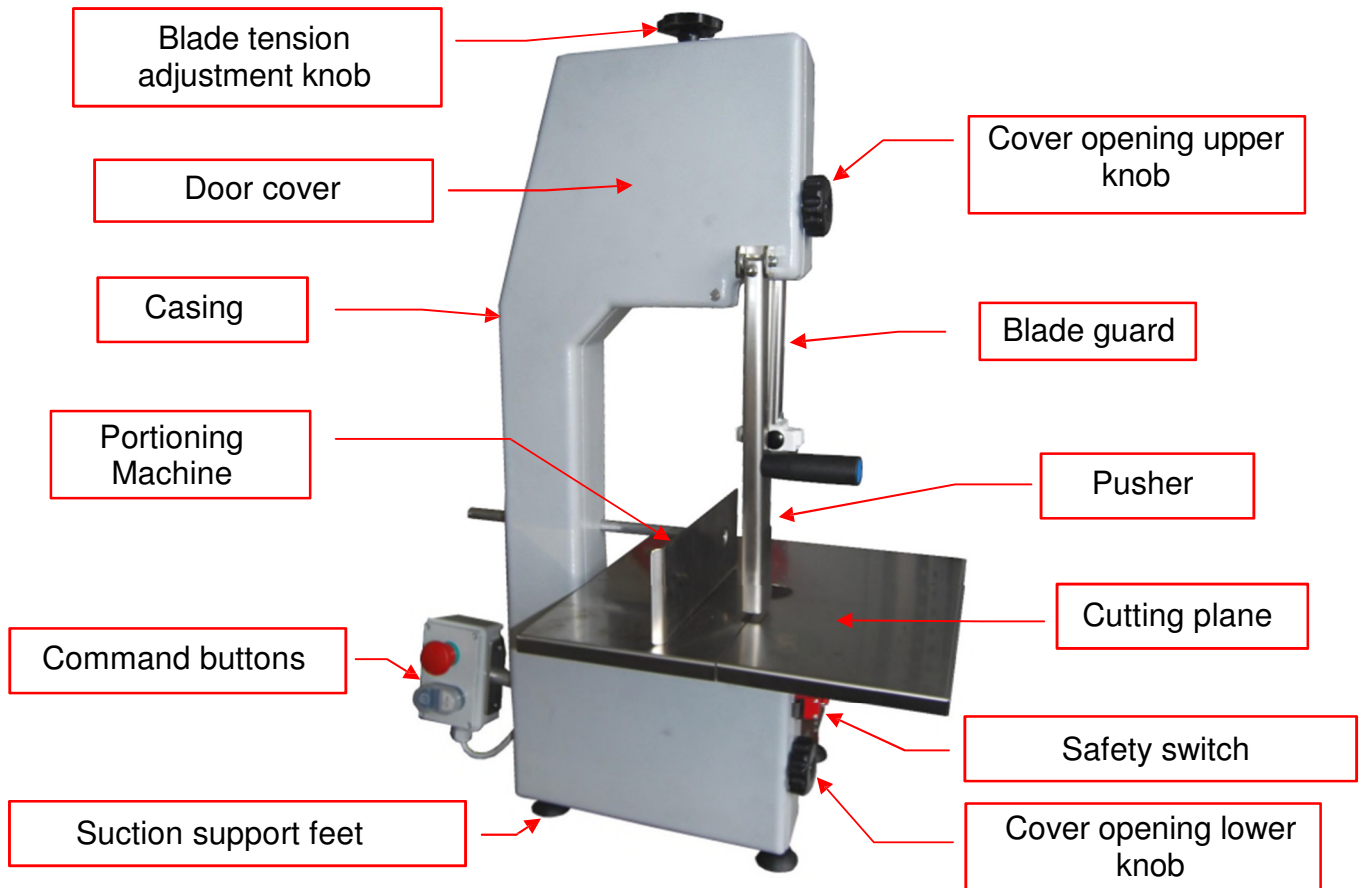


Figure 3 - General view painted model

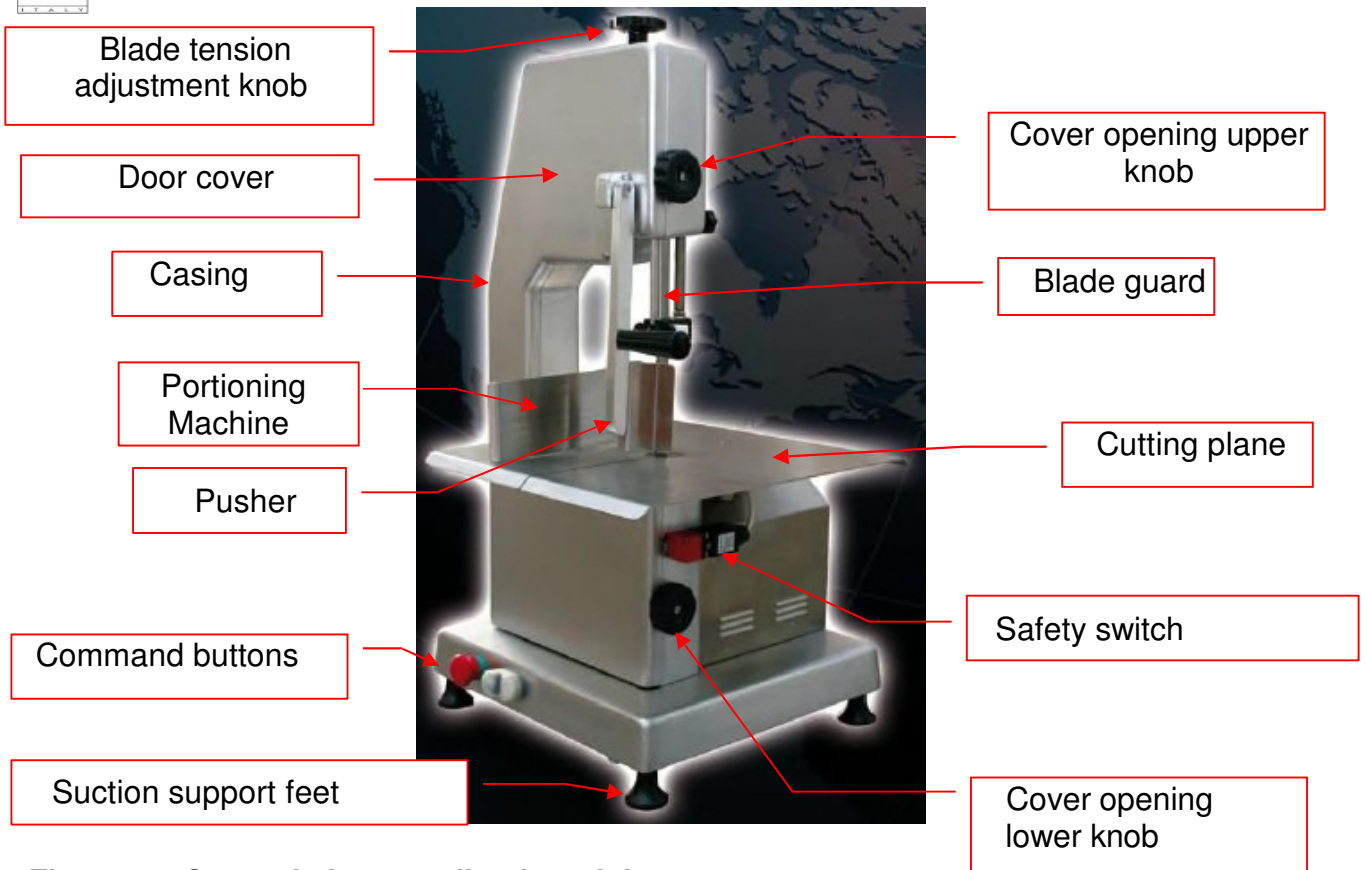


Figure 4 - General view anodised model

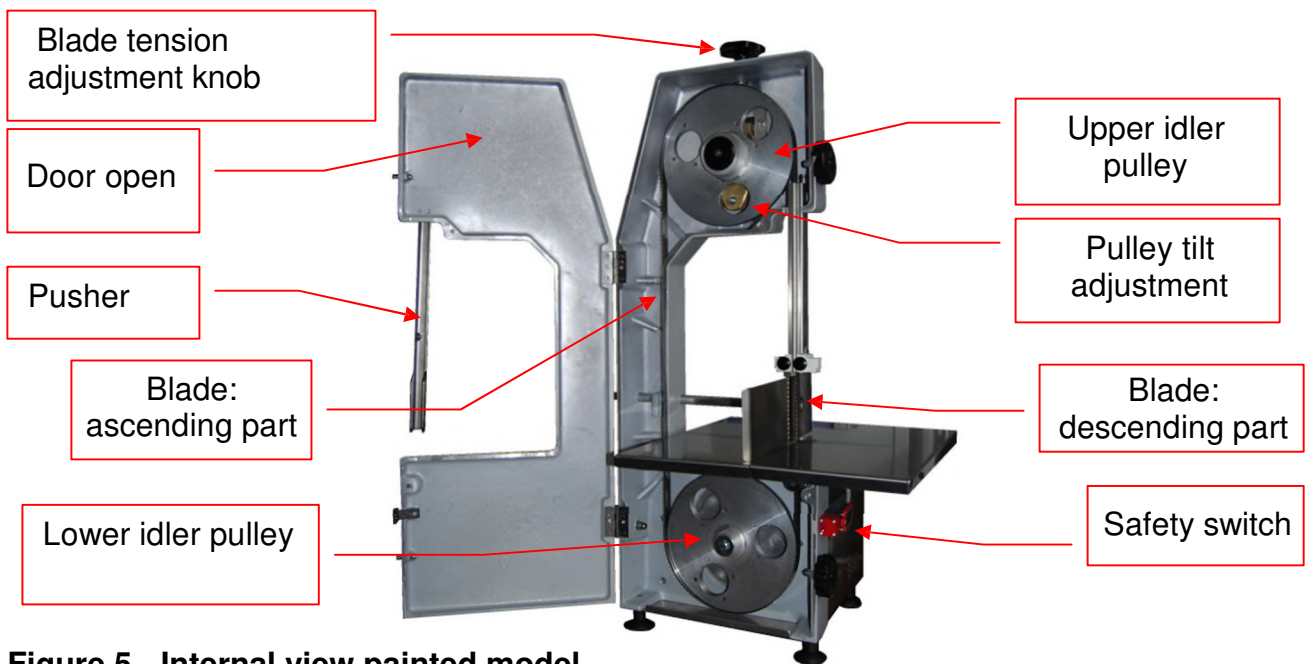


Figure 5 - Internal view painted model



Structure

The machine is made of a metal casing (anodised or painted aluminium). The casing is connected to the other structural components: base, cover and cutting plane. These are connected to all the parts necessary for operation of the machine: motor, transmission parts, controls, adjustment knobs, etc. The internal parts are closed via a cover in the same material as the casing, which is attached to the pusher.

The machine rests on four suction feet, which gives it stability; it must in any case be placed on a firm horizontal surface.



BONE SAW

This machine enables the cutting of bones, frozen and similar meat into adjustable size pieces according to requirement.

Cutting takes place manually by placing the workpiece on the cutting plane and directing it through the appropriate pusher towards the saw blade that cuts it.

The following diagram shows operation of the machine.

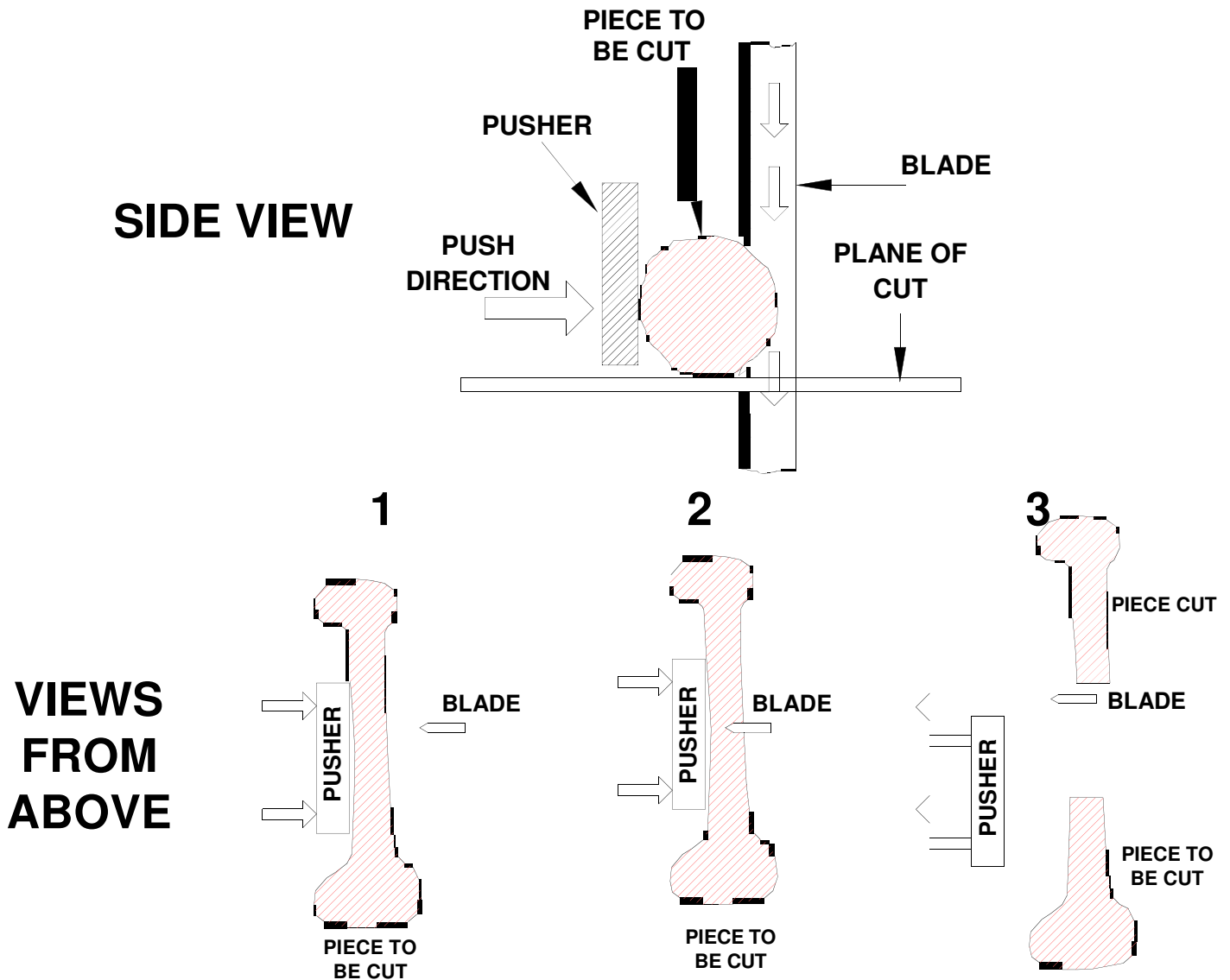


Figure 6 - Cut diagram

Movement takes place via an electric motor, which drives a pulley to which the blade is connected. In addition to the drive pulley, there is also an idler pulley, which is used to adjust the tension and the angle of the blade.

The machine is equipped with various knobs, used for openings of compartments, for tightening or for adjustments.

Machine feed

The machine is fed manually; the operator takes the piece to be cut with their hands and places it on the cutting plane. Then, using the pusher, the operator directs it towards the blade.

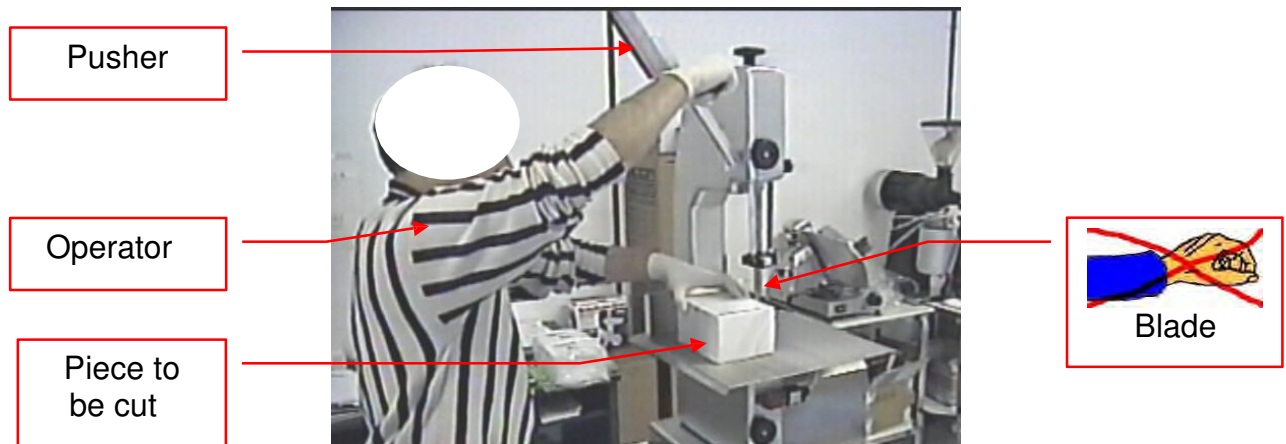


Figure 7 - Powering of the machine



RISK OF CUTTING, AMPUTATION, PIERCING

DANGER BRUISING

DANGER MANUAL HANDLING OF LOADS

MOVIMENTAZIONE MANUALE DEI CARICHI

! Ensure that while manually performing operations of work, cleaning, etc. limbs do not strike the blade; Always keep the work surface clear.

! Only carry out adjustments, maintenance, cleaning, etc.. when the machine is at rest and is not under voltage.

Motors and mechanisms

The machine is equipped with an electric motor, which transmits the motion of its shaft directly to a pulley and then to the blade. The motor is contained in a relevant box, located under the cutting plane; the box is equipped with cooling vents.

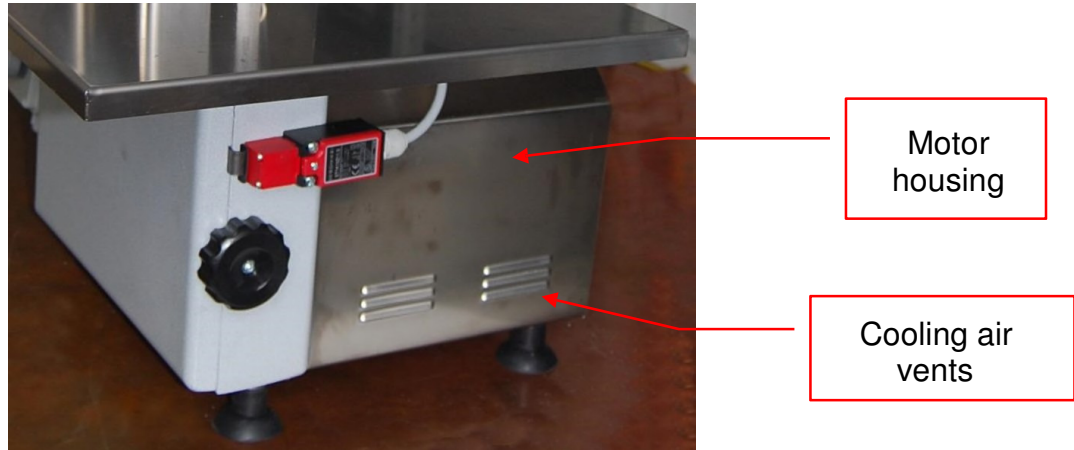


Figure 8 - Electric motor



**DANGER
ELECTRICAL
CURRENT**



**Leave sufficient space around
the cooling vents.**



**Only carry out maintenance,
cleaning, etc..
when the machine is at rest and
is not under voltage.**

Transmission: drive pulley, idler pulley, blade

From the motor, the motion passes directly to a pulley (motor) and, through the blade, to another pulley (idler), positioned at the top. The blade therefore acts as a transmission component.

The idler pulley is releasable upwards for operations of maintenance and cleaning. It is attached to the structure and its position is adjustable in two directions:

1. high-low, by means of the knob located above it; this operation is used to adjust the tension of the blade.
2. inside-out via a grub screw; this operation is used to adjust the tilt of the pulley to ensure that the movement of the blade takes place in axis.

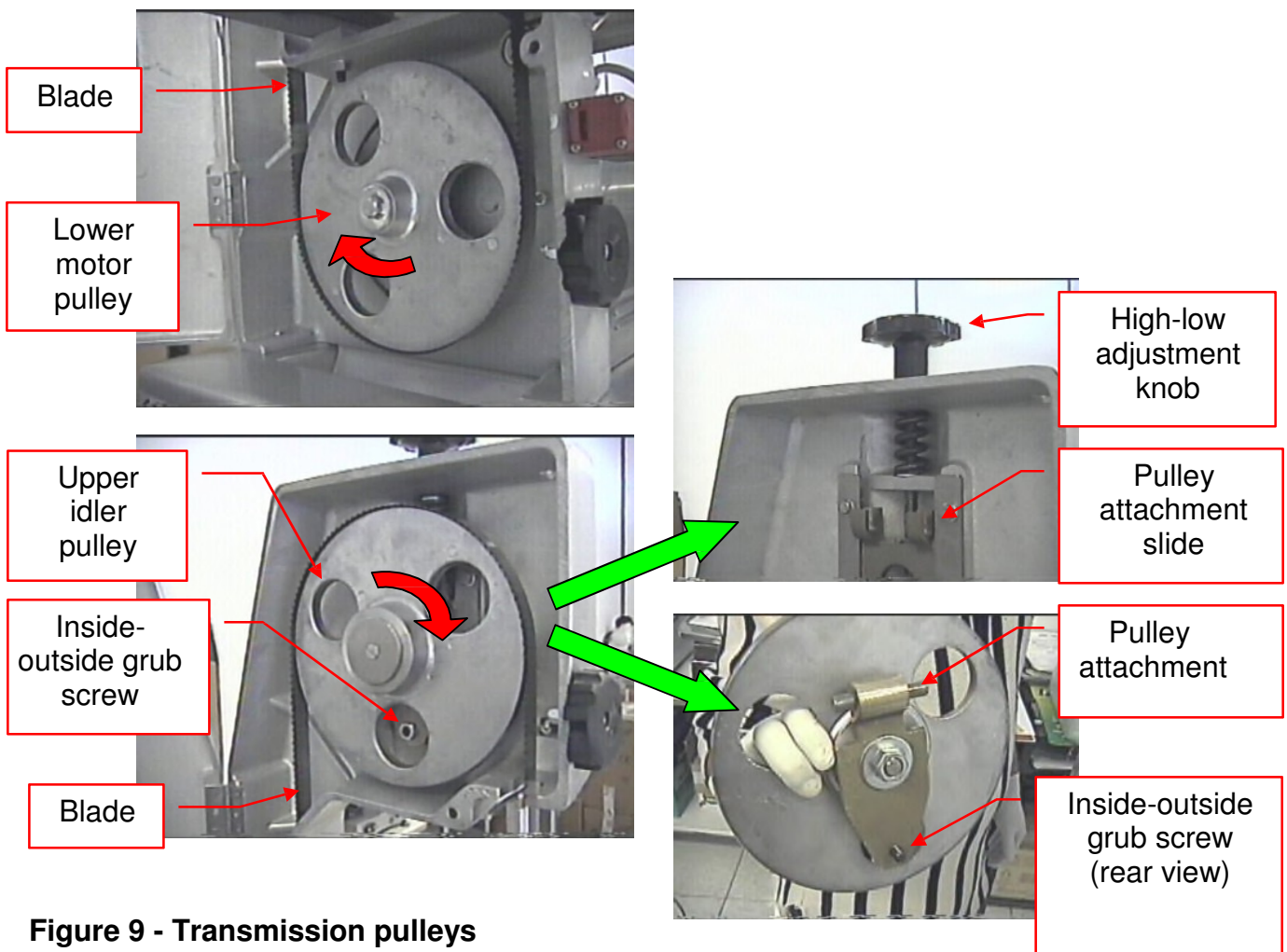


Figure 9 - Transmission pulleys



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CUTTING,
AMPUTATION,
PIERCING**



Before opening the door, disconnect the machine from the power supply line;

For adjustments, cleaning, etc. see the appropriate sections;

Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.

Blade

The blade is the part that physically performs the cutting. It consists of a steel closed loop strip. On one edge are formed the teeth that perform the cutting.

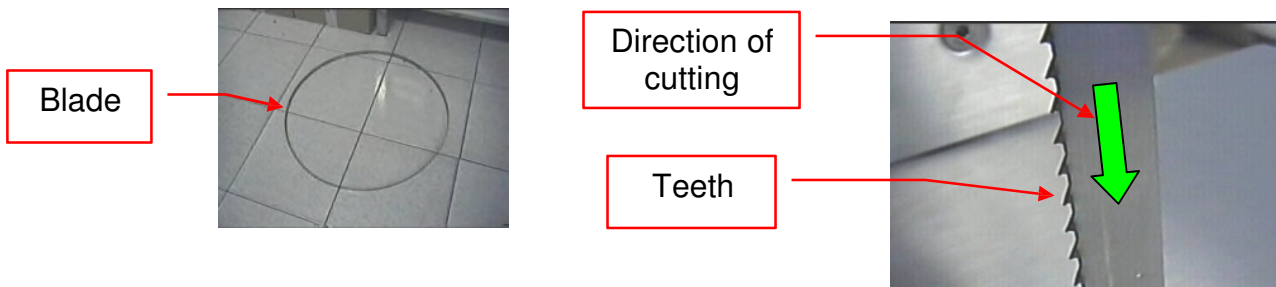
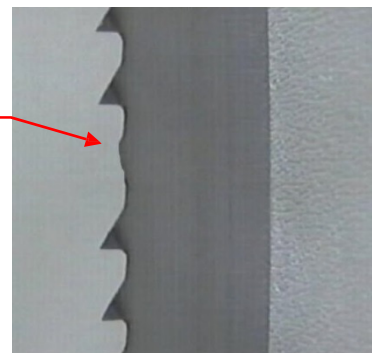


Figure 10 - Blade



**DANGER
BRUISING**

Detail:
damaged
blade (broken
tooth)



**RISK OF
CUTTING,
AMPUTATION,
PIERCING**



**Handle the blade carefully and observe the direction of cutting, see blade assembly-replacement section;
For adjustments, cleaning, replacement, etc. see the appropriate sections;
Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.**

During use of the machine or during cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.



It is forbidden to wear scarves, ties, loose clothing, rings, bracelets and everything else (belts, cords, etc..) that could become entangled during work.

Portioning machine

The portioning machine is the part that is used to adjust the length of the cut piece. Its position is adjustable by means of a rod that slides into a seat and is locked by a knob.

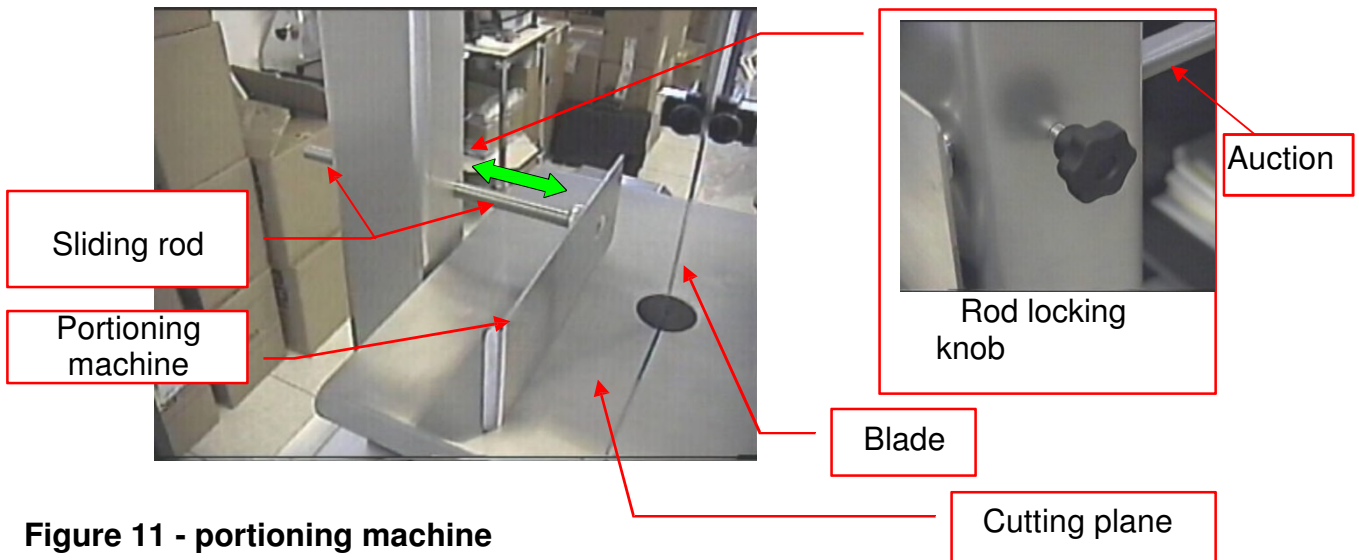
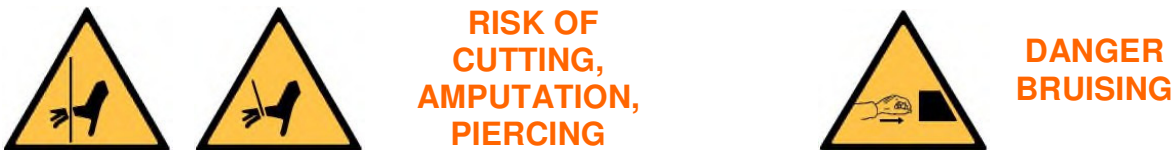

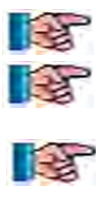




Figure 11 - portioning machine



-   **Handle with care and avoid sudden movements;**
-  **For adjustments, cleaning, replacement, etc. see the appropriate sections;**
-  **Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage**

During use of the machine or during cleaning, replacement, adjustment, etc.:

-   **The use of suitable protective gloves is required.**

Pusher

The pusher is used to push the piece to be cut towards the moving blade. It replaces hands at this pushing stage, reducing the risk of cuts. By means of a relevant hinge, it can rotate and thus be raised for the operations of cleaning, loading or offloading of the worked pieces, etc. or lowered towards the blade during cutting.

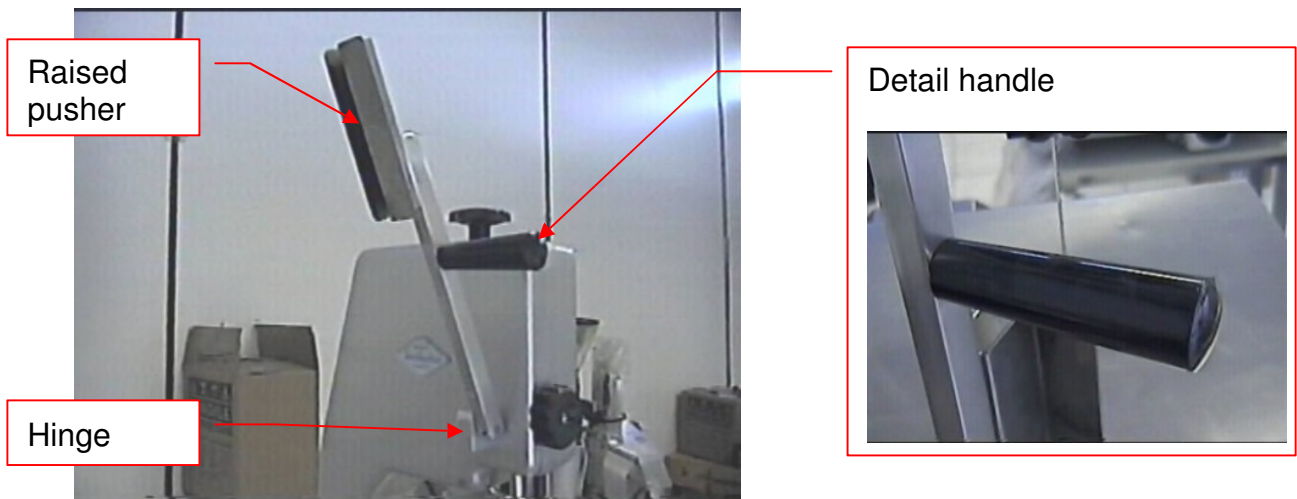











Figure 12 - Pusher



-   **The pusher almost touches the blade: Handle with care and avoid sudden movements;**
-  **Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage and see the appropriate sections;**

During use of the machine or during cleaning, replacement, adjustment, etc.:

-   **The use of suitable protective gloves is required.**
-   **It is absolutely forbidden to place hands between the pusher and the blade and to remove the cut pieces.**
-  **It is forbidden to wear scarves, ties, loose clothing, rings, bracelets and everything else (belts, cords, etc..) that could become entangled during work.**
-  **It is forbidden to remove the safety devices.**

IT IS FORBIDDEN TO REMOVE THE SAFETY DEVICES.

Blade guard

The blade guard covers that part of the blade that protrudes from the machine and that is not intended to cut, protecting hands or other parts from contact with the same. It therefore has a protective function. It has a slidable rod to be adjusted in height and is locked with a knob.

 **Only leave uncovered the part of the blade required to make the cut**

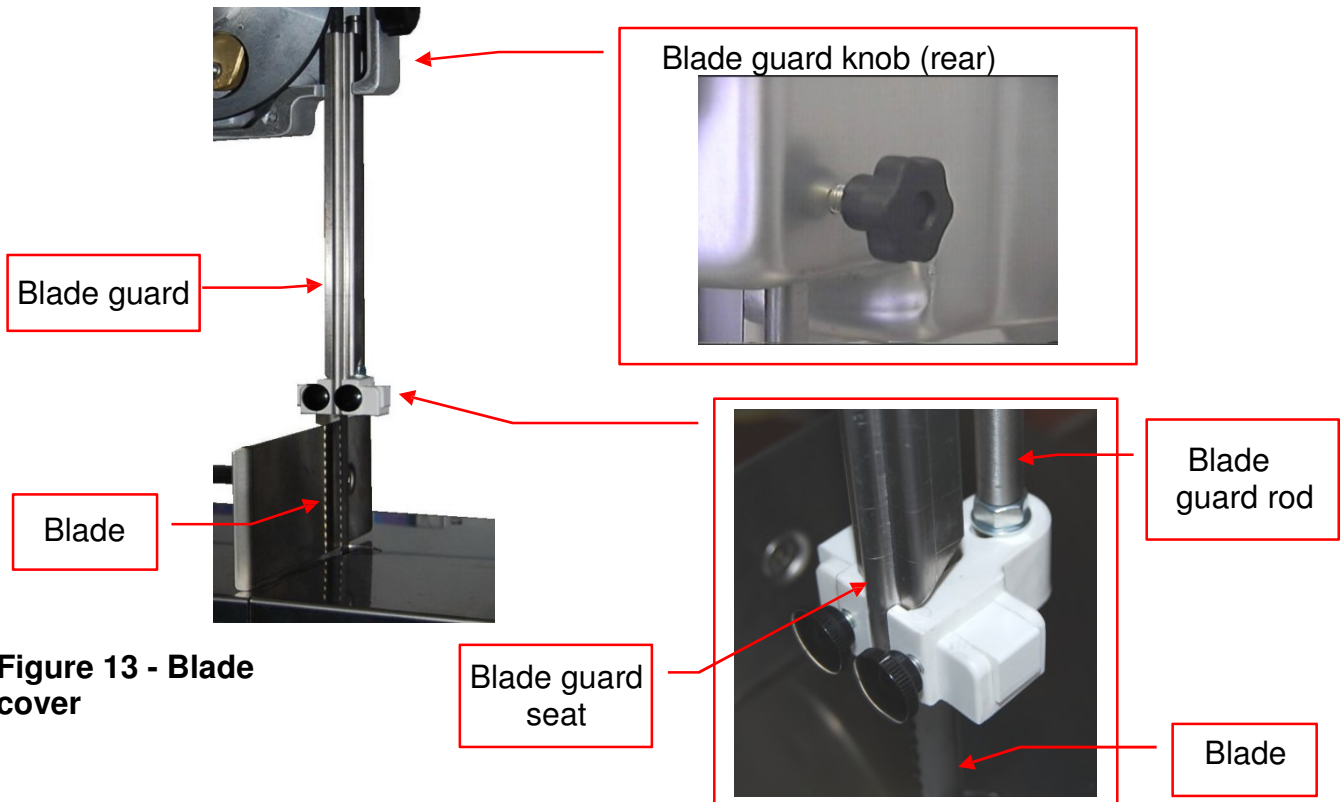


Figure 13 - Blade cover



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DANGER BRUISING



The blade guard is very close to the blade: Handle with care and avoid sudden movements;

For adjustments, cleaning, replacement, etc.. see specific sections; Only carry out adjustments, maintenance, cleaning, etc.. when the machine is at rest and is not under voltage.

During use of the machine or cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.



IT IS FORBIDDEN TO REMOVE THE SAFETY DEVICES.



It is forbidden to remove the safety devices.

Blade guide

To stabilise the blade, preventing vibrations, the machine is provided with a device called a blade guide. It consists of two sliding blocks which are locked with two knobs. In this way, when the blocks are worn, they must be adjusted, bringing them into proximity with the blade.

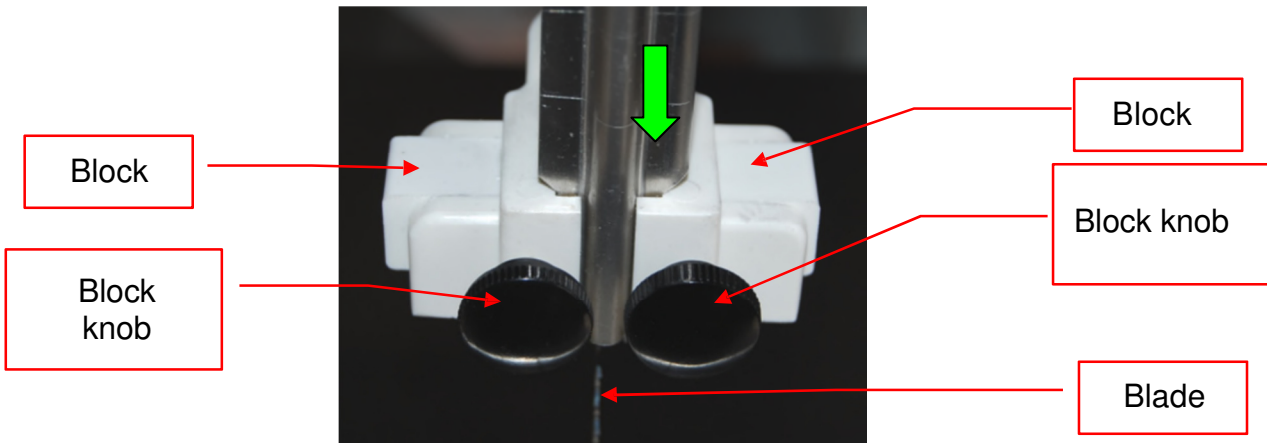


Figure 14 - Blade guide



**RISK OF
CUTTING,
AMPUTATION,
PIERCING**



**DANGER
BRUISING**



The blade guide is very close to the blade: Handle with care and avoid sudden movements;



For adjustments, cleaning, replacement, etc. see the appropriate sections;



Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.

During use of the machine or during cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.

Cutting plane

Cutting of the pieces takes place on a steel plane; it is provided with a slot which allows the passage of the blade in the operations of dismantling and reassembly.

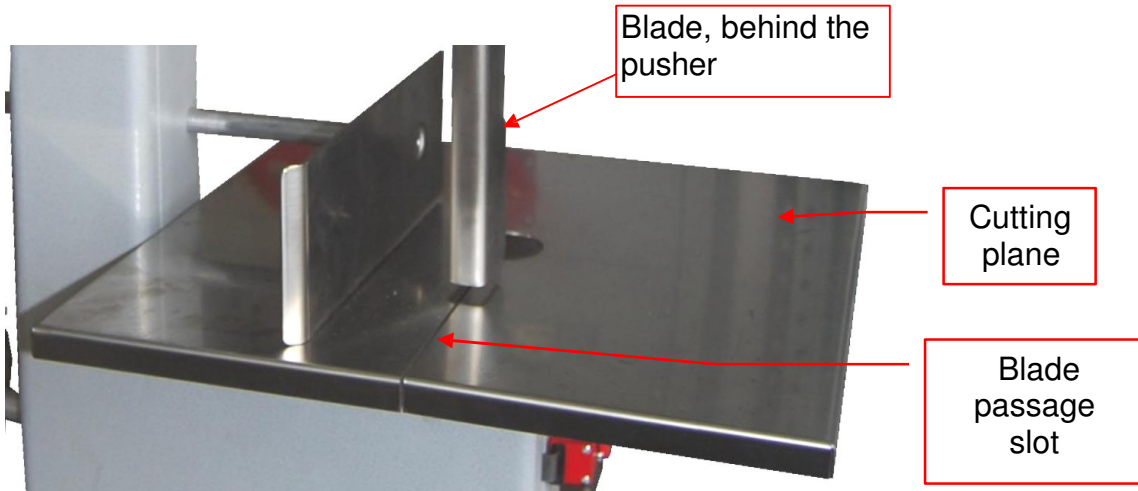


Figure 15 - Cutting plane



**RISK OF
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AMPUTATION,
PIERCING**



**DANGER
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Handle with care and avoid sudden movements;

For adjustments, cleaning, replacement, etc. see the appropriate sections;

Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.



The use of suitable protective gloves is required.

Door

In the front part of the machine is located the door, which segregates the transmission parts of the machine. The door with hinges is opened by unscrewing two knobs; the status of the door is monitored and controlled by the relevant safety microswitch. When the door is opened, movement of the blade is interrupted.



The opening of the door allows access to the transmission parts of the machine and to the blade,



It is forbidden to open the door with the blade in motion.

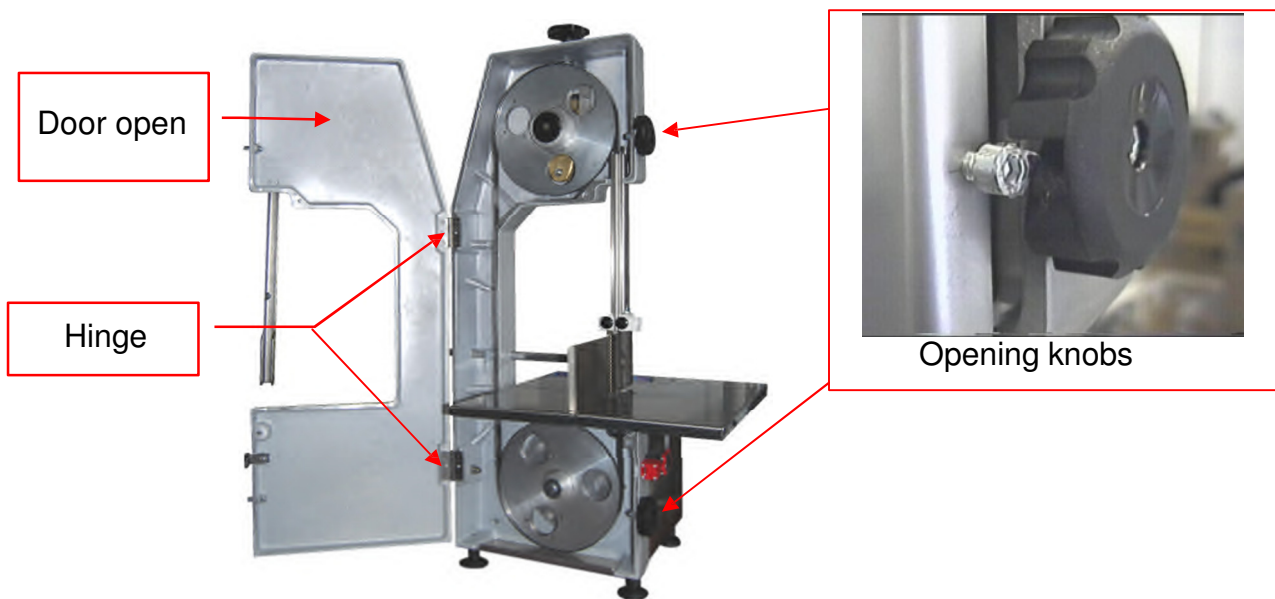


Figure 16 - Door



**RISK OF
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AMPUTATION,
PIERCING**



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For adjustments, cleaning, replacement, etc.. see the appropriate sections;

Only carry out adjustments, maintenance, cleaning, etc.. when the machine is at rest and is not under voltage.

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:




The use of suitable protective gloves is required.



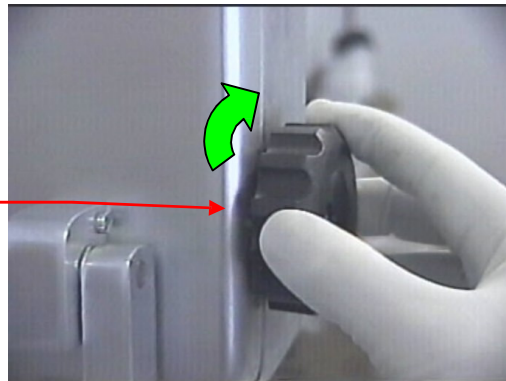
Opening (closure) door

To open the door, turn the two relevant knobs, turning them clockwise until the screw head comes out of the seat of the same knob and then pull the door open.



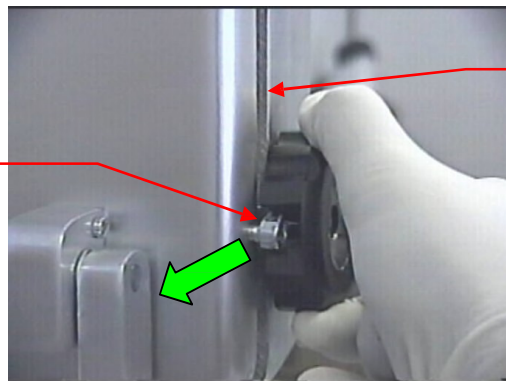
The opening of the door allows access to the transmission parts of the machine and to the blade,  It is forbidden to open the door with the blade in motion.

Turn the two knobs.



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...until release of the two screw heads from their seats



Door Open

Figure 17 - Door opening

For the closure, repeat the steps in reverse, i.e. to approach the door, inserting the screws in the respective seats and turn the knobs carrying them into the closed position.



Only carry out adjustments, maintenance, cleaning, etc.. when the machine is at rest and is not under voltage.

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.

Monitoring of the State of the Door

Safety switch

The switch is of the type key and is equipped with positive and forced opening contacts. The body of the switch is fixed at the bottom to the frame by screws and the key is attached to the door.

When the lower door is open by more than 9 mm, the switch interrupts the operation of the machine: the management card activates the electronic braking of the motor and the blade stops its movement.

The stopping time of the blade is less than that required by the specific harmonised standard.

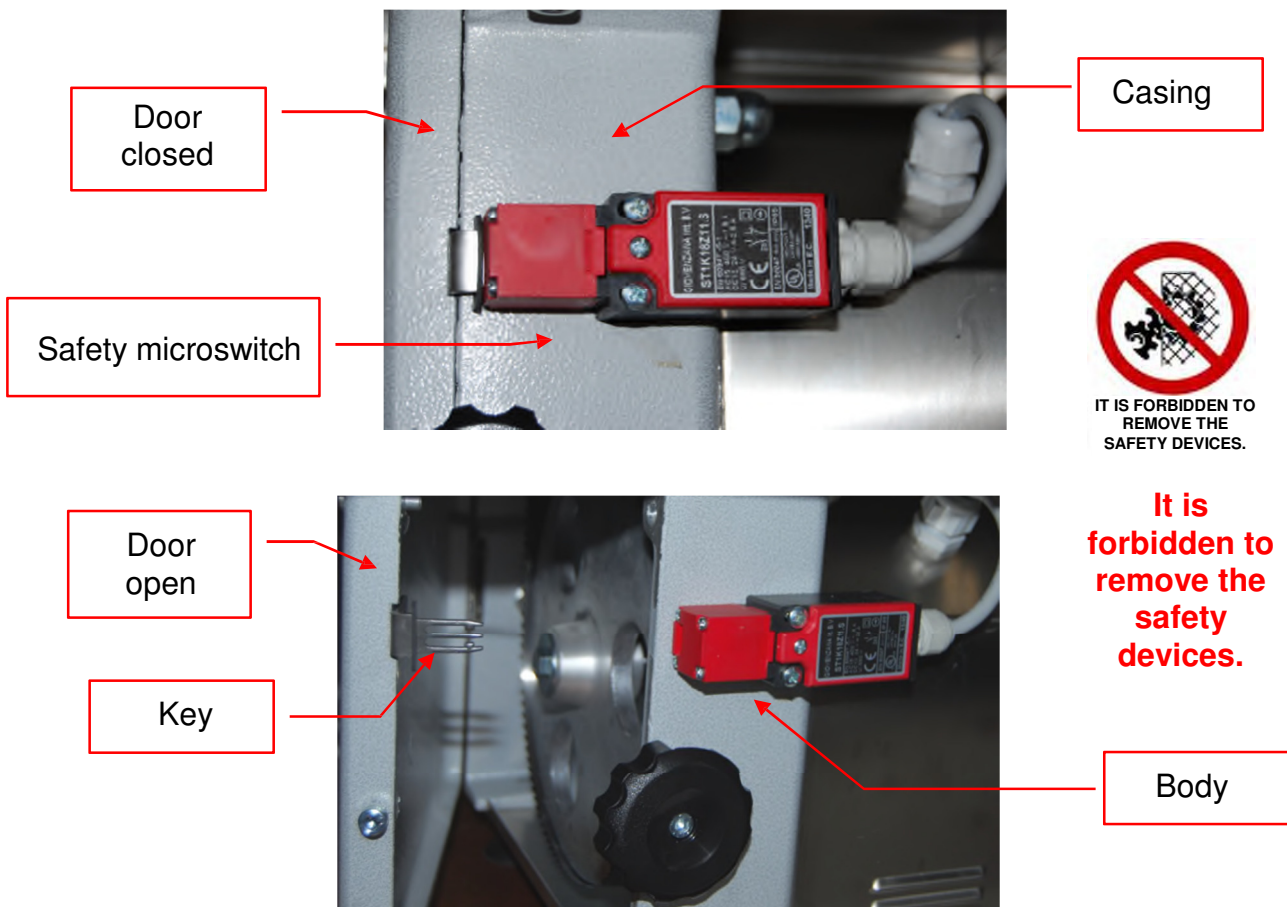


Figure 18 - Safety switch

Blade replacement

The blade is of course subject to wear and must be replaced periodically.

The frequency of replacement depends on the frequency of use, the nature of the material cut and the conditions under which the machine is maintained (cleaning, maintenance, etc..).

To replace the blade open the door and remove the old blade, according to the steps indicated below.

Blade extraction



Open the door as shown in the appropriate procedure

Once the door has been opened, extract the blade, following the steps described below:
DURING THESE STEPS:



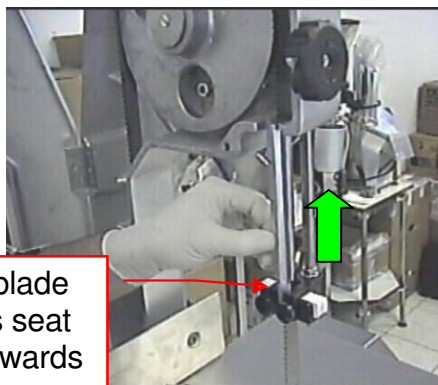
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PIERCING**



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**THE USE BY
OPERATORS OF
PROTECTIVE GLOVES
IS MANDATORY**



Remove the blade guard from its seat by pulling it upwards

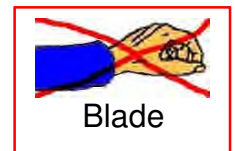
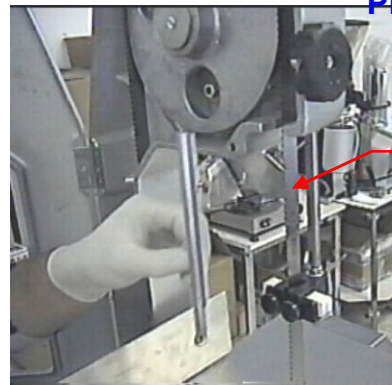
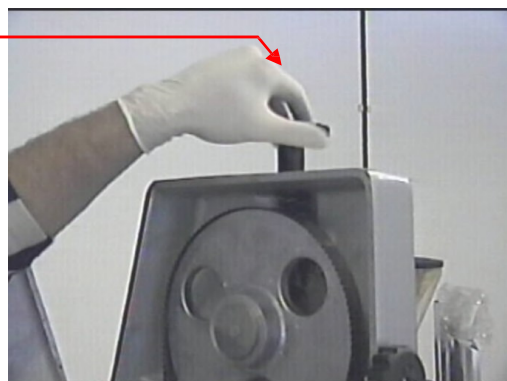


Figure 19 - Blade guard extraction

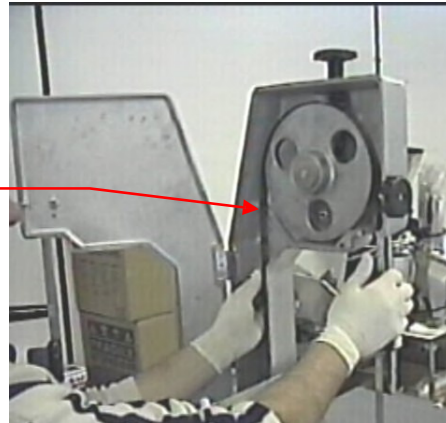


To refit the blade guard, reverse this action, i.e. slotting it into its seat.

Loosen the blade tension by unscrewing the relevant knob



Detach the blade from the two pulleys



Then remove the blade from inside the machine and reassemble it safely, paying attention to the movements and with the teeth facing down

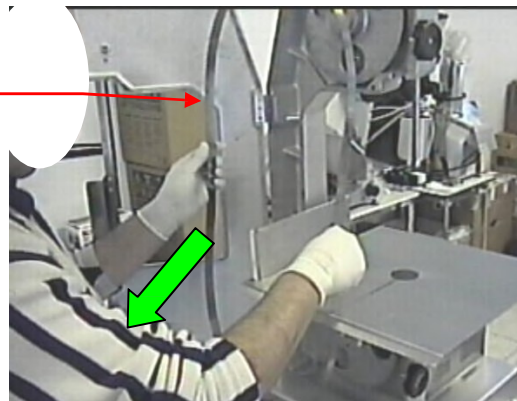


Figure 20 - Blade extraction



Only carry out replacement, adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.

Take extra care when handling the blade: do not make sudden movements and ensure safe support and operation.

Blade Insertion

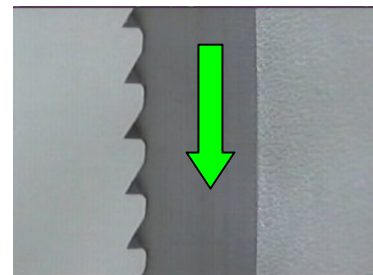
To replace the blade, proceed as follows:

- take the blade **paying attention to the direction**;
- insert the blade by passing it into the slot of the plate;
- set the blade in the two pulleys.



VERY IMPORTANT: WHEN REFITTING THE BLADE PAY ATTENTION TO THE DIRECTION.

THE TEETH MUST BE FACING DOWN IN A MANNER THAT IS CONSISTENT WITH THE BLADE FEED DIRECTION (see the section on the blade).





Once insertion of the blade is completed, perform the following:

- ⇒ Adjustment of the position of the blade (protrusion of teeth, upper pulley tilt, etc.);
- ⇒ Adjustment of the blade tension;
- ⇒ Restoration of the blade guard;
- ⇒ Closure of the door.



With regard to the steps described above, refer to the appropriate sections that describe the relevant procedures, the dangers, the obligations and prohibitions aimed at ensuring safety.

General Provisions



For details of the adjustments, door closure, blade guard, etc. refer to the specific paragraphs.



Perform replacement, adjustment, maintenance, cleaning, etc. only when the machine is at rest and is not under voltage.



Use suitable protective gloves.



Take extra care when handling the blade. Do not make sudden movements and ensure safe support and operation.



Do not hesitate to replace the blade; a blade that is cracked or that has broken teeth is



dangerous, destabilising and can cause damage to the machine.

When replacing the blade, take the opportunity to inspect the parts of the machine and to verify the integrity and functionality of all its parts.

Adjustments

Before use or after reinsertion of the blade (for replacement or cleaning), carry out certain adjustments for the proper functioning of the machine.

Blade position adjustment

To adjust the blade, open the door, following the appropriate procedure. The blade must be adjusted in terms of position and tension. The angle of the upper idler pulley must also be adjusted.

The position is adjusted manually. By loosening the blade tension knob (see below); this is free to move in or out, both in the upper and in the lower pulley.

Indicatively, the correct position is that in which the blade protrudes equally both in front and on the rear part of the pulleys. After adjustment, if no further action is required, tighten the blade with the relevant knob (see below) and close the door.

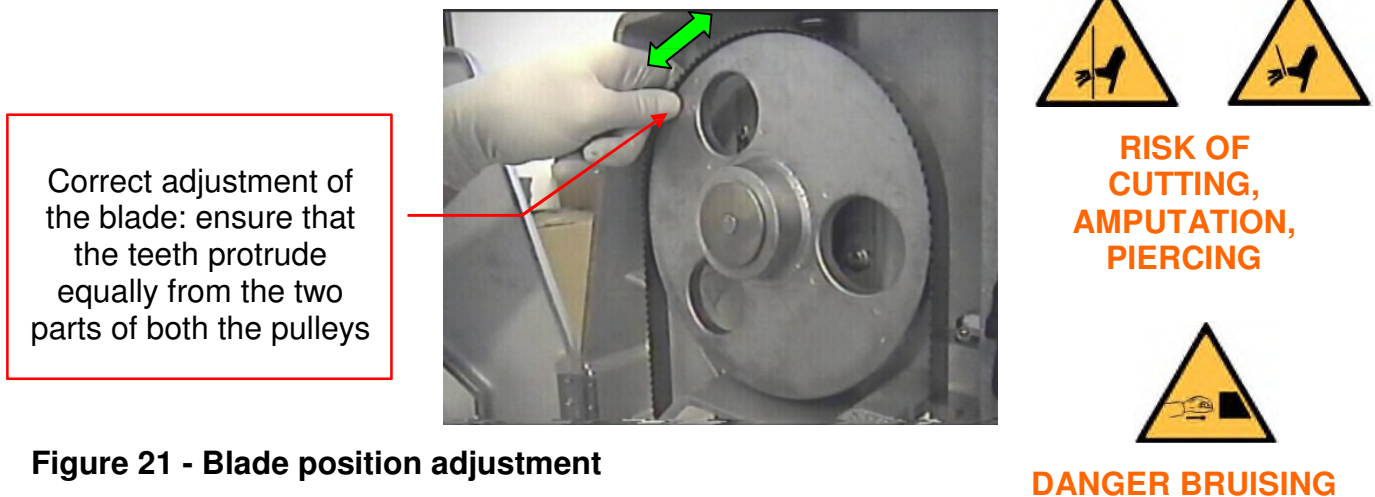


Figure 21 - Blade position adjustment



Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.



For the operations of opening, closing of the door, other adjustments, etc. refer to the relevant sections.

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.

Upper pulley tilt adjustment

To adjust the tilt of the upper pulley, it is necessary to open the door. The upper pulley is equipped with a threaded grub screw and a tightening hex nut. The grub screw is used to adjust its tilt by moving in or out in its lower part. The nut holds the grub screw in the desired position. This allows perfect support of the blade on the surface of the pulley, promoting more fluid movement of the parts. Correct adjustment can be verified by performing a few manual turns of the lower pulley. If the blade remains in its position, adjustment is correct.

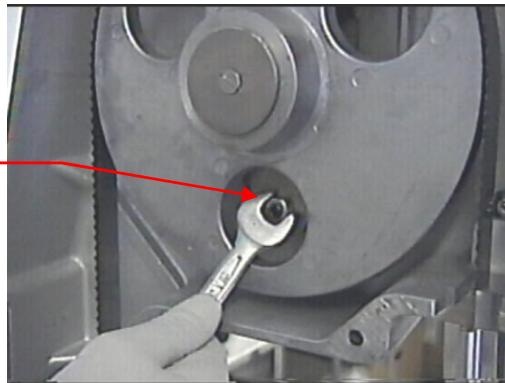
If, by turning the pulley, the blade tends to exit towards the outside, intervene on the grub screw in a clockwise direction, i.e. by tightening it. If the blade tends to enter, intervene on the grub screw in an anti-clockwise direction, by unscrewing it.

Then, check again by turning the pulley manually and when the adjustment is satisfactory, tighten the nut.



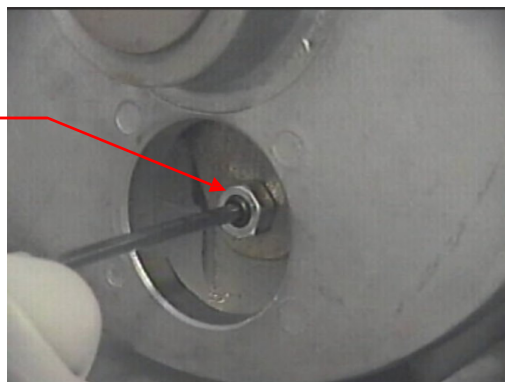
To open the door, follow the appropriate procedure.

Unscrew the nut
with a suitable
wrench

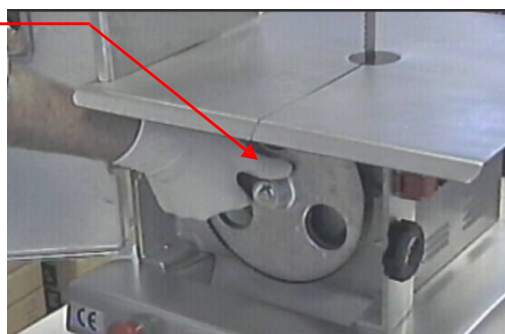


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Loosen or
tighten the grub
screw with a
suitable wrench



Verify the correct tilt:
manually turn the
lower pulley and
check that the blade
remains where it was
placed.



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PIERCING**

Figure 22 - Adjustment tilt upper pulley



If the adjustment is correct, tighten the nut with the wrench and close the door following the relevant procedure.



Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.

Blade tension adjustment

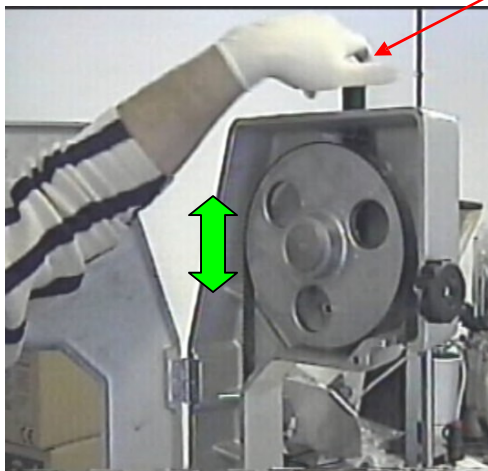
The blade also has the function of motion transmission part. For this reason, it must be pulled, otherwise it would slide on the driving pulley and would not be able to cut.

The tension is adjusted using the knob, by screwing it or unscrewing it as required. Correct tensioning can be verified by pressing the blade against the frame, about half way between the two pulleys. If the blade touches the frame after applying a certain force, adjustment is adequate, otherwise intervene on the adjustment knob.

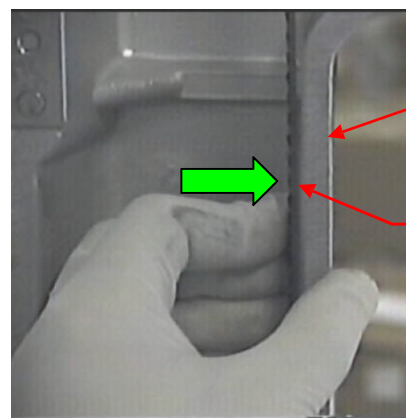
To check the blade tension, open the door.



To open the door, follow the appropriate procedure.



Blade tension adjustment knob



Frame

Blade

Figure 23 - blade tension adjustable



RISK OF
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If the adjustment is correct, close the door in accordance with the relevant procedure.



Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.

Portioning machine adjustment

The width of the pieces is adjusted by changing the position of the portioning machine, by unscrewing the relevant knob and by sliding the rod into its seat. After adjustment, retighten the knob.

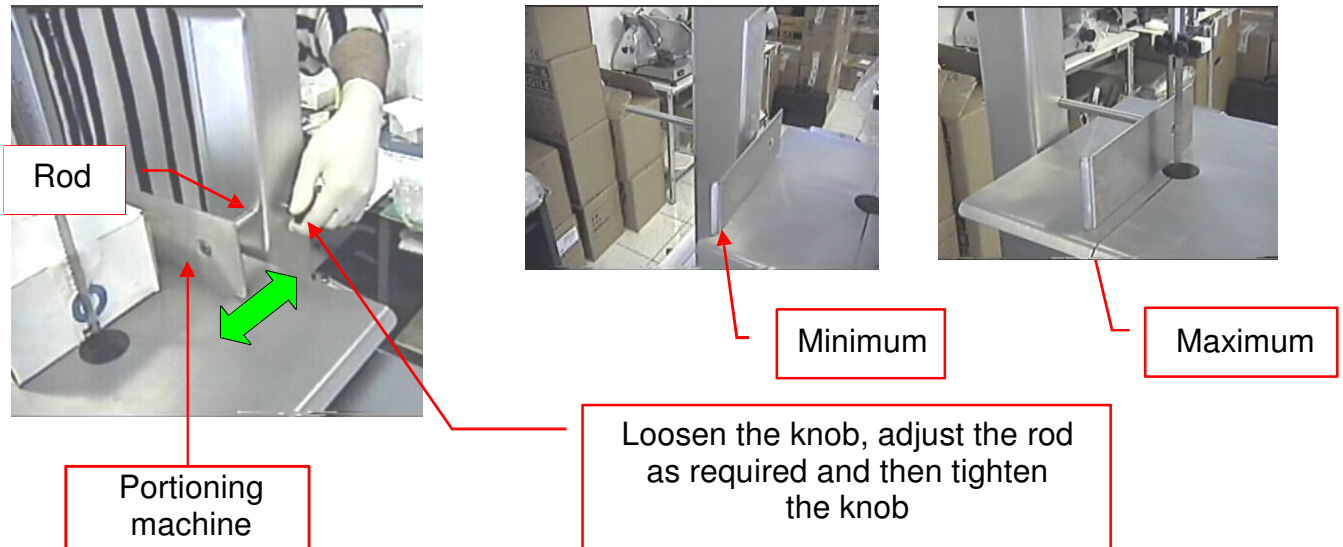


Figure 24 - Portioning machine adjustment



**RISK OF
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PIERCING**



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**Use extreme caution during movements: avoid abrupt actions;
Only carry out adjustments, maintenance, cleaning, etc.. when the machine is at rest and is not under voltage.**

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.



It is absolutely forbidden to place hands between the pusher and the blade and to remove the cut pieces.

Adjustment of blade guard, blade guide and blocks

The blade guard has the function of protection, of covering the part of the blade that is outside of the machine but that is not used for the process. Thus the height adjustment is a function of the piece being worked.

The blade guard is attached to the blade guide and their height is adjusted in the following way.

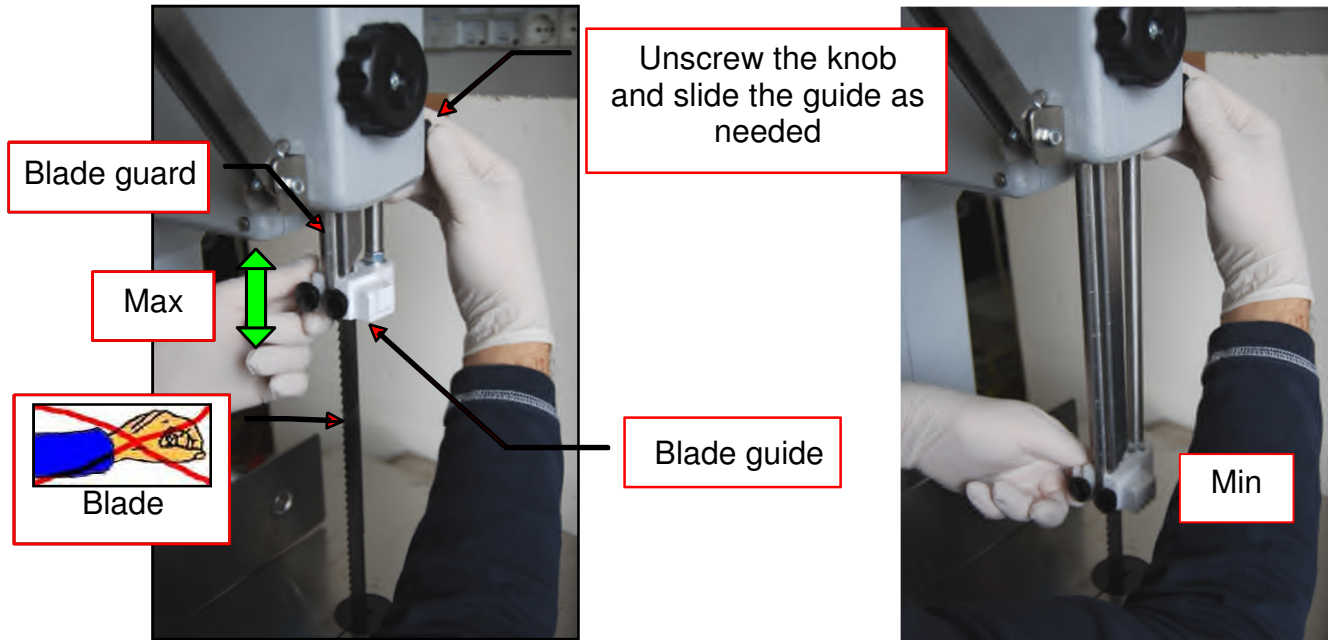


Figure 25 - Adjustment height blade guard and blade guide



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Position the blade guard such as to leave uncovered only the part of the blade that is actually used for cutting;



After adjustment, tighten the knob;



Use extreme caution during movements: avoid abrupt actions;



Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage.

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.



IT IS FORBIDDEN TO REMOVE THE SAFETY DEVICES.

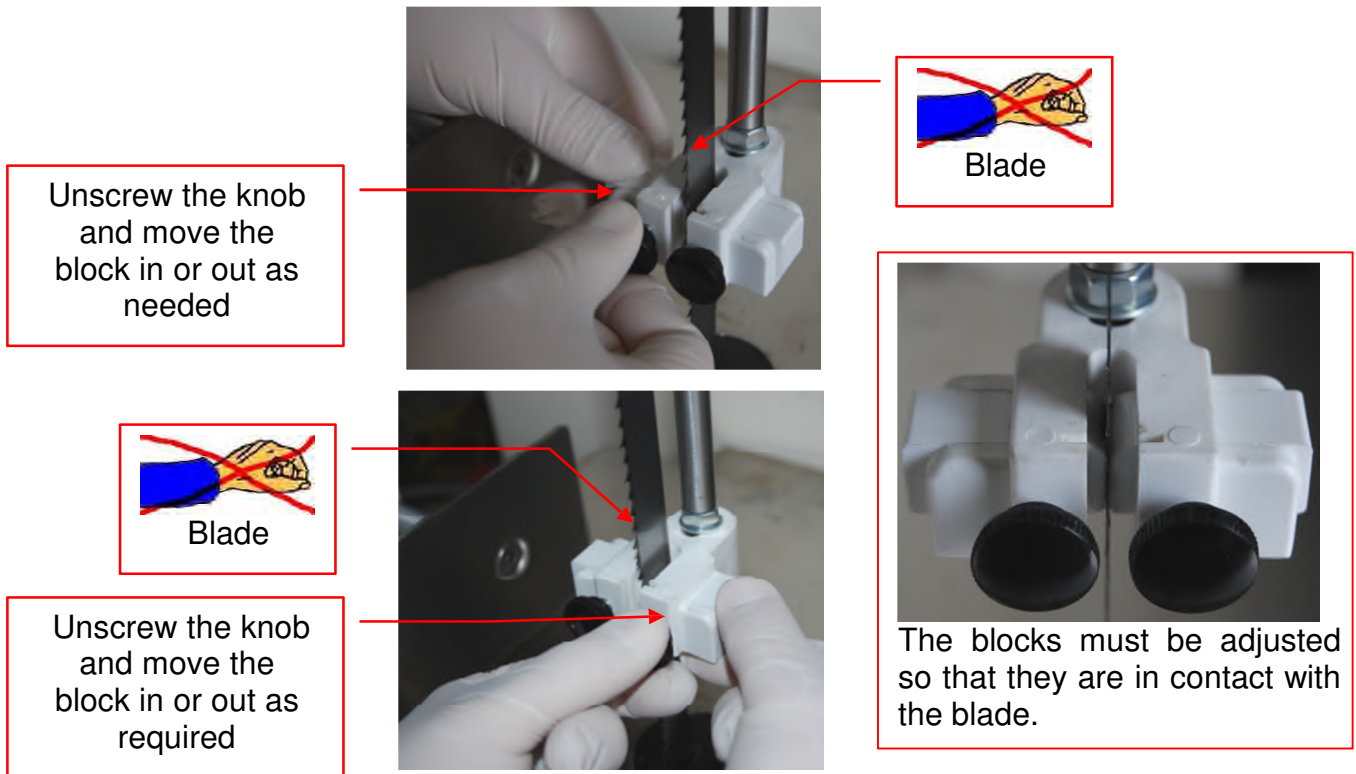


It is forbidden to remove the safety devices.

The distance of the blocks of the blade guide is adjusted in the following manner.



Open the door in accordance with the relevant procedure and remove the blade guard, following the procedure set out in the blade extraction section.



Unscrew the knob and move the block in or out as needed

Blade

Blade

Unscrew the knob and move the block in or out as required

The blocks must be adjusted so that they are in contact with the blade.

Figure 26 - Adjustment blade guide blocks



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After adjustment, tighten the knobs and replace the blade guard; Use extreme caution during movements: avoid abrupt actions; Only carry out adjustments, maintenance, cleaning, etc. when the machine is at rest and is not under voltage

During use of the machine or during assembly, cleaning, replacement, adjustment, etc.:



The use of suitable protective gloves is required.



It is forbidden to remove the safety devices.

Electrical panel

The electrical panel is located on the left side of the machine and is contained in a closed box with a lid and relevant screws.

Connected to this are the commands, the electric motor and the electrical power cable.

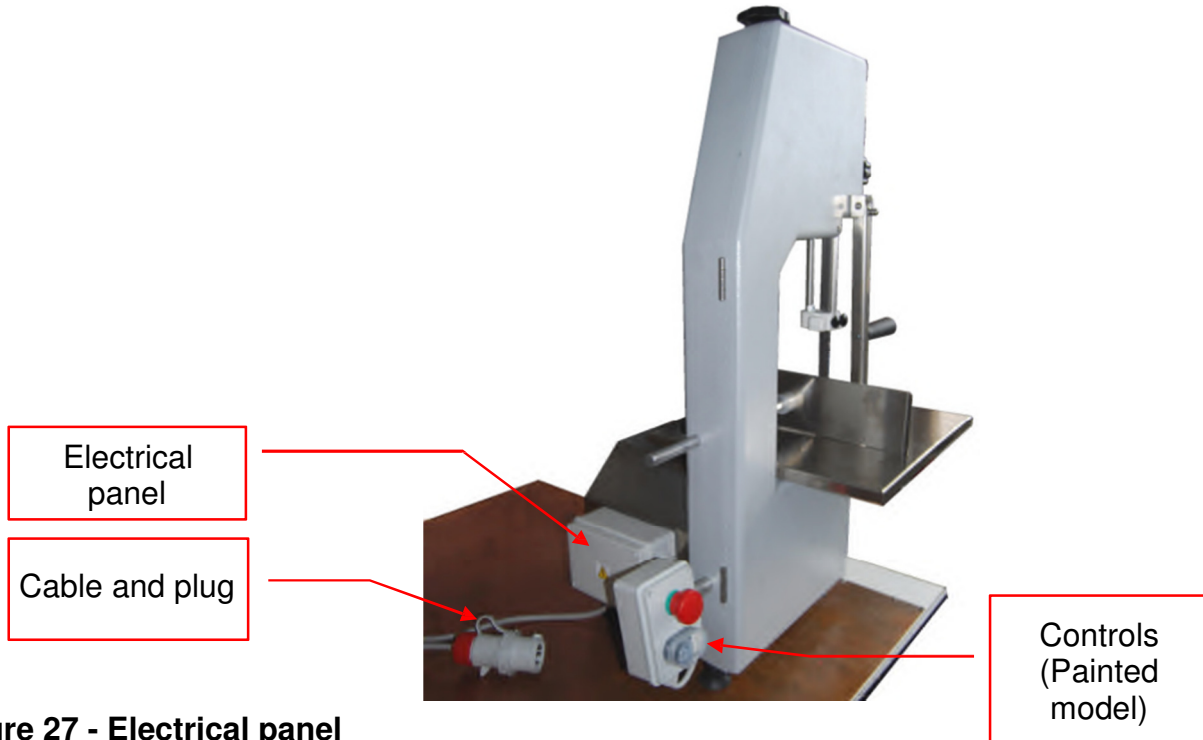


Figure 27 - Electrical panel



See wiring diagrams attached to this manual.



**DANGER PRESENCE
OF ELECTRICITY**



**ACCESS TO THE ELECTRICAL PANEL IS RESERVED FOR
TRAINED PERSONNEL AUTHORISED BY THE OWNER OF THE
COMPANY WHERE THE MACHINE IS INSTALLED.**



**PERSONNEL THAT HAVE NOT BEEN TRAINED AND ARE NOT
AUTHORISED MUST NOT OPEN THE ELECTRICAL PANEL**



**BEFORE OPENING THE ELECTRICAL PANEL DISCONNECT THE
MACHINE FROM THE MAINS**



Commands

There are two command buttons, that of Start Cycle (marked with "I") and that of Stop Cycle (marked with "O").

The conformation of the commands is the same for all the model, while their position changes, as shown in the following figures:

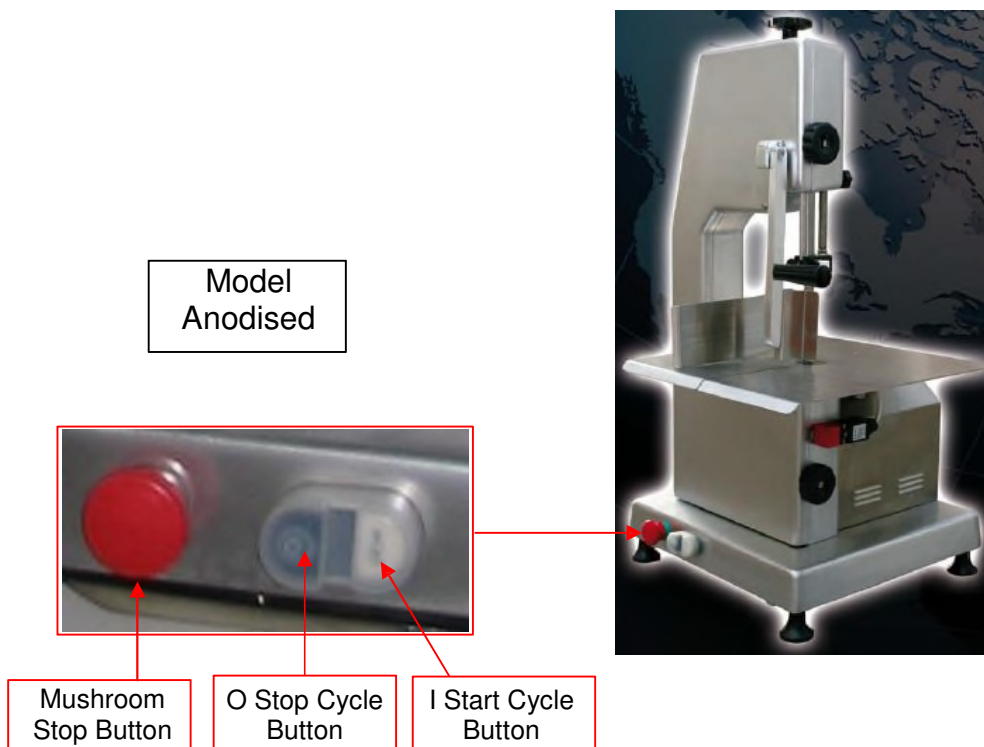
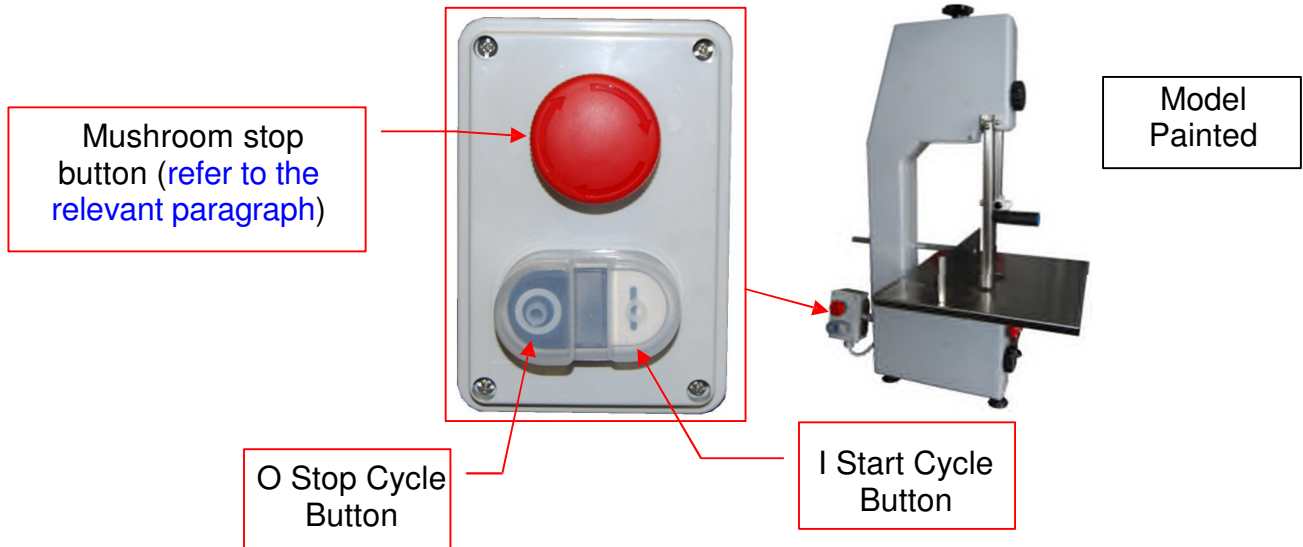
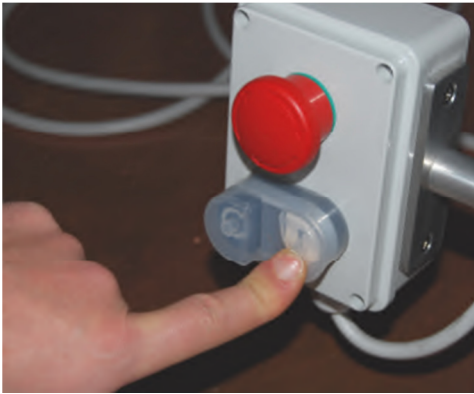


Figure 28 - Commands

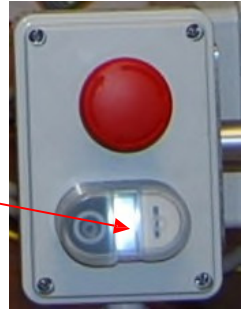


Run Cycle button



This is marked with “1”; when pressed, it enables the machine to commence the work cycle.

When the machine is in operation, the white light in the centre is lit



Painted and Anodised Model

Figure 29 - Run Cycle Button

Stop Cycle Button



This is marked with “0” when pressed, it stops the working cycle.

Painted and Anodised Model

Figure 30 - Stop Cycle Button

CHECK AT THE START OF EACH WORK SHIFT THE PERFECT OPERATION OF THE BUTTONS.



IN THE EVENT OF FAILURE, THE USER MUST DISCONTINUE USE OF THE MACHINE AND IN THE PRODUCTION ENVIRONMENT INFORM THE DEPARTMENT MANAGER IMMEDIATELY.

Mushroom Stop Button

When actuated (by pressing it) it interrupts operation of the machine: the management board activates electronic braking of the motor, the blade stops its movement in less than 3 sec.

The normal mushroom stop button used is red and is equipped with mechanical interlock; the contacts are of the positive and forced opening type. Release is performed by the operator pulling and rotating the head of the button.

The stop command has priority over all the other commands.

Restarting after a stop is performed by turning and pulling towards the operator the mushroom stop button and by then pressing the cycle start button.

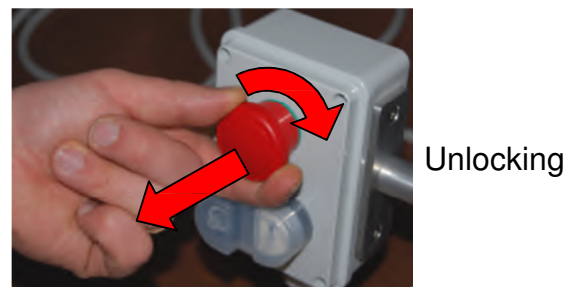
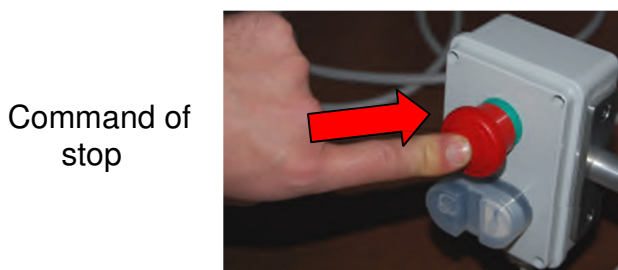
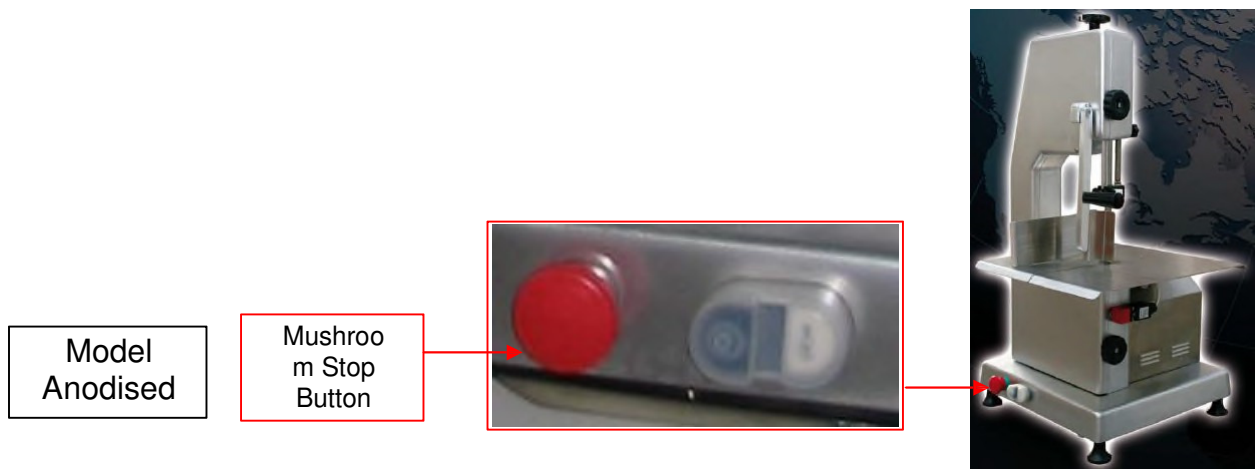
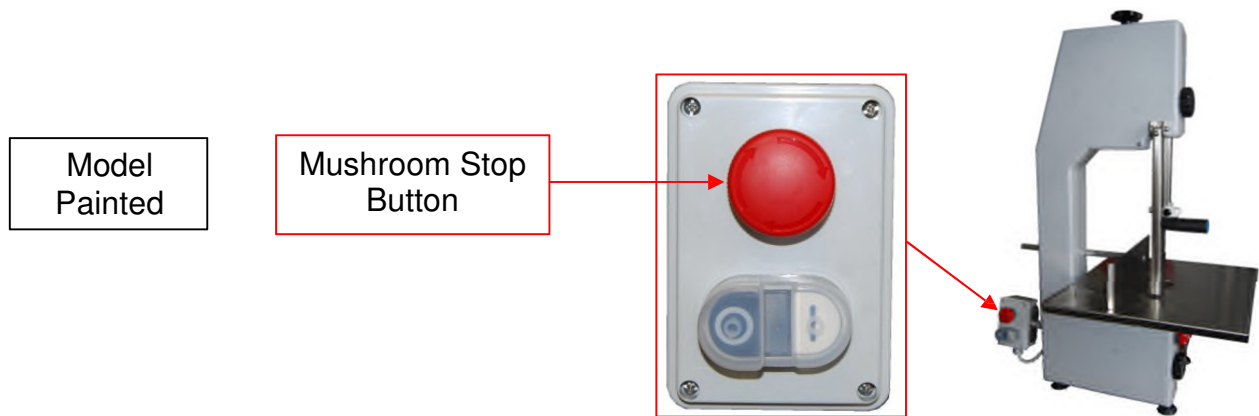


Figure 31 - Mushroom stop button



CHECK BEFORE EACH USE PERFECT OPERATION OF THE MUSHROOM STOP BUTTON.

WHEN THIS BUTTON IS OPERATED, THE MACHINE MUST STOP THE OPERATION IN LESS THAN 3 SEC. THE USER MUST DISCONTINUE USE OF THE MACHINE AND SEEK ASSISTANCE.



NOTES FOR THE PRODUCTION ACTIVITIES

CHECK AT THE START OF EACH WORK SHIFT THE PERFECT OPERATION OF THE MUSHROOM STOP BUTTON.

WHEN THIS BUTTON IS OPERATED, THE MACHINE MUST STOP THE OPERATION. IN THE EVENT OF MALFUNCTION, THE WORKER MUST DISCONTINUE THE USE OF THE MACHINE AND IMMEDIATELY NOTIFY THE DEPARTMENT MANAGER.

Transportation and Movement



This machine was assembled and packaged within the company FACEM SPA. The sizes and mass of the machine placed within the packaging are as follows:

	Anodised	Painted	
Width	556	550	mm
Depth	512	750	mm
Height	1010	1010	mm
MAX mass	41	60	kg

Table 6 - Dimensions and mass of the packaged machine



**DANGER
BRUISING**



**DANGER MANUAL
HANDLING OF LOADS**



**OPERATE WITH
TWO PERSONS
WITH SUITABLE
MEANS**

Grip and movement points

The grip and movement points of the packaged machine are indicated on the packaging.

ATTENTION

Unloading must be carried out by authorised and qualified personnel. These operations, given the mass of the packaged machine, can be performed manually by two persons or by a suitable system such as: transpallet or equivalent system.



- Implement the safety recommendations relating to movement;**
- Verify that the capacity of the means of movement used is compatible with the masses to be moved;**
- Take extra care to ensure that the load is stable during movement;**
- Wear suitable gloves.**

After having offloaded the machine from the means of transport, it is removed from the packaging and followed by its installation

Dimensional characteristics

For the different models, the sizes, the mass and other dimensional characteristics of the machine are:

MODEL	SO 160	SO 160 PRO	SO 180 PRO
SPECIFICATION			
Length strap (mm) and material	1610 steel	1610 steel	1800 steel
Cutting speed (m/min)	600	600	600
Useful cutting height (mm)	210	210	290
Length (mm)	480	480	480
Width (mm)	700	680	680
Height (mm)	830	950	1040
Weight	32	35.5	38
Plane (mm)	380x380	380x380	380x380
Distance between feet	285x240	390x360	390x360

Table 7 - Dimensional characteristics

Given the mass of the machine and its conformation, **handling must be carried out by two persons, who must wear suitable gloves.**



DANGER MANUAL HANDLING OF LOADS



DURING MOVEMENT PAY ATTENTION TO THE BLADE AND THE COMPONENTS OF THE MACHINE. RISK OF CUTTING, PIERCING AND BRUISING.



Installation



ATTENTION



The operations required to perform installation of the machine must be carried out by trained personnel.

The choice of where to install the machine must be made taking into consideration not only the size, mass and the static load of the same but also the details provided below.

- The environment within the machine is to be installed must not be dusty; the presence of dust can affect the correct operation of the electrical and mechanical parts. In addition, it must be suitable for the specific use (the processing of foodstuffs).
- The environmental parameters must always be contained within the following values:
 - Minimum temperature $\geq 5^{\circ}\text{C}$
 - Maximum temperature $\leq 40^{\circ}\text{C}$
 - Maximum relative humidity of $\leq 50\%$ at 40°C . Higher relative humidities are permitted at lower temperatures (e.g. 90% at 20°C)
 - Maximum altitude 1000 m above sea level



The plane on which to rest the machine must be adequate to support the load of the machine, must be planar, horizontal, hard and stable.



Adequate ventilation must be ensured for cooling of the machine, avoiding blocking the specific vents and avoiding proximity to heat sources. It is advisable to place the machine at least four centimetres from the wall.



Correct lighting must be ensured, in compliance with applicable laws, both for use and for the other operations (maintenance, cleaning, etc.).



The machine is supported on four feet fitted with suckers. The feet can be of different types.

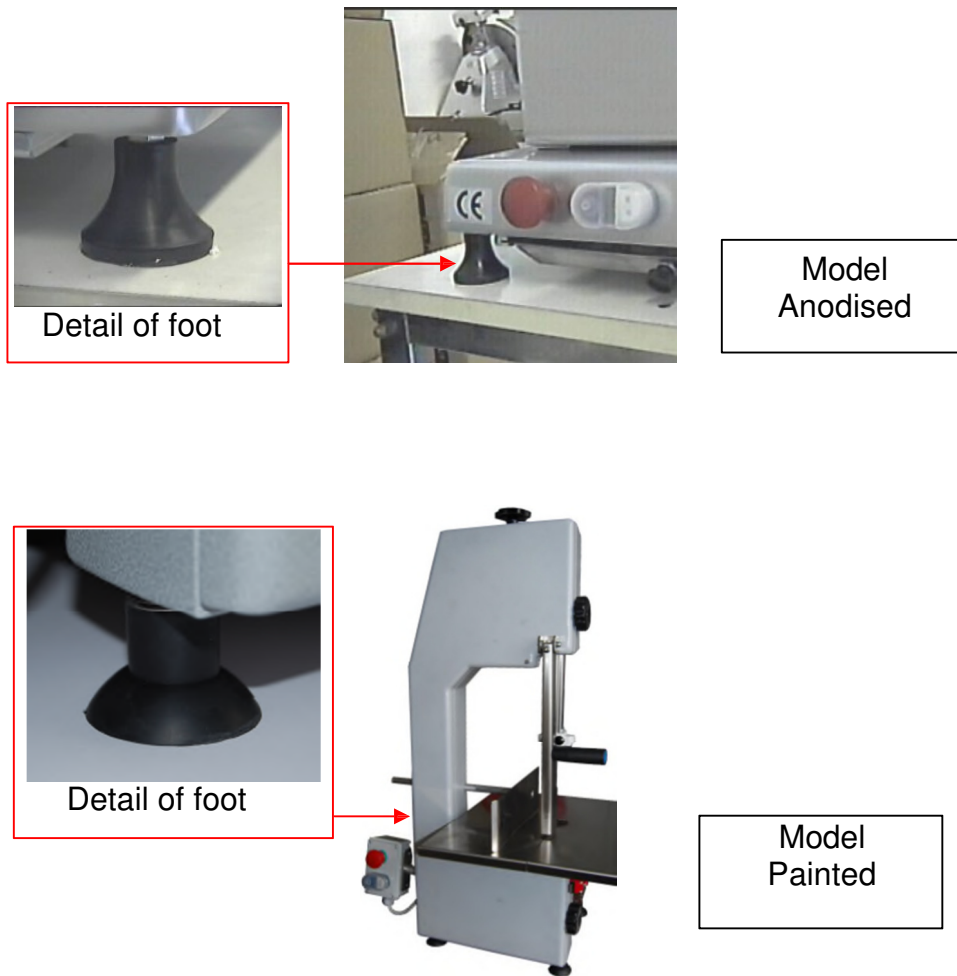


Figure 32 - Support feet of the machine



Lighting

Reference standard:

EN 12464-1:2011 (Light and lighting - Lighting of work areas - Part 1: Indoor work areas)

The lighting must meet the requirements necessary for the operator to perform the work task. The manufacturer of the machine in designing of the same took into account the values recommended by EN 12464-1: 2011 in relation to the lighting values that must be present in the company where the machine is installed. Therefore, in accordance with the standard cited above, the machine in question must be installed in an area having the values of average illuminance (lx) as reported below. The illuminance value must extend for a band of at least 0.5 m wide around the work area.

Additionally, this lighting must meet the following safety principles:

- ↪ there must be no flickering;
- ↪ there must be no type of glare;
- ↪ there must be no shadows that could cause confusion;
- ↪ there must be no strobe effects.

Lighting requirements

Foodstuffs and luxury food industries

Work areas and critical zones in slaughterhouses, butchers ... 500



The values shown are those that are closest to the sector of use, such identification is permitted by the standard EN 12464-1: 2011.

Disposition of the machine

The machine must be placed on a rigid and stable plane.

The suction cups, with which the support feet are equipped, are intended to improve the anchorage of the machine to the plane.

Allow along the perimeter of the area occupied by the machine a free space with a minimum width of 1.2 m.

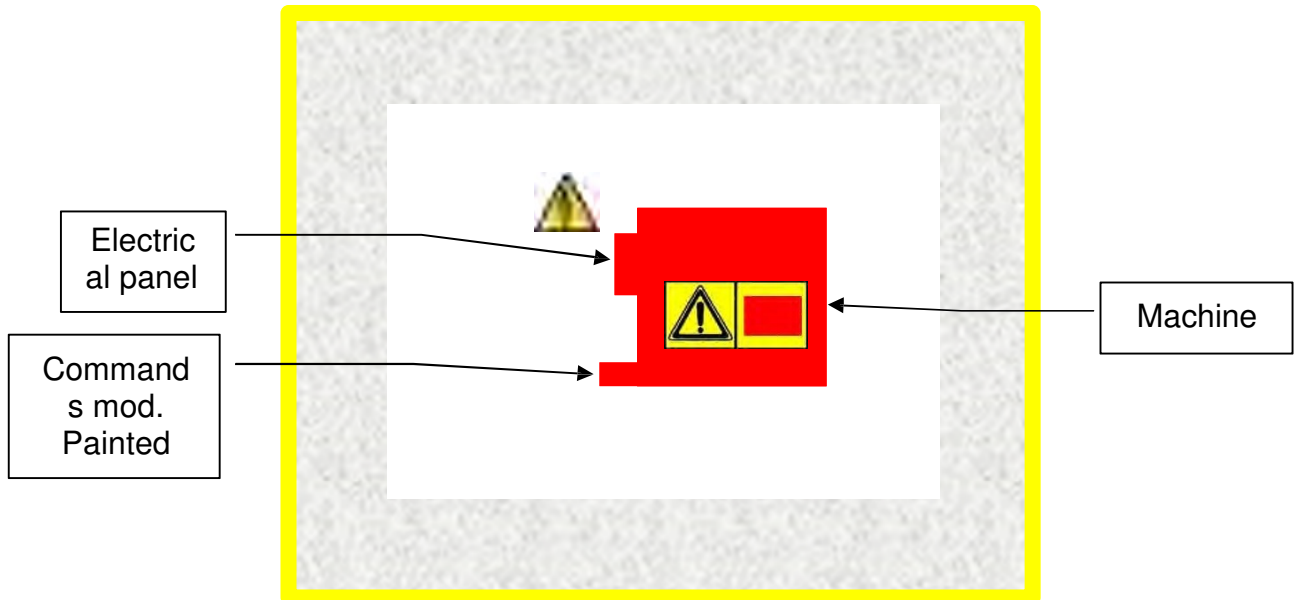
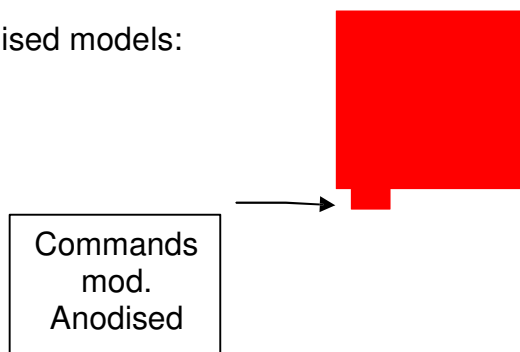


Figure 33 - Powering of the machine

For anodised models:



 After positioning the machine plug it in to the relevant electricity sockets.

Tasks and Position of the Worker

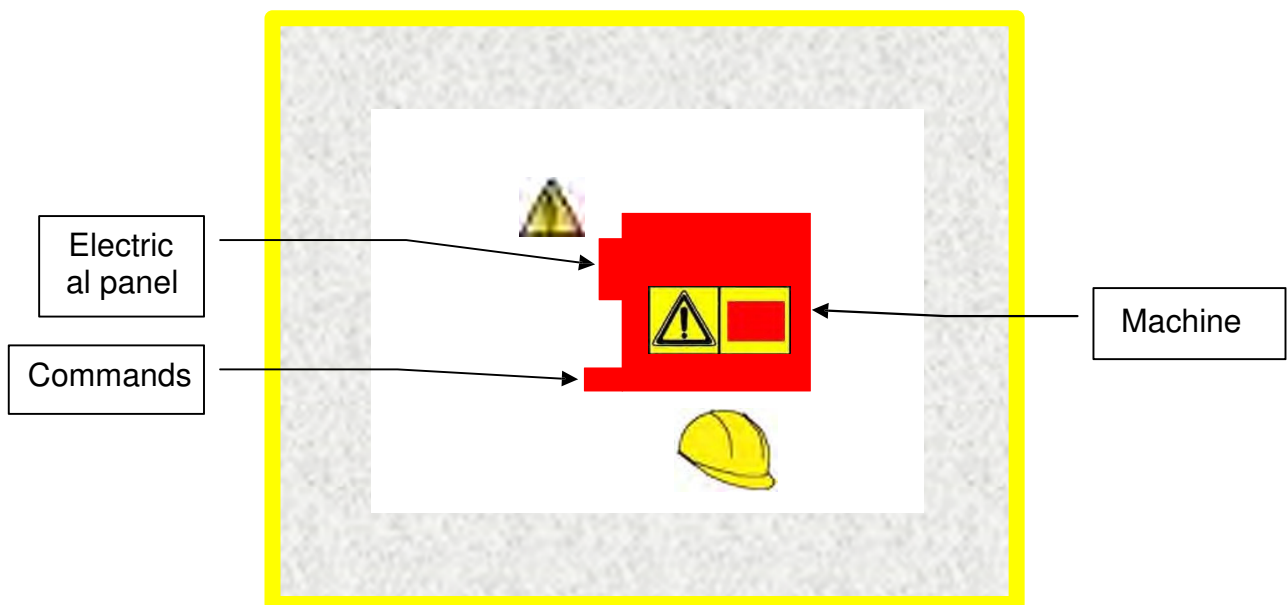
The operator (or the employee) has the task of:

- Preparing the machine (see specific section);
- Adjustment of the machining parameters (cutting width and height of the blade guard - see specific sections);
- Enabling the machine to the work cycle by acting on the specific button (I);
- Performing cutting operations;
- Switching off the machine (O);
- Cleaning the machine;



For its operation, the machine requires the constant presence of an operator.

The positions assumed by the employee during the course of the actions described above are those shown in the figure.



OPERATOR

Person in charge of installing, operating, adjusting, maintenance and cleaning of the machine

Figure 34 - Tasks and positions assumed by the employee



Energy requirements



The machine does not generate ionising radiation

The machine, for its correct operation, must be connected to the following energy sources with these characteristics:



Electricity supply

The machine requires electricity with the following characteristics:

Electric line	THREE		
Voltage	400	230	Vac
Frequency	50	50	Hz
Current	2.6	4.4	A
Maximum installed power	0.75	0.75	kW



Table 8 - Electrical characteristics

The electrical system on board the machine has been designed, manufactured and tested in accordance with the provisions of standard EN 60204-1 "Electrical equipment of machines". Everything that is located upstream of the main disconnecting device or of the separate terminal block is not part of the electrical equipment of the machine and must therefore refer to the plant electrical standards relating to electricity distribution in the broadest sense.

The operation of connection of the machine to the power supply line must be performed not under voltage.

Connection of the machine to the electrical supply must be carried out by specialist and authorised personnel. These must be in possession of Expert Person (PES) attribution.

Attribution of the status of PES for employees is the exclusive property of the employer.

The PES, after identification of the plant, in order to achieve the necessary safety conditions the execution of the work, must perform in the order shown the following activities:

Identification of the work area;

- 1. Complete sectioning of the part of the system affected by the work inserting devices for locking of the manoeuvre of the modular switches of the system;**
- 2. Take action against untimely reclosing of the sectioning devices using mechanical locks with key-operated device that prevent the manoeuvre of the equipment or prevent the access of unauthorised personnel to areas, rooms or switchboards that contain sectioning or put in place monitoring to prevent undesired manoeuvres;**

Such measures must always be accompanied by signs placed on switches prohibiting the execution of manoeuvres.



3. Check that the system is not under voltage with the help of suitable equipment, namely a voltmeter.

Implement protective measures with regard to any other adjacent live parts

The section and the colour of the power conductors must be defined in compliance with the applicable standards according to the length of the section, the current, the type of installation and type of cable.

Remember to install upstream of the interlocked socket a differential switch with an Id (differential current) programmable in current and in intervention time.

Attention before performing electrical connection with the mains

ALWAYS CHECK:

- **Functionality of the earth system;**
- **The data stamped on the plate located on the front of the electrical panel;**
- **The value of the voltage in the socket to be used as a source of energy with the aid of a suitable voltmeter.**

Power line connection

The machine is equipped with an electric cable, which comes out sideways, and its plug.



Arrange the cord so that it does not create hindrance or danger of tripping and so that it cannot be damaged.



**DANGER:
ELECTRICAL HAZARD**

Three-phase
power cable
and plug



Figure 35 - Electrical connection



Check correct rotation direction

As the machine is powered by a three-phase current, it is necessary to check the correct direction of rotation of the motor (i.e. of the blade). Checking of the correct direction of rotation of the machine must be carried out by following the procedure below.

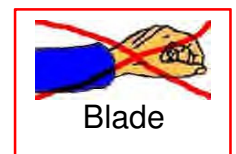
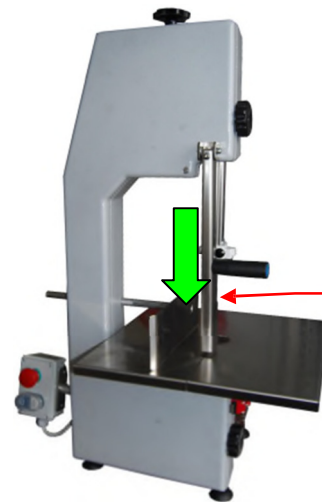
Press the cycle start button (I) to start the machine.



Check that the direction of rotation of the blade is the one indicated by the arrow.



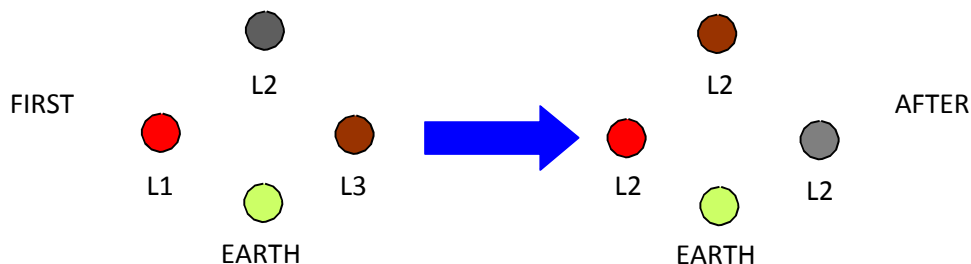
RISK OF CUTTING, AMPUTATION, PIERCING



Blade

If the direction of rotation of the motor is not correct, the following steps are necessary:

1. Bring the main switch on the electrical panel into the OFF position - 0;
2. Disconnect the plug for connection to the power supply line (3-pole cable + earth) from its socket;
3. Open the plug using a suitable tool;
4. Invert the position of two active conductors as shown in the figure.



5. Close the plug
6. Insert the plug into the socket.



OPERATIONS RESERVED FOR QUALIFIED AND AUTHORISED PERSONNEL

Figure 36 - Modification of the machine rotation direction



Machine preparation

Before starting cutting operations, the operations below must be performed:

1. Position the container of the pieces to be cut and that of the cut pieces near the machine but without creating obstacles to the movements;
2. Check the condition of integrity and of wear of the blade.
3. Check the settings of the blade, of the portioning machine and of the blade guard;
4. Check operation of the stop devices and of the safety microswitch;

Programming of the machine

The machine does not require any programming.

Work Cycle

The work cycle includes the adjustment of the machine, the actual cutting and finally cleaning. Once the necessary adjustments have been made (see the specific paragraphs), proceed to cutting, as shown below.

Before starting each work cycle



Check the condition of the blade and in general of the whole machine; also check the adjustments and the tightenings of all the knobs.

During the following phases:



**DANGER
BRUISING**



**RISK OF
CUTTING,
AMPUTATION,
PIERCING**



Pay maximum attention to the movements and never perform sudden actions.



The use of suitable protective gloves is required.



**Hearing must be protected
The machine is noisy during cutting.**

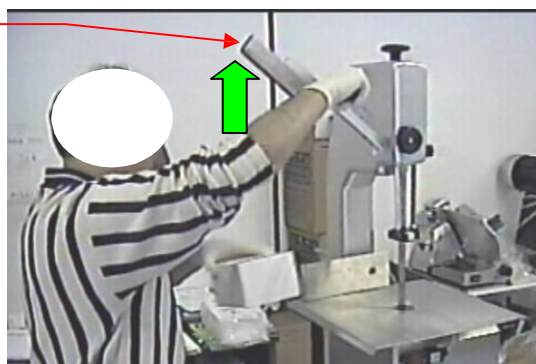


It is forbidden to wear scarves, ties, loose clothing, rings, bracelets and everything else (belts, cords, etc..) that could become entangled during work.

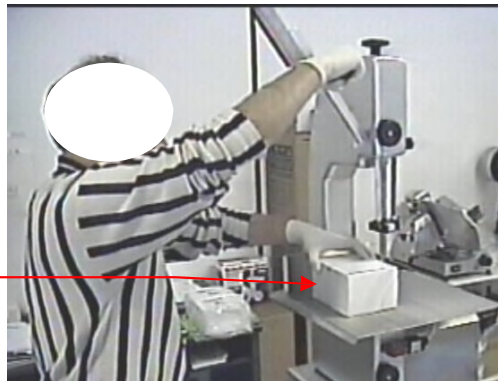
After having adjusted the machine and tightened the knobs...



...lift the pusher

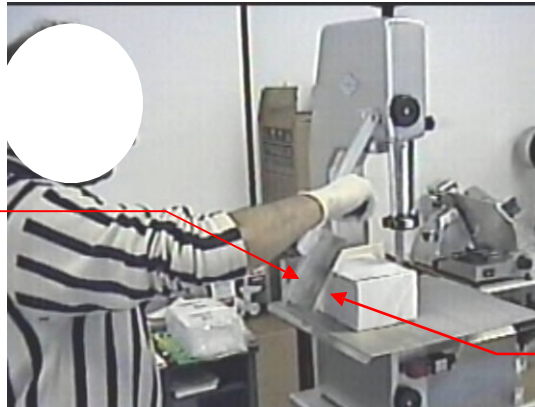


Place the piece on the cutting surface



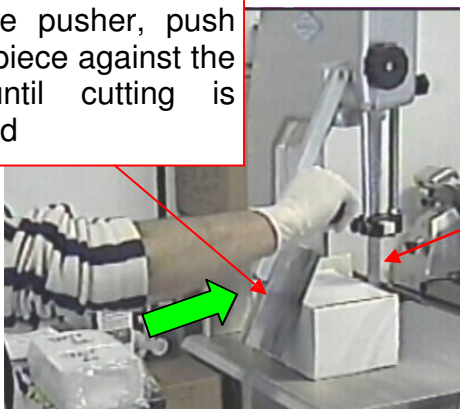
DANGER OF BRUISING

Bring the pusher into contact with the piece and ensure hands are safely behind the pusher

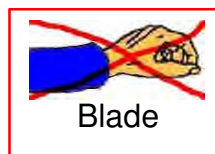


Switch on the machine by pressing the cycle start button (I)

Using the pusher, push the workpiece against the blade until cutting is completed



Pushing of the piece to be cut towards the blade must only be performed using the pusher and never manually



DANGER OF CUTTING AND AMPUTATION

Figure 37 - Work Cycle: cutting

AFTER CUTTING, PRESS THE CYCLE STOP BUTTON (O).

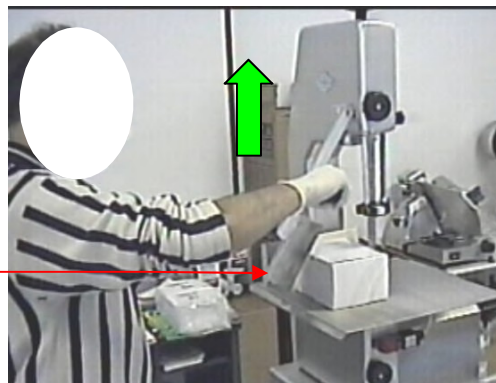


Stop the machine by pressing the cycle stop button (O)



THE FOLLOWING STEPS MUST BE PERFORMED WHEN THE MACHINE IS STOPPED

Lift the pusher...



**DANGER
BRUISING**



**DANGER OF
CUTTING
AMPUTATION,
PIERCING**

...remove the cut pieces and place them in a suitable container if no other cuts are required.

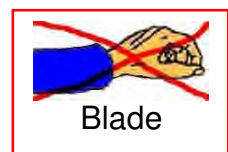
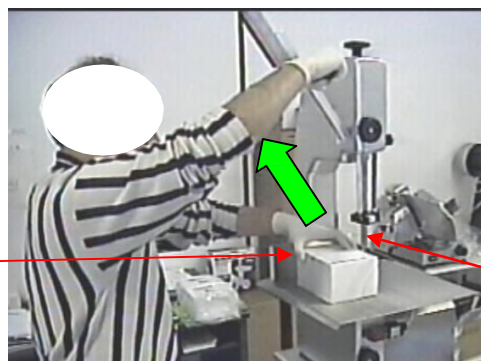


Figure 38 - Work cycle: removal of pieces



After cutting and having removed the remaining pieces, clean the machine (see the relevant chapter)

General warnings during work

During work, there are a number of prohibitions:



it is forbidden to put hands and/or feet or objects in the vicinity of the parts of the machine if it is in operation;
it is prohibited to use the machine if the safety devices have been removed or are broken, faulty or disabled;



When working always remember that:



when the machine is switched on, the blade is in motion, and therefore:

- ⇒ **Respect and ensure others respect the safety distance;**
- ⇒ **Use safety devices;**
- ⇒ **Comply with the instructions provided in this manual;**
- ⇒ **Do not stop anyone near the machine;**
- ⇒ **Do not make sudden manoeuvres;**
- ⇒ **Never wear scarves, ties, loose clothing, bracelets or rings, everything else (belts, cords, etc.) that could become can entangled during work;**
- ⇒ **Do not introduce anything into the moving parts.**



The blade, in the part intended to cut, is not protected. Pay attention, implement all the safety precautions during maintenance, cleaning, etc.



It should never be assumed that a stopped piece of equipment is safe equipment. The stored energy may be released unintentionally or through incorrect maintenance procedures. This also applies to operations that would be dangerous, if they were carried out while the machine were in operation, for the removal of a lock.



Residual Risk

Definitions

Note A:

The following definitions are taken from the standard EN ISO 12100:2010

Safety of machinery. General design principles

Risk assessment and risk reduction

Danger potential source of damage

NOTE 1 The term danger may be qualified in order to define its origin (for example, mechanical danger, electrical danger) or the nature of the potential damage (for example, electrical shock hazard, danger of cutting, toxic hazard, fire hazard).

NOTE 2 The dangers covered by this definition may be:
always present during the use intended for the machine (for example, the dangerous movement of moving parts, electric arc during welding, incorrect posture, noise emission, high temperature), or may appear unexpectedly (for example, explosions, a breakage as a result of an unintentional /unexpected start-up, expulsion as a result of a breakage, falling as a result of acceleration/deceleration).

Danger injury or damage to health

Danger zone any space within and/or around machinery in which a person may be exposed to a hazard

Dangerous event an event that can cause damage

Dangerous situation a situation in which a person is exposed to at least one risk

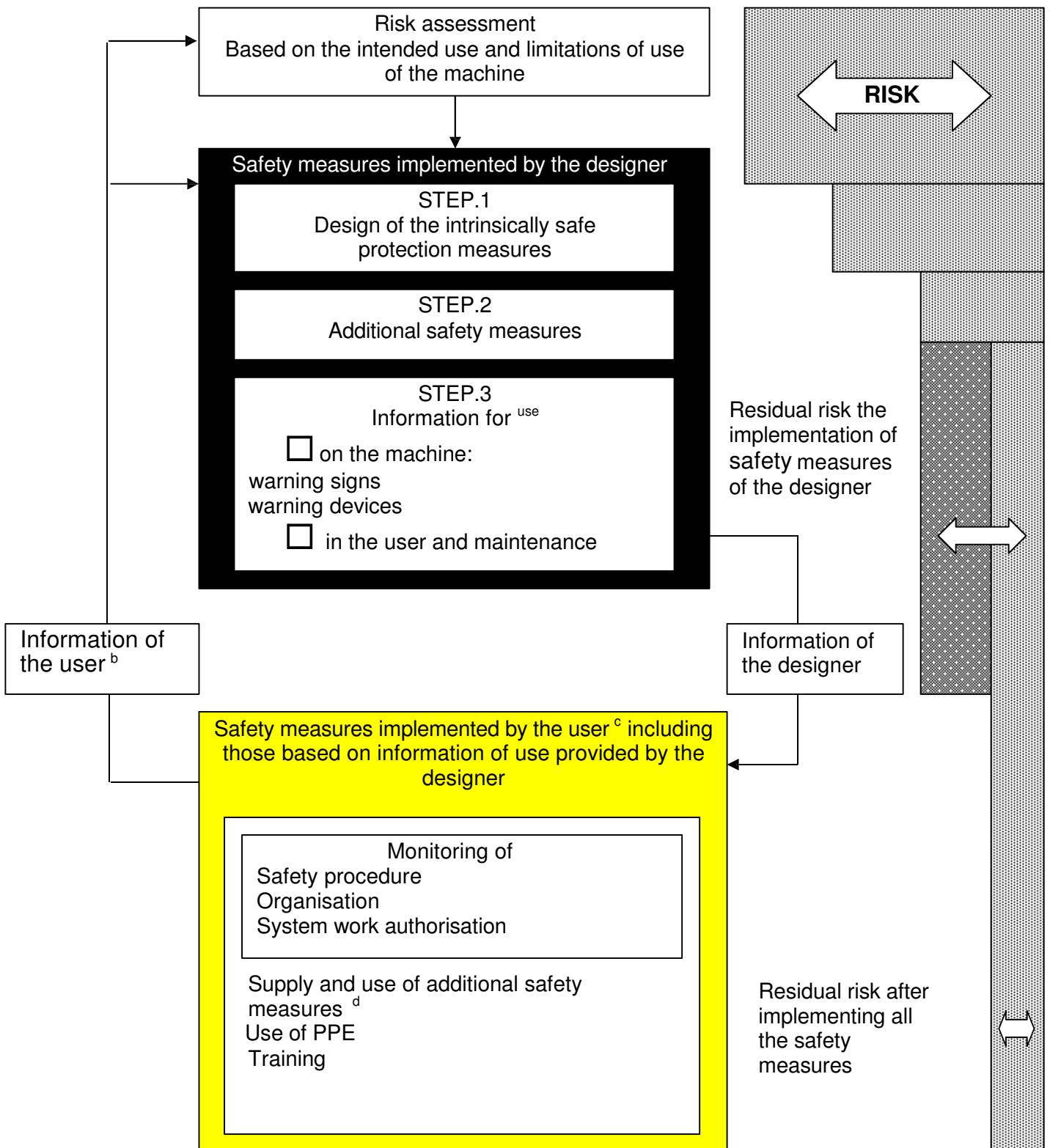
Risk combination of the probability of occurrence of damage and the severity of the damage

Residual risk **the risk that remains after protective measures have been implemented**

NOTE 1 This international standard distinguishes:

the residual risk after safety measures have been implemented by the designer and the residual risk that remains after all precautionary measures have been implemented.

NOTE 2 See also the figure below.



a Providing correct information for use is part of the contribution of the project of risk reduction but the safety measures are only effective when implemented by the user.

b The user's information is received by the designer and by other users regarding the intended use of the machine in general or from a specific user.

c There is no hierarchy between the various safety measures implemented by the user. These safety measures are outside the scope of this standard.

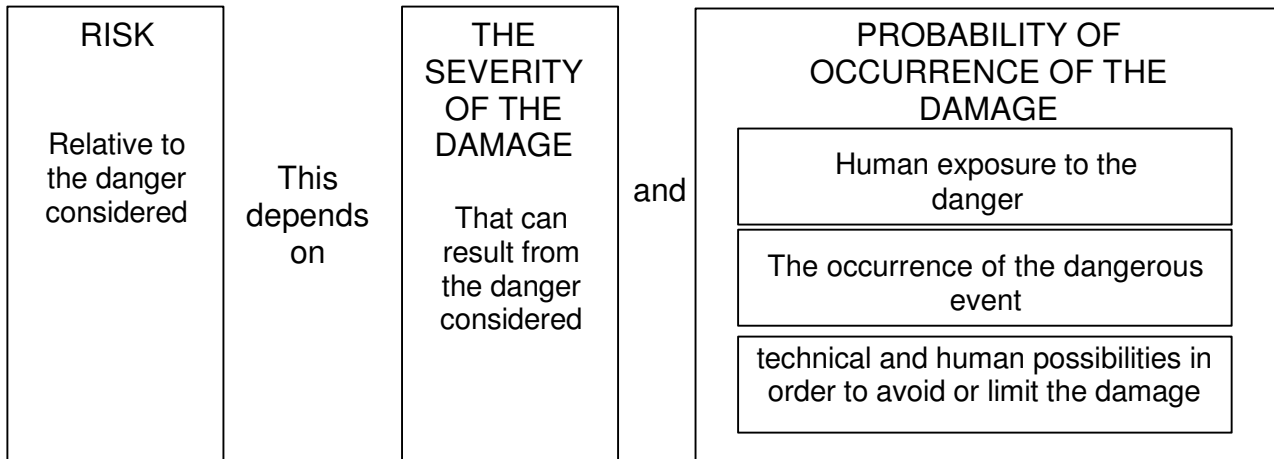
d These are safety measures that are necessary due to a specific process or processes not covered by the intended use of the machine or due to the specific conditions of installation that cannot be controlled by the designer.



The elements of risk

The risk associated with a particular hazardous situation depends on the following elements:

- a) the seriousness of the damage;
- b) the probability of the occurrence of such damage, which depends on:
 - 1) exposure of the person (s) to the risk,
 - 2) the occurrence of a hazardous event, and
 - 3) technical and human possibilities in order to avoid or limit the damage.



The machine was designed and built in consideration of the above factors and creating an inherently safe design.

For those dangers that it has not been possible to remove and/or for the risks that it has not been possible to reduce with the design, technical protection measures have been implemented to prevent persons from being exposed to dangers.

Despite this, risks remain that it has not been possible to reduce. These risks are the residual risks of the machine.

For these risks, the most comprehensive information has been provided, all contained in this manual and the machine equipped with suitable pictograms in the areas where risks persist.

It should be remembered that employees must be informed of the risks posed by the same and must be trained on the safe use of the machine.

The residual risks of the machine will be highlighted through pictograms.

**The user must implement the measures of their competence in accordance with the above under the heading:
Safety measures implemented by the user^c
Including those based on the information of use provided by the designer**



The machine, despite the protections installed and the precautions taken, as described in this manual, present for the operator the following risks:



DANGER OF INJURY TO HANDS OF CUTTING, AMPUTATION AND PIERCING



DANGER: MOVING PARTS



DANGER OF BRUISING AGAINST THE PARTS OF THE MACHINE



DANGER OF INJURY TO THE HANDS FROM CRUSHING (PORTIONING MACHINE AND PUSHER)



DANGER ELECTRICAL VOLTAGE



DANGER MANUAL MOVEMENT OF LOADS



DANGER PRESENCE OF NOISE AND DUST FROM BONES



ALL THE DANGERS ARE HIGHLIGHTED THROUGH THE DISPLAYING OF APPROPRIATE SIGNS.



Maintenance



FOR REPLACEMENT PARTS, CONTACT THE MANUFACTURER



Interventions, replacements, repairs, etc. other than those listed in this manual are strictly reserved to the constructor or to qualified personnel authorised by the same



DANGER: The use of devices, adjustments or procedures other than those specified in these instructions may result in exposure to shock, electrical hazards and/or mechanical risks.

Definitions

Maintenance is the combination of all technical, administrative and management actions during the life cycle of an entity designed to maintain it or to restore it to a state in which it can perform the requested function.

The entity (element or good) is any part, component, device, subsystem, functional unit, equipment or system that can be considered individually.

For modern enterprises, maintenance is synonymous with productivity and plays a primary role in injury prevention. Operations should therefore aim to:

- ◆ **prevent** deterioration of the machine, periodically performing the checks provided for in this user manual on the parts most subject to wear;
- ◆ **replace** any worn parts which do no longer guarantee perfect operation.

The following is recommended:

- ◆ **constant updating** of the maintenance personnel, in relation to the equipment installed regarding new working methods acquired through experience
- ◆ **constant updating** on the basis of technical literature.

Maintenance management

Maintenance management includes all the management activities which set objectives, strategies and the responsibilities of maintenance and that implements them using tools such as planning, control and supervision of the maintenance and improvement of the organisational methods, including the economic aspects.

How to organise it

As soon as the machine is installed, it becomes the responsibility of the maintenance technician who must be provided with a copy of this manual.

The manufacturer is available for any clarification.

Interventions as part of the maintenance programme must be inserted in the plant's maintenance programs. All the interventions carried out on the machine must be reported in the maintenance log within this manual and, if used, in the maintenance log of the company.

In this way it is possible, with the knowledge that will be acquired over time, to increase the productivity of the machine.

The maintenance technician must verify being in possession of all the necessary tools to operate properly. The following must be implemented, when indicated, with the following intervals in order to maintain the efficiency and productivity of the machine in compliance with current safety regulations.

General maintenance conditions



Warning: some of the maintenance operations reported within this manual may only be performed by the manufacturer's experts or by specialist personnel (qualified technician), authorised by the owner of the company where the machine is installed.



Attention: specific maintenance operations must be carried out by the manufacturer.



All the maintenance operations must be reported in the appropriate logs contained in the user manual.



ALL MAINTENANCE OPERATIONS MUST BE PERFORMED WITH THE MACHINE STOPPED, SWITCHED OFF AND DISCONNECTED



ALL MAINTENANCE OPERATIONS MUST BE PERFORMED WITH THE MACHINE STOPPED, SWITCHED OFF AND DISCONNECTED FROM THE POWER SUPPLY.



IT IS PROHIBITED TO PERFORM TEMPORARY REPAIRS; THESE MUST ALWAYS BE PERFORMED IN A NORMALISED AND DEFINITIVE MANNER



Routine Maintenance

Purpose

Regular or repeated activities of elementary maintenance which generally do not require qualifications, authorisation(s) or special tools.

Preventive maintenance

Purpose

Maintenance performed at predetermined intervals or according to the prescribed criteria intended to reduce the probability of failure or the degradation of the functioning of an entity. In order to perform correct preventive maintenance, it is necessary to periodically and constantly check the perfect efficiency of the machine and to carefully analyse the failures detected, strictly annotating them on the attached maintenance log.

Scheduled maintenance

Purpose

Preventative maintenance performed on the basis of a schedule or on a set number of quantities.

Corrective maintenance, fault maintenance

Purpose

Maintenance performed following the detection of a fault and intended to restore the entity to a state in which it can perform a required function.

Definitions

Faulty

The ability of an entity to perform the requested function.

Repair

Physical action carried out to restore the required function of an entity that is faulty.

Spare parts

Entity intended to replace a corresponding one in order to restore the original function requested of the entity.

Operation check

Activities carried out after a maintenance operation to verify that the entity is able to perform the requested function.


The interventions in the event of a fault may only be carried only by the manufacturer or by personnel specifically authorised by the manufacturer of the machine exclusively using original spare parts.

This staff will implement the procedures needed to perform repair

After the repair the same staff will verify the functioning of the machine and will report the details in the specific log attached to the user manual.



Maintenance log

	BONE SAW		Log no.
	<i>Model</i>	<i>Serial number</i>	<i>App./mach. code</i>
<i>Date of receipt</i>	<i>Status</i> NEW	<i>Date of putting into production</i>	NOTES
INTERVENTION CARRIED OUT		OPERATOR	DATE

Maintenance Manager

.....



Cleaning

General considerations

Cleaning is considered routine maintenance. These are regular or repeated activities of elementary maintenance which do not generally require qualifications, authorisation(s) or special tools.



Cleaning is an operation carried out with the machine disconnected from the mains supply.



Take advantage of cleaning operations to inspect the machine and to check its conditions.

Cleaning must always be carried out:



⇒ **after each use. The functionality and durability of the machine also depend on how it is kept.**

⇒ **possibly during use, if it is deemed necessary.**

The machine does not use hazardous substances; the cleaning of its parts is possible by following the procedures in this chapter.

The machine has no acute angles, sharp edges or rough surfaces, within the limits permitted by their functions, likely to cause injury.



ATTENTION



The removal of the remainder from cuts in the work area or other parts of the machine must be carried out using methods and tools appropriate for the purpose. Compressed air may be used (only consisting of dry air).

When using compressed air, the operator must be sure of the absence of persons in its range; the operator should wear a mask to protect the respiratory tract, a pair of safety goggles, suitable gloves and suitable clothing.



DANGER THE POSSIBILITY OF DAMAGE TO THE MACHINE EXISTS



DO NOT USE JETS OF WATER TO CLEAN, GIVEN THE PRESENCE OF ELECTRIC PARTS



NOTE FOR BUSINESS USES - It should be remembered that when substances are used by workers, the instructions given in the relative safety data sheets of substances must be implemented, sheets that must be supplied by the manufacturer and always be available in the company. The assessment must be carried out in accordance with Legislative Decree 81/2008 Title IX hazardous substances, Chapter I protection against Chemical Agents. For other countries refer to the legislation in force.



Observe the following precautions:



DANGER: DO NOT MAKE IMPROPER USE OF COMPRESSED AIR, DETERGENTS OR OTHER SUBSTANCES. DO NOT SPRAY OVER PERSONS OR THINGS



ONLY USE DETERGENTS SUITABLE TO CLEAN OBJECTS INTENDED FOR FOODSTUFF USES



THE USE OF SUITABLE GLOVES AND PROTECTIVE CLOTHING IS REQUIRED.



**REMEMBER THAT THE MACHINE IS INTENDED FOR THE PROCESSING OF FOODS.
THE OPERATIONS OF CLEANING MUST BE PERFORMED, FOR REASONS OF HYGIENE, DURATION AND EFFICIENCY OF THE MACHINE ITSELF.**



Cleaning Operations



Operation carried out with the machine switched off and disconnected from the power supply

To clean the machine first dismantle its parts:

- opening of the door;
- removal of the blade;
- removal of the blade cover;
- removal of the upper pulley;
- extraction of the residue collection tray.



For details on the removal of parts of the machine, the hazards present, the obligations and prohibitions to be observed, etc., follow the instructions provided in the relevant paragraphs.

It is advisable to use a mild detergent and a suitable prayer.

Spray the degreasing detergent (see below) on the parts to be cleaned, and with a cloth, a piece of kitchen towel, a brush or other materials, clean the blade and the other parts of the machine. Pay particular attention to cleaning of the interstices and the dangerous parts of the machine (blade and its teeth, etc.).

In cleaning, take care to thoroughly remove the detergent and dry the parts involved. If necessary, repeatedly pass a clean cloth or kitchen towel.



**DANGER OF CUTTING,
PIECING AND BRUISING**



**DANGER
DO NOT MAKE IMPROPER USE OF THE
DETERGENT
DO NOT SPRAY OVER PERSONS OR THINGS**



**THE USE OF
SUITABLE
PROTECTIVE
GLOVES IS
REQUIRED.**



**ONLY USE DETERGENTS AND
PRODUCTS FOR CLEANING OBJECTS
INTENDED FOR FOOD USES THAT ARE
NON-CORROSIVE OR TOXIC**

With the operation completed, reassemble the removed parts and make the necessary adjustments, in accordance with that indicated in the appropriate paragraphs.



**REMEMBER THAT THE MACHINE IS INTENDED TO
PROCESS GENERAL FOODSTUFFS.
THE OPERATIONS OF CLEANING MUST BE PERFORMED, FOR
REASONS OF HYGIENE, DURATION AND EFFICIENCY OF THE
MACHINE ITSELF.**



Inspection of the machine during cleaning

Dirty machines often cause problems.

The inspection of the machine during cleaning allows the viewing of situations that would otherwise be difficult to examine.

This section aims to provide a number of general instructions on how to perform inspection of the machine during cleaning indicating certain control points that are common to most of the machines; the following is not exhaustive but only indicative.

Mechanisms, components subject to friction, rotary parts, etc.

Main control points:

- a) Dirt, spots, level differences due to wear, indentation of parts subject to friction and movements;
- b) Damage or wear of the brushes used by the machine to remove the dirt of parts subject to friction;
- c) Excessive clearance in the moving parts and in the rotating parts
- d) Screw loosening
- e) Damage to bearings, rollers;
- f) Damage to the pistons;
- g) Etc.

Electric system and control system

Always operate with the participation of an electrician

Main control points:

- a) Dirt on parts of the belt and reader of the CNC machines;
- b) Dirty lamp;
- c) Loosening of the fixing screws of the proximity switches and/or of the micro-switches;
- d) damage to the drive devices.

It is advisable to arrange for the attendance of the inspection during cleaning of the necessary specialist technicians such as:

- ⇒ Production technicians with expert knowledge of materials, products and process methods;
- ⇒ Maintenance technicians with expert knowledge of the practical use of systems, of the mechanical system, of the electrical and electronic system
- ⇒ Technicians with expert knowledge of instrumentation, measurement and safety management.

Machine disposal

The information reported in this chapter must be strictly adhered to if the company decides to stop use of the machine within its production cycle



- Disconnect the machine from the power supply line by removal of its plug from the socket.
- Remove the plug from the power cord.
- Dismantling operations must only be performed by qualified personnel and carefully following all the operating procedures contained in this user manual
- Arrange for complete packaging of the machine or place it inside a container that is suitable to prevent damage of the same during the storage period
- Transport the machine to the place of storage using a suitable forklift truck.



ATTENTION TO THE USE OF FORKLIFT TRUCKS

- Store in a dry place that is covered, protected from humidity and away from flammable substances.
- **It is forbidden to climb onto the machine or onto the crate that contains it**



DANGER OF BRUISING



Dismantling

The machine is mainly composed of aluminium (bearing structures, lids, blade guard, base, etc.), steel (mechanisms, plate, blade, etc.) plastic and cables, etc., which do not require particular treatment for dismantling.

At the time of demolition it is in any case appropriate to separate the plastic parts from the metal parts, to send them to separated collections in accordance with the laws in force in the country where the system is installed.

With regard to the metal parts of the machine, simply separate the steel parts from those in other metals (aluminium) or alloys, for correct sending to recycling for melting.



Users of the machine are reminded that, for the disposal of components and substances that are harmful to the environment, the relevant laws in force must be complied with.

It is the responsibility of the user to remain updated on the substances and materials that require particular disposal and on the laws in force at the time of disposal.

There is also an obligation for the user at the time of demolition of the system to destroy the plates with marking and the documents relating to the machine.



Directive 2002/96 - Waste Electrical and Electronic Equipment (WEEE)

With respect to the WEEE Directive (Waste Electrical and Electronic Equipment) implement the relevant provisions, in particular:

- remember that the substances contained in electrical and electronic equipment can be dangerous and can cause harm to humans and to the environment if used or disposed of improperly.
- do not dispose of WEEE as unsorted municipal waste, use separated collection (for example, the facilities provided by public administration);
- check whether it is possible to use dedicated collection systems;
- check whether it is possible to return to the seller or to the producer the old pieces of equipment when purchasing new ones;
- check whether it is possible to re-use, recycle and recover in some other form. Also, remember that there are penalties for illegal disposal of hazardous waste.



The affixing of this symbol indicates that, in the event of disposal, separated collection of electrical and electronic equipment must be arranged.

Disposal performed not in compliance with the above will be sanctioned in accordance with the applicable legislation.

Directive 2002/95 – Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

With regard to the RoHS Directive, the machine does not use components or parts that contain: Lead and its compounds, Mercury and its compounds, Cadmium and its compounds, hexavalent Chromium and its compounds, Polychrome Biphenyls (PBB), Polychrome Diphenyl Ethers (PBDE).

Manufacture and Testing

The machine was designed by highly qualified staff that took in account all the safety standards currently in force and carried out careful analysis in order to prevent any type of accident.

The construction was performed by experienced professionals.

Both during the construction phase of the particular constituents of the machine and during the assembly phase, tests were carried out to prevent any problems.

Correct functioning of the machine was verified through stringent testing.



Attached to this manual is a quality control sheet indicating performance of the machine operation control

Warning signs

There are adequate precautionary attention and warning signs.




**Do not remove
this sign**

Figure 39 - Warning signs

CE Marking

The plate showing the "CE" marking is clearly and prominently fixed to the machine structure.

 **Do not remove
the label with CE
marking** 



General Safety Precautions

The information reported in this chapter must be strictly respected and integrated with what is reported in this manual.



General Safety Warnings

- It is prohibited for unskilled and untrained personnel (and/or persons that have not been instructed and/or authorised by the head of the Department) to use, operate, maintain or carry out repairs.
- It is forbidden to operate on moving parts
- It is forbidden for personnel who are unqualified or who have not been instructed on its operation to be less than 1.2 m from the machine and work area.
- It is forbidden to carry out repairs when the machine is switched on or connected to the power supply line
- It is forbidden to wear scarves, ties, loose clothing, rings, bracelets and everything else (belts, cords, etc..) that could become entangled during work.
- It is forbidden to tamper with and/or modify any system and/or structure
- Before carrying out any operation and/or use consult the manual and strictly observe the following instructions it contains.



Note for business uses



Obligations of the owner of the company where the machine is being used

All operations of operation, programming, maintenance and repairs must be performed by qualified personnel authorised by the owner of the company to carry these out.

The owner of the company using the machine is required to train the operator(s), worker(s) assigned to operation and staff appointed to perform inspections and the performance of required maintenance operations.

This training must be delivered strictly taking into account the information reported in the General safety warnings.

The following must also be considered:

- The warnings affixed, explaining in detail the meaning and the relevant consequences derived from non-observance of the same;
- The information reported in this user manual;
- Assembly and dismantling must only be carried out by qualified personnel carefully following all the operating procedures contained in this user manual
- Verify that operators use specific Personal Protective Devices that is delivered to them.



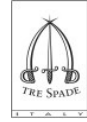
Vibrations generated by the machine

The machine does not transmit vibrations to the operator.

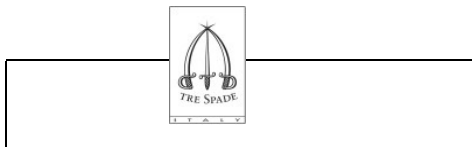
Airborne noise generated by the machine

In compliance with Directive 2006/42/EC, Annex I, section Airborne noise generated by the machine

Re.: Phonometric control on the machine



Istituto Giordano Spa - Via Rossini, 2 - 47814 Bellaria (RN) - Italy		
	TEST REPORT SWD 01022014 RMR	Rev. : 1.0
		Date: 12/02/2014
		P. 31 of 34



7.6 Sound Emission Calculation

Position	Operation	Level of Measured Sound Pressure (dBA)
0	Initial calibration	113.5
6	Final calibration	113.5

ID	Position	Operation	Measured Sound Pressure Level (dBA)	Maximum Acoustic Pressure Value (dBC)	Uncertainty (dB)	Sound Pressure Level (dBA)
1	Environmental Measurement	Machine off:	41.5	84.90	1.12	42.6
2	Front side	Vacuum work cycle	78.3	92.80	1.12	79.4
3	Left side	Vacuum work cycle	78.6	95.30	1.12	79.7
4	Rear side	Vacuum work cycle	81.5	96.70	1.12	82.6
5	Cutting blade side	Work Cycle	82.9	96.00	1.12	84.0



Istituto Giordano Spa - Via Rossini, 2 - 47814 Bellaria (RN) - Italy



TEST REPORT SWD 01022014 RMR

Rev. : 1.0
Date: 12/02/2014
P. 32 of 34



ID	Position	Operation	Sound Pressure Level (dBA)	Maximum Acoustic Pressure Value (dBC)	Deviation from background noise
1	Environmental Measurement	Machine off:	42.6	84.9	0.0
2	Front side	Unladen work cycle	79.4	92.8	36.8
3	Left side	Unladen work cycle	79.7	95.3	37.1
4	Rear side	Unladen work cycle	82.6	96.7	40.0
5	Cutting blade side	Work cycle	84.0	96.0	41.4

ID	Position	Operation	Value Maximum Acoustic Pressure (dBC)	K1A	K3A	L'pA
1	Environmental Recording	Machine off:	42.6			
2	Front side	Vacuum work cycle	79.4	0.00	3.7	75.76
3	Left side	Unladen work cycle	79.7	0.00	3.7	76.06
4	Rear side	Unladen work cycle	82.6	0.00	3.7	78.96
5	Cutting blade side	Work cycle	84.0	0.00	3.7	80.36



Istituto Giordano Spa - Via Rossini, 2 - 47814 Bellaria (RN) - Italy		
	TEST REPORT SWD 01022014 RMR	Rev. : 1.0
		Date: 12/02/2014
		P. 33 of 34

8.0 SOUND POWER CALCULATION



ID	Position	Operation	L'pA	Lpeak C
1	Environmental Measurement	Machine off:	42.62	84.9
2	Front side	Unladen work cycle	79.42	92.8
3	Left side	Unladen work cycle	79.72	95.3
4	Rear side	Unladen work cycle	82.62	96.7
5	Cutting blade side	Work cycle	84.02	96

Average Sound Power Level Measured	81.876	dB
Measurement surface	4.68	m ²
Environmental correction factor	K2	3.66 dB
Sound power level measured:	78.216	dB

Table 9 - Noise values recorded



In accordance with the provisions of Italian legislation in force with regard to noise emissions, the employer must perform the measurements and the subsequent evaluations of the level of noise emitted by the machine during its use within the production unit in accordance with what is prescribed relating to employment by the Consolidated Act on Occupational Health and Safety (Legislative Decree 81/2008 and subsequent amendments and integrations): Title VIII physical Agents chapter II Protection of workers against the risks from exposure to noise at work.

Exposure values daily personal (dBA) or peak values (dBC)	Measurements to be taken Without prejudice to the measurements at source, which must always be prioritised
< 80 dBA	None
80 85 dBA or instantaneous values 135 dBC >	<p>Distribution of individual protection means. Information for workers on</p> <ul style="list-style-type: none"> <input type="checkbox"/> Nature of the risks due to noise exposure <input type="checkbox"/> Measures taken to eliminate or reduce the risk of noise <input type="checkbox"/> Results of evaluations <input type="checkbox"/> Correct use of PPE <input type="checkbox"/> Appropriate use of the machine for the purposes of minimising risks to hearing <p>At the request of workers and upon confirmation of the company doctor health checks may be performed.</p>
85 87 dBA or instantaneous values > 137 dBC	<p>Distribution of individual protection means. Adoption of all the actions to ensure that PPE are used Information for workers on</p> <ul style="list-style-type: none"> <input type="checkbox"/> Nature of the risks due to noise exposure <input type="checkbox"/> Measures taken to eliminate or reduce the risk of noise <input type="checkbox"/> Results of evaluations <input type="checkbox"/> Correct use of PPE <input type="checkbox"/> Appropriate use of the machine for the purposes of minimising risks to hearing <p>Health check: periodic visits at intervals of less than two years.</p>
> 87 dBA or instantaneous values > 140 dBC **	<p>Verification of compliance with this limit taking into account the PPE. The adoption of immediate measures to bring exposure below that level. Identification of causes of excessive exposure. Changes in protection and prevention measures to avoid the repetition of such a situation.</p>

** The employer shall take into account the attenuation produced by hearing personal protective equipment worn by the worker only for the purposes of assessing compliance with the exposure limit values.



In the other countries refer to respective legislation in force



Electromagnetic fields exposure assessment (EMC)

In compliance with Directive 2006/42/EC, Annex I, paragraph 1.7.4.2. v. Risks due to radiation. Re: Electromagnetic fields exposure control

Below is an excerpt of the electromagnetic fields exposure assessment (EMC) – TEST REPORT. These pages are an extract from the complete evaluation document that is attached to the construction technical dossier.

Istituto Giordano Spa - Via Rossini, 2 - 47814 Bellaria (RN) - Italy		
	Electromagnetic Emission Fields Test report SWD 01022014 EMC	Rev. : 1.0
		Date: 12/02/2014
		P. 24 of 26

6.3 List of machines and equipment which do not exceed the action levels

List of machinery and equipment for which the **ACTION VALUES ARE NOT EXCEEDED**



Pos.	Low frequency recordings					
	Machine	Operation	Model	Serial number	f (Hz)	B (mT)
1	BONE SAW	Environment	SO 180 PRO			0.00
2	BONE SAW	Electrical panel - work cycle	SO 180 PRO		48.91	0.68
Pos.	High-frequency measurements					
	Machine	Operation	Model	Serial number	E Max (V/m)	E Min (V/m)
3	BONE SAW	Environment	SO 180 PRO		0.16	0.16
4	BONE SAW	Electrical panel - work cycle	SO 180 PRO		0.14	0.13

Table 10-EMC Assessment



In accordance with the provisions of Italian legislation in force with regard to electromagnetic fields, the employer must perform the measurements and the subsequent evaluations of the level of exposure to electromagnetic fields generated by the machine and implement what is prescribed relating to employment by the Consolidated Act on Occupational Health and Safety (Legislative Decree 81/2008 and subsequent amendments and integrations): Title VIII Physical agents Chapter IV protection of workers from risks arising from exposure to electromagnetic fields.



In the other countries refer to their respective laws and regulations.



Internal control sheet



Name:		BONE SAW	
Model	<input type="checkbox"/> SO 160	<input type="checkbox"/> SO 160 PRO	<input type="checkbox"/> SO 180 PRO
Serial number			
Year of manufacture			

The following checks were performed:

- Verification of the operation of commands
- Operation check
- Verification of the presence of safety warnings as outlined in the user manual
- Verification of the user manual

TURIN

The Tester

Date



"EC" DECLARATION OF CONFORMITY

Drawn up in accordance with Directive 2006/42/EC and subsequent updates.



I, THE UNDERSIGNED

Mr. _____ as legal representative of the company

FACEM SPA

Via Fabbriche, 11/C - 10141 TORINO (TO) ITALY

Tel. +39 011 337119 +39 011 3858495 Fax +39 011 334889

**AS CONSTRUCTOR DECLARE
UNDER MY SOLE RESPONSIBILITY THAT THE MACHINE**

Name:		BONE SAW	
Model	<input type="checkbox"/> SO 160	<input type="checkbox"/> SO 160 PRO	<input type="checkbox"/> SO 180 PRO
Serial number		Year of manufacture	
Person authorised to constitute the technical dossier		FACEM SPA Via Fabbriche, 11/C - 10141 TORINO (TO) ITALY	

COMPLIES WITH

The essential health and safety requirements of the directive 2006/42/EC and subsequent updates applicable to it;
 The requirements of the directive 2006/95/CE and subsequent updates applicable to it;
 The requirements of Directive 2004/108/EC and subsequent updates applicable to it;
 The requirements of Regulation 1935/2004/EC and subsequent updates applicable to it.

The machine was designed and constructed according to the requirements of the following standards: EN ISO 12100:2010, EN ISO 13857:2008, EN 60204-1:2006/AC:2010, EN 12268 :2003+A1:2010.
 Type verification performed by Istituto Giordano S.p.A. Via Rossini, 2 47814 Bellaria
 Notified body no. 0407 which issued on_ Certification no. _____ the Certificate of

 TURIN
 Date

FACEM SPA



Note for business uses

Certification of correct Installation and testing for the purchaser

Purchasing Company [Redacted]



Company where the machine is installed [Redacted]

Order No. [Redacted] **of** [Redacted]

Date of delivery [Redacted] **Document No.** [Redacted]

Name:	BONE SAW		
Model	<input type="checkbox"/> SO 160	<input type="checkbox"/> SO 160 PRO	<input type="checkbox"/> SO 180 PRO
Serial number	[Redacted]	Year of manufacture	[Redacted]

Installation performed by: [Redacted] **on the** [Redacted]

date Testing performed by: [Redacted] **on the** [Redacted]

on the date Representing the user company [Redacted]

Present at the testing [Redacted]

After installation and testing the following are declared:

- Correct installation of the machine;
- Perfect functioning of the machine in accordance with the contract
- The presence and perfect functioning of all the systems and protection devices as described in the user and maintenance manual;
- The installing company has provided all the information necessary for the correct use, operation and maintenance;
- The installing company has provided all the relevant information necessary for the correct prevention of accidents;
- The user has been provided with the user and maintenance manual.



For the purchasing company For the user company For the installing company

[Redacted signature lines for purchasing company, user company, and installing company]

This declaration is not valid unless duly completed and signed. Copy for the Purchaser to be left attached to the manual.



Note for business uses Remove along the dotted line and return to the manufacturer

Certification of correct installation and testing for the manufacturer

Purchasing Company [Redacted]



Company where the machine is installed [Redacted]

Order No. [Redacted] of [Redacted]

Date of delivery [Redacted] Document No. [Redacted]

Name:		BONE SAW		
Model	<input type="checkbox"/> SO 160	<input type="checkbox"/> SO 160 PRO	<input type="checkbox"/> SO 180 PRO	
Serial number			Year of manufacture	

Installation performed by: [Redacted] on the date [Redacted]

Testing performed by: [Redacted] on the date [Redacted]

Representing the user company [Redacted]

Present at the testing [Redacted]

After installation and testing the following are declared:

- Correct installation of the machine;
- Perfect functioning of the machine in accordance with the contract
- The presence and perfect functioning of all the systems and protection devices as described in the user and maintenance manual;
- The installing company has provided all the information necessary for the correct use, operation and maintenance;
- The installing company has provided all the relevant information necessary for the correct prevention of accidents;
- The user has been provided with the user and maintenance manual.



For the purchasing company

For the user company

For the installing company

[Redacted Signature]

[Redacted Signature]

[Redacted Signature]

This declaration is not valid unless duly completed and signed. Copy for the installer to be sent to the manufacturer.

The purchaser and Installer, compilers of this certification, authorise with the same the machine manufacturer to process the data here inserted, for the part concerning the warranty management and product traceability, pursuant to Legislative Decree 196/2003" Code relating to personal data protection" (Privacy).