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# OPERATING AND MAINTENANCE HANDBOOK FOR

## BONE BANDSAW 1650

Article code  
painted: SAV-165CE  
anodized: SAV-165CE-A



**WARNING!** THIS HANDBOOK HAS TO BE READ CAREFULLY AND UNDERSTOOD CORRECTLY BEFORE USING THE MACHINE; KEEP IT ALWAYS AVAILABLE FOR AN EASY CONSULTATION. FOR ANY DOUBT, CONTACT THE MANUFACTURER IMMEDIATELY.

**WARNING!** ANY OPERATION NOT EXPLICITLY DESCRIBED OR NOT EXPLICITLY ENVISAGED IN THIS HANDBOOK IS ABSOLUTELY FORBIDDEN.

**WARNING!** Whoever uses or gives the machine to someone to use it, explicitly and irrevocably acknowledges that the Manufacturer cannot be held liable (from the civil and criminal points of view nor any other type of liability) in case of accident occurred in the presence of (and not necessarily “as a consequence of”) a breach of one -or more (no exclusions admitted)- of the rules envisaged in this handbook. The above has to be intended explicitly and irrevocably accepted with the startup and use of the machine



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## CONVENTIONS

- The words “**manufacturer**” or “**Savioli**” mean the company **SAVIOLI LELIO s.n.c. di Savioli L. & C.** whose address and contact detail are on top of every page.
- “**dealer**” is the machine dealer authorized by the Manufacturer.
- “**maintenance**”, if not otherwise specified, means both ordinary and extraordinary maintenance (repairs). Such repairs are extraordinary maintenance.
- The words “**machine**” or “**Bone Bandsaw**” mean every machine, with or without electric supply cable and/or eventual standard and/or special accessories, made by Savioli, therefore, both “Bone Bandsaw 1650” singlephase or threephase in the version article “SAV-165CE” (painted) or article “SA-165CE-A” (anodized), with pedestal or without pedestal. Pedestal is an optional accessory on which position the machine.



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## TECHNICAL SHEET BONE BANDSAW 1650

<i>general tollerances <math>\pm 10\%</math></i>	SINGLEPHASE	THREEPHASE
dimensions ( $\pm 1$ cm) (LxPxH)	52 cm x 48 cm x 84 cm	52 cm x 48 cm x 84 cm
weight	33 kg	32,5 kg
working table (LxP)	fisso, 41 cm x 40 cm	fisso, 41 cm x 40 cm
max. cutting height	25 cm	25 cm
max. cutting width	19 cm	19 cm
Stainless steel meat pusher	falling	falling
Stainless steel scoop	manual setting	manual setting
saw blade material	steel for food use	steel for food use
saw blade lenght x width	1.650 mm x 16 ÷ 20 mm	1.650 mm x 16 ÷ 20 mm
engine / channel pulleys diameters	Ø 20 cm / Ø 20 cm	Ø 20 cm / Ø 20 cm
pulleys interaxle	manual setting	manual setting
electrical supply	230 V ~ 50 Hz	400 V 3~ 50 Hz
Electrical motor ( $\pm 10\%$ )	0,9 kW / 6,2 A	1,1 kW / 2,8 A
fuse engine protection	T 12,5 A H Ø 6,3 mm x 32 mm	T 6,3 A H Ø 6,3 mm x 32 mm
<b>Building</b> differential braker setting	Set at 7,5 A	Set at 4,0 A
motor rotation speed	1.400 $\pm$ 50 rpm	1.400 $\pm$ 50 rpm
Braking type	elettronic / continuos current	elettronic / continuos current
earthing	Yes (class I device)	Yes (class I device)
insulation class	IP 54	IP 54
environment at T temperature	5 °C < T < 45 °C	5 °C < T < 45 °C
environment with relative humidity $U_R$	5% < $U_R$ < 90%	5% < $U_R$ < 90%
environment under pressure	1 bar $\pm$ 10%	1 bar $\pm$ 10%
environment with atmosphere	non-explosive	non-explosive
door, frame, drawer, pedestal	stainless steel AISI 304	stainless steel AISI 304
Opzional pedestal	Painted steel or stainless steel	Painted steel or stainless steel
weight and height differences to subtract for the OTC version	+10 kg and +67 cm	+10 kg and +67 cm



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## VIEW BONE BANDSAW 1650





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## IDENTIFICATION

The identifying label of the machine can be adhesive or metallic (in both cases, it must not be removed and must be indelible according to the definitions in force). Make sure that the machine has the following data (note: obviously, the data in brackets or in italic are not present):

CE, WEEE, Savioli marks:

manufacturer:

manufacturer address:

model name:

serial number:

year of construction:

weight:

voltage:

power:

insulation:



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**via Della Repubblica, 21 – 47853 Coriano – RN – Italia**

**Bone Bandsaw mod. 300 or Bone Bandsaw mod. 350**

*alphanumeric variable from item to item*

*alphanumeric variable from item to item*

*as per previous tables*

230 V ~ 50 Hz (single phase) or 400 V 3 ~ 50 Hz (3 phase)

*as per previous tables*

**IP 54**

If you find any differences between the data indicated in the documentation accompanying the machine (technical data sheets of this manual, transport documents, commercial invoices, etc.) and those on the plate on the machine, absolutely avoid using the machine and immediately contact the manufacturer of the machine via fax or e-mail according to the methods described further on in this manual. The manufacturer of the machine assumes no responsibility, either explicit or implicit, for machines whose accompanying documentation and the identification plate allow us to suppose undue modifications to the machine and / or leave doubts about the originality of the machine and / or its set off.

## **FINAL USE, INTENDED USE**

Every machine described in this handbook is an electrically-driven band saw which **is exclusively destined for cutting only frozen meat and / or bones and / or frozen fish**, in strictly professional environments, such as butchers and stable kitchens (not temporary nor improvised) for hotels or communities or restaurants, always indoors and always respecting all the indications in this manual; **there are no other eligible uses**; those indicated are the only intended use for which the manufacturer's warranty exists and the safety measures have been studied.

**WARNING!** Every machine described in this handbook must only be used indoors and must never be used outdoors.

**WARNING!** Any other use of the machines described in this handbook not explicitly permitted by this manual is strictly forbidden because it is risky and implies hazards and is in contrast with the safety laws and determines personal responsibilities both for those who order it and for those who carry it out.



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## **TRANSPORT AND HANDLING**

The machine is delivered in a cardboard box on a pallet inside which there is an anti-crash foam polystyrene padding in suitably shaped shavings and/or parts in transparent plastic films with an integral padding with bubbles or balloons.

During transport, fix the box on the means of transport and make sure it cannot move during the trip.

As for the moving of the box in which the machine is packed, address to skilled staff if lifting and transport systems such as forklifts, bridge cranes, cranes, etc. are used (never use any rope because the box of the packing is not suitable to bear concentrated loads and has no anchoring points to prevent ropes from moving).

As for the transport and/or handling without considerable hazards, carefully consider the weight indicated on the box, its dimensions and the approximate position of its centre of gravity.

A single box with the product inside has a weight exceeding the limits allowed by the law and the health rules on the total safety lifting of objects of such weight and dimensions by only one person; therefore, the manual handling without the support of lifting means is forbidden by the Manufacturer and should it occur, it is at the sole risk of anyone ordering and/or carrying out such operation.

In the event, this prohibition is not complied with for any reason, at least a very robust person for each 20 kg÷30 kg (20 kg is the maximum value for boxes or big objects; 30 kg is the maximum value for boxes or big objects) would be necessary for the weight to lift.

The bearable force of transport means and the force which can be exercised by lifting means must be at least the double of the sum of the weights to lift.

As for the value of the weight to be lifted, please refer to the summarizing tables in the first pages of this handbook.

No foreign objects nor cables, pipes and any other thing which might hinder the operator carrying out the assembly have to be present in the handling area.





## CONTENT OF THE PACKAGING

Make sure that the content of the box corresponds to the following list:

(A) the maintenance handbook.

(B) a spare saw blade wrapped in a paper packaging.

(C) a machine supplied in this way:

- with electrical feeding cable equipped with plug if having a single-phase electrical feeding (230 V ~ 50 Hz);
- with electrical feeding cable equipped with plug if having a three-phase electrical feeding (400 V 3~ 50 Hz) for the Italian market;
- with electrical feeding cable not equipped with plug if three-phase electrical feeding (400 V 3~ 50 Hz) for the non-Italian market;
- ↳ in such a case, the plug suitable for the country of destination has to be chosen, supplied and assembled by a qualified electrician considering the respect of the procedure of the feeding phases (at the assembly, check the labels and the colors of cable wires; at the end of the assembly, check that the sense of rotation of both motor and pulleys is the one indicated by the arrow located close to them).
- with assembled or disassembled working table according to dimensions, machine model, the packing and the transport means; this is not binding and can be decided on a case by case basis by the Manufacturer.

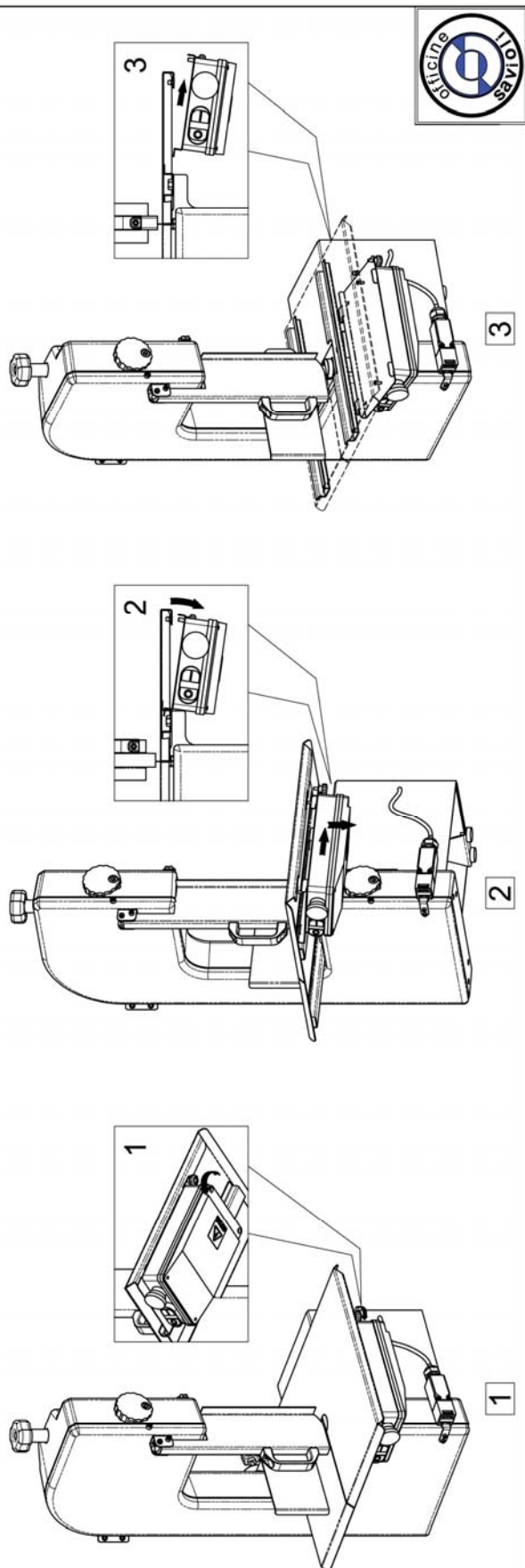
If the working table is disassembled and has to be assembled, proceed in this way: [1] unscrew the screws which fix the working table on the machine body in the bottom part of the working table; [2] lay the working table without the screws onto the machine body paying attention to the coupling of the housings of the screws and the working table with relevant housings on machine body; [3] screw such screws from the bottom side through the housings couples now coupled (in the lower part, the unthreaded screws of the machine body, while in the upper part the threaded ones from the bottom part of the working table) and ensure a strong tightening of the screws; [5] manually check the robustness of the assembly. The operation is very easy and does not require any graphics because it is simple and intuitive and relevant screws and housings are blatantly clear.

The machine is supplied in anodized metal (Article SAV-165CE-A) or with some external painted surfaces if they are not in touch with food; in case such paint are **always compatible with food** as for example, painted with non-toxic varnishes and of the color chosen by the customer.

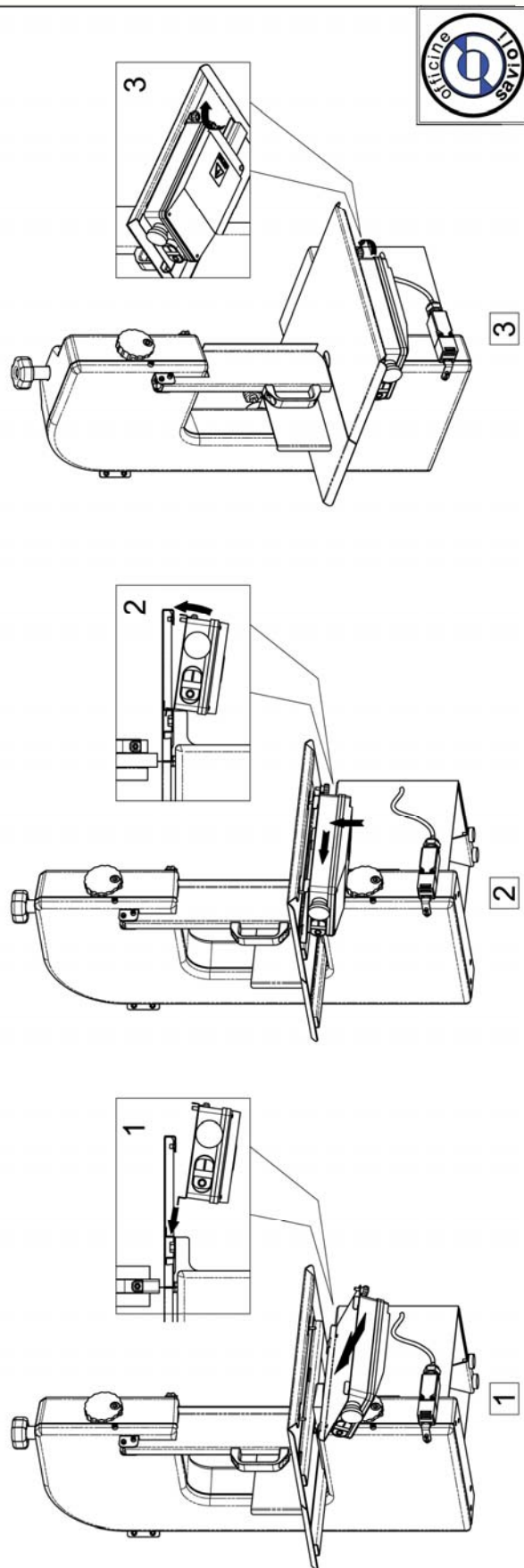
In order to abide by the rules on food safety, it is absolutely forbidden to paint or treat machine surfaces in a different way than that indicated by the Manufacturer.

## REMOVAL AND INSTALLATION OF ELECTRICAL BOX

### SMONTAGGIO SCATOLA ELETTRICA



### MONTAGGIO SCATOLA ELETTRICA







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## PLACEMENT INSTALLATION

A free space of at least 100 cm in plan view has to be left around each side of the machine to avoid hazards of crash and fall of the machine, difficulty in cleaning and maintenance, difficulty of use with pieces of meat and similar big materials. The floor must be anti-slippery and has to be always kept clean, especially free from possible waste of the material being processed in order to avoid the operator slipping.

The **desk** machine has to be exclusively assembled on a steady horizontal surface so that its (fixed or sliding) working table has an height **ranging from 450 mm (45 cm) and not exceeding 690 mm (69 cm) from ground**. However shall be guaranteed that its (fixed or sliding) working table has an height **ranging from 800 mm (80 cm) and not exceeding 1,050 mm (105 cm) from ground**.

If this is not possible due to the working table on which the machine lays, change the working table on which it lays or buy a different size of machine from Savioli company.

## VIEW OF THE 3 AND 4 LEGS STANDS





## ELECTRIC INSTALLATION

After positioning the machine onto the working table or onto the optional pedestal supplied by the Manufacturer, the electrical assembly has to be carried out.

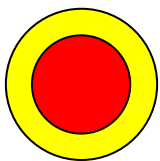
If the machine has a three-phase motor and is destined to the non-Italian market, the feeding cable has to be completed with a feeding socket suitable for the country of destination, supplied and assembled by a qualified electrician; the sequence of the feeding phases (at the assembly, check the labels and the colors of the cable wires and, at the end of the assembly, check that the rotation of the motor and the pulleys is the one indicated by the arrow located close to them) has to be complied with.

After the installation, make sure that nobody touches the machine and connect the feeding plug to a socket (230 V ~ 50 Hz for single-phase motor machines and 400 V 3~ 50 Hz for three-phase motor machines).

- To switch the machine on, push the pushbutton (green or white) **I = ON = switched on**
- To switch the machine off, push the pushbutton (red or black) **O = OFF = switched off**

I	I	START INSERTION	↑ UP	higher energy level; machine start- <b>up</b>
O	O	SHUTDOWN STOP	DOWN ↓	lower energy level; machine shut- <b>down</b>

→ Check that (both when the motor is running and when it is idle, but the machine is powered) the efficacy of the connection to the equipotential protection circuit (earthing) and that the due surcharge protection of the feeding electrical switchboard of the building (suitable differential switch and fuse) have been performed.



→ Check that if the emergency (red mushroom pushbutton on a yellow background) pushbutton is activated, the machine stops immediately and cannot restart without the manual restart, namely keep the counterclockwise rotation of the emergency pushbutton pushed and without a subsequent voluntary pushing of the (green or white) **I = ON** pushbutton.

→ If door is opened, check that the machine stops within 4 (four) seconds after the opening has reached a 1-cm space and can never restart without the necessary locking of the door and without the pushing of the **I = ON** pushbutton

→ Check the correct rotation sense of the motor through the proper pictograph for blade running direction, **which always goes from upwards to downwards** where the blade is visible: if the sense is opposite to what indicated, invert 2 phases on the electrical switchboard of the building from which the machine gets the power (the machine has been built in a masterly fashion!).



If such checks are passed, the machine is electrically installed; if they are not, contact the Manufacturer or the dealer for maintenance.





## EC/EU DECLARATION OF CONFORMITY

**Savioli Lelio s.n.c. di Savioli L. & C.**

settled in via della Repubblica, 21 – 47853 Coriano di Rimini – RN – Italia

phone: +39.0541.657404 – fax : +39.0541.656782 – mail: saviolilelio@saviolilelio.com

Whose legal person authorized to compile the technical file is the company Savioli Lelio s.n.c. di Savioli L. & C., whose address, for the purposes of this declaration, is at Savioli Lelio s.n.c. di Savioli L. & C. registered office.

### DECLARES THAT THE MACHINE

**named (model and type): BONE BANDSAW 1650 (SEGAOSSI 1650)**

serial number and year of manufacturing: both on the identifying label

description: band saw (single-phase or three-phase, fixed working table);

**is exclusively destined for cutting only frozen meat and / or bones and / or frozen fish;**

is an indivisible set of parts which not designed nor manufactured to work independently nor in a way which differs from they have been manufactured and arranged by the Manufacturer and they cannot be altered at all;

is in conformity with all the relevant rules of the **2006/42/EC** Directive on machinery, as stated by the EC type certification No. **MAC 1018124** issued on **2020-12-14** by the Notified Body 0302 ANCCP Certification Agency s.r.l.

they also comply with the main rules of the harmonized standard:

- UNI EN 12268:2014 Food processing machinery – Band saw machines – Safety and hygiene requirements.

is in conformity with the relevant European Union harmonisation legislation, and specifically:

Directives	main requirements and/or standards used:
<b>2014/35/EU (LVD)</b>	<b>CEI EN 60204-1:2018+EC1:2019</b> Sicurezza del macchinario – Equipaggiamento elettrico delle macchine – Parte 1: Regole generali
<b>2014/30/EU (EMC)</b>	(a) the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment or other equipment cannot operate as intended; (b) it has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use; <b>CEI EN IEC 61000-6-1:2019 ; CEI EN 61000-6-3:2007+A1:2013 ;</b> <b>CEI EN IEC 61000-6-2:2019 ; CEI EN IEC 61000-6-4:2020 ;</b>
<b>2011/65/EU (RoHS 2) 2015/863/EU (RoHS 3)</b>	<i>Restriction of the use of certain Hazardous Substances in electrical and electronic equipment:</i> <b>EN IEC 63000:2019-04</b>

*This declaration of conformity is issued under the sole responsibility of the Manufacturer.*

place and date:  
Coriano, 2020-12-21

name, surname and position and signature of the person authorized to draw up and sign the declaration:  
Erge Ondedei, Legale Rappresentante di Savioli Lelio s.n.c. di Savioli L. & C.



## USE AND STORAGE OF THE HANDBOOK

The goal of this handbook aims at giving the essential information and the instructions to correctly and safely perform the activities linked to the service life of the machine from transport and assembly up to its removal.

The information contained in this handbook are the conditions of use envisaged by the Manufacturer; therefore, it is of utmost importance reading carefully and wholly understand this handbook and integrally and scrupulously comply with its instructions and advices before using the machine in order to ensure the regular working of the machine, its reliability and the safeguarding from damage to people and properties.

Therefore, the handbook has to be always kept in an easily accessible place which has to be close to the place where the machine is used to enable a prompt and easy consultation.

In order to guarantee the use of the handbook, the place of conservation must be dry, free of dust, clean and shielded against insects or other animals or bad weather or other agents which could damage it.

If further copies of the handbook are necessary, please contact the Manufacturer who will promptly send them.

The Manufacturer always reserves the right to introduce the changes he deems to be suitable for the manufacturing or relevant use and maintenance handbooks with no obligation as for the updating of already supplied equipment and handbooks except for the cases which the laws in force explicitly envisage as compulsory.

The machine has not been designed to be installed or repaired or disposed by non-professional operators and therefore any assembly, repair and disposal has to be exclusively performed by qualified and trained staff. Under their responsibility, authorized dealers can address you to one they trust.

The Manufacturer declines any and all liability for any (direct and/or indirect) damage (to people and/or properties) stemming from the incorrect use and/or maintenance of the machine.

The electrical layouts and any other accompanying document are integral parts of this handbook and therefore they have to be kept and read with care.

If doubts about the machine rise or these instructions are not clearly understandable or you are unable to trace the necessary information in this handbook, stop using the machine and immediately call the Manufacturer (through the phone numbers and/or fax and/or the e-mail indicated on the letterhead of this handbook) who will promptly reply.

To this end, you are kindly requested to anticipate us by e-mail and/or fax your requests and details together with a phone and fax number and/or e-mail where we can send the written instructions which might become necessary.

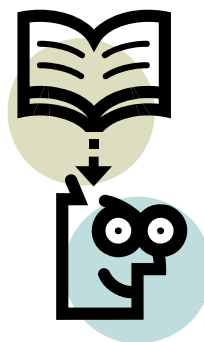
Such customer service is free and operates from Monday to Friday (not on bank holidays or company holidays), 9:00-12:00 and 14:30-17:30 (Italian time); however, the number is not a “free toll” and therefore the cost for phone or fax connection is at your charge according to the rates of your Telephone Service Provider without higher costs for us.

**WARNING!** Whoever uses or gives the machine to someone to use it, explicitly and irrevocably acknowledges that the Manufacturer cannot be held liable (from the civil and criminal points of view nor any other type of liability) in case of accident occurred IN THE PRESENCE OF (and not necessarily “as a consequence of”) a breach of one -or more (no exclusions admitted)- of the rules envisaged in this handbook. The above has to be intended explicitly and irrevocably accepted with the startup and use of the machine.





**WARNING!** Do not use the machine before you have read, understood and memorized this handbook, the warnings and/or all pictograms put on the machine as well as any adding and correction and any other information, instruction, explanation which the Manufacturer and/or his technical and commercial network will give you in any way (e-mail, fax, website, letter).



**WARNING!** Do not use the machine in a way which differs from what stated in this handbook and/or in the warnings and/or in pictograms put on the machine because this might imply hazards for the life of persons and the integrity of materials located nearby.

- The Manufacturer and the dealer cannot be held responsible for the consequences stemming from behaviors which are not in conformity with those envisaged in this handbook and/or warnings and/or pictograms on the machine.
- The non-compliance with the instructions indicated in this handbook and/or warnings and/or pictograms on the machine implies the decadence of any form of explicit and implicit warranty and can also have legal repercussions in case of accident.



**WARNING!** Do not alter the machine and its assembly system in any way (neither a minimum change is allowed) and remember that **any change**:

- is a breach of the laws in force and might have a strong criminal repercussion in case of accident both for the person who carried out the change and the person who ordered it;
- any explicit and/or implicit warranty expires;
- relieves the Manufacturer and the dealer from any liability concerning the direct and/or indirect consequences.



**WARNING!** Never damage or alter any device of the machine since all devices, both general and specific for the safety, are directly or indirectly necessary for your safety.



**WARNING!** Any use not explicitly allowed by the Manufacturer and herein envisaged is absolutely forbidden and may imply hazards; therefore, it is in breach of safety rules in force and determines the liability both for the person who gives the instruction and the person who carries it out.



**WARNING!** Although several safety measures have been envisaged, in general there exist dangers which cannot be totally reduced through the design and the safeguarding techniques. Such dangers are called “*non-eliminable residual hazards*” and are present as a hidden potential danger: therefore, reading carefully and understand this handbook and all the warnings and the pictograms on the machine is mandatory as well as is the scrupulous complying with all the instructions, with no exclusions.

**WARNING! ANY OPERATION NOT EXPLICITLY DESCRIBED OR NOT EXPLICITLY ENVISAGED IN THIS HANDBOOK IS ABSOLUTELY FORBIDDEN**



## ATTENZIONE

- E' OBBLIGATORIO LEGGERE IL MANUALE DELLE ISTRUZIONI D'USO IN DOTAZIONE ALLA MACCHINA PRIMA DI EFFETTUARE QUALSIASI MANOVRA !!!
- READ THE INSTRUCTION MANUAL OF THE MACHINE BEFORE BEGINNING ANY OPERATION
- LIRE ATTENTIVEMENT LE MANUEL D'UTILISATION JOINT A LA MACHINE AVANT D'EFFECTUER TOUTE SORTE D'OPERATION





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## WARRANTY

The warranty can be exerted through the retailer (therefore it is exerted by the Manufacturer only when he is the dealer of the final user) and

- ❑ it always starts from the date when the machine is delivery by Manufacturer's authorized retailers and lasts for a maximum period of 12 (twelve) months since the machine is exclusively destined to professional users;
- ❑ it guarantees the free replacement of the pieces which might break or abnormally wear due to assessed faults of design, supply, construction, assembly which can be attributed to the Manufacturer;
- ❑ the request for a free intervention has to be directly addressed to the Manufacturer or the dealer where the machine has been purchased;
- ❑ as for the repair (both free of charge and not), the machine has to be put in safe conditions (in the original packing or in another robust and padded packing suitable for transport), wholly at charge of the person requiring such repair at Manufacturer's seat or at the seat of the authorized dealer where it has been purchased or at the seat of the technicians entrusted with such service or who have been authorized by the Manufacturer to perform the repair (both free of charge and not);
- ❑ possible faults in planning, supply, construction, assembly, appearance, functioning, training which can be attributed to the Manufacturer have to be definitely notified to Manufacturer by registered letter with return receipt to send to the registered office within the end of the day following their detection and have to be immediately made known even by fax and/or e-mail in order to avoid further damage and/or accidents; **NOTA BENE:** the non-fulfillment of these rules releases the Manufacturer from the consequences of further damage and/or accidents subsequent to delayed or omitted communications;
- ❑ **NOTA BENE, ATTENTION:** for any civil claim, the Court of Rimini (RN) – Italy is the sole competent place of jurisdiction. This has to be explicitly and irrevocably accepted with machine's startup and use.



## WARRANTY EXCLUSIONS

**WARNING!** The warranty of the Manufacturer **NEVER INCLUDES:**

- ❑ the replacement of the machine after a service required for a failure;
- ❑ the reimbursement for the working hours used by staff not directly entrusted by the Manufacturer to carry out services and/or repairs;
- ❑ the reimbursement for consumables and/or rent of equipment and/or purchase of equipment to carry out services and/or repairs by staff not directly entrusted by the Manufacturer;
- ❑ the reimbursement for costs and transport (and withdrawal) of the machine to (from) the seats stated or authorized by the Manufacturer for the application of the warranty (namely Manufacturer, retailers, authorized service centers). In short, the transport and withdrawal of the machine to and from the seats where the warranty applies are wholly at charge of the person requiring the free repair in warranty;
- ❑ the free supply of necessary packing to transport the repaired machine if it has been delivered without the original packing.
- ❑ the reimbursement for damaged or destroyed possessions or goods;
- ❑ the reimbursement for (direct or indirect) loss of profit and/or service interruption and/or (direct and indirect) expenses of any kind (non-comprehensive example: expert's report and legal expenses) and/or (direct or indirect) penalties and/or (direct or indirect) damage having a commercial and/or corporate image nature due to the interruption of machine functioning and/or other equipment and/or machines and/or manufacturing lines working together with this machine and/or subsequent to damage or destruction of things, goods in these equipments and/or machines and/or lines;
- ❑ damage caused by the unsuitability of the environment where the machine is located (non-comprehensive example: humidity or temperature or electromagnetic fields or dirt which exceed the strictest limits established by this handbook and those established by law);
- ❑ phenomena which do not depend on the normal functioning of the machine (non-comprehensive example: atmospheric electric discharge, power stress, fire, flooding, etc.);
- ❑ defects and/or failures caused by materials or equipments realized according to a project or an idea of the buyer/user, defects depending upon the wrong use of the machine by anyone and those defects which appear after changes carried out on the machine without the written authorization of the Manufacturer;
- ❑ defects and/or failures in case of non-original pieces manufactured by the Manufacturer of the machine here described, notwithstanding their equivalence;



## WARRANTY EXPIRATION

**WARNING!** The warranty of the Manufacturer **COMPLETELY EXPIRES:**

- ❑ if any rule, instruction, recommendation, warning, prohibition envisaged by the Manufacturer and/or by his commercial network in any form (oral, written, by phone, fax or e-mail, on paper, electronic, magnetic, optical, audiovisual supports, etc.); in particular, if any rule of this handbook is infringed;
- ❑ with the improper or unreasonable use of the machine, though not envisaged and/or not explicitly forbidden by the Manufacturer;
- ❑ if the machine is modified in any way, even slightly;
- ❑ if non-original spare parts or accessories of the Manufacturer of the machine -independently of their possible technical or functional equivalence or equivalence of another type- are assembled;
- ❑ if the machine is modified, without the written approval of the Manufacturer, even if this would occur after recommendations and/or orders of public or private authorities for control and/or prevention;
- ❑ if the machine is repaired by staff who is not directly authorized by the Manufacturer; inexperienced staff and unauthorized staff must not perform any repair or extraordinary maintenance;
- ❑ if the damage to the machine is attributable to carelessness and negligence;
- ❑ if the machine has not been regularly purchased and paid according to contractual agreements existing with the Manufacturer and/or with the network of his authorized retailers;
- ❑ if there is no regular invoice or fiscal receipt proving the purchase;
- ❑ in particular, any missed or delayed payment implies the expiry of the validity of the warranty granted by the Manufacturer for the whole period of the missed or delayed payment;
- ❑ the periods relevant to the missed or delayed payment cannot be recovered after the settlement of the debt; in brief, the warranty of the Manufacturer expires at the envisaged date;



## SURVEILLANCE OF THE MACHINE

The machine must not be used by persons under age of 18 (eighteen).

The use of the machine is forbidden to people with disability and/or temporary and/or permanent psychic weakening since the machine is designed to be exclusively used by people having all their psycho-physical virtues.

People with peculiar stress and/or weakening, even though they do not depend on blatantly clear and/or certified illnesses, have to be considered as lacking all the usual and necessary psycho-physical virtues for the safe use of machine's controls.

People under the effect of alcohol, psychotrope drugs, narcotics (soft and heavy drugs) must not even approach the machine.

The machine has to be used by one (1) operator who is well-acquainted of its functioning. The simultaneous use of the machine by two or more operators, though skilled ones, is not allowed.

The machine is not destined to non-professional user, therefore all activities have to be only performed by professional staff properly **trained** and **qualified**: use and maintenance for butchers; repairs carried out by technicians; dismissal by relevant operators.

If the machine is left with no direct surveillance of the person in charge (examples: end of shift; weekend; holidays, bank holidays and permissions; absence for any reason), never leave it switched on and connected to the power line though the drive is not running, to avoid the useless consumption of power and for safety reasons.

All the above circumstances do not depend on the Manufacturer and the person in charge of the machine in the environment where it is installed has to take care of them.

At the end of each shift, the machine has to be switched off and put in the emergency state by pushing the red pushbutton. If the control board is equipped with a safety key for the startup (optional device), the operator must remove such key and keep it carefully without giving it to anybody else.

The machine must never be used, even occasionally, by staffs who have not been trained and who are not formally authorized. If the operator is not trained, the supervision of a qualified operator acting as a trainer is necessary.

Remind anyone using the machine that diligence and prudence during the use avoid accidents and increase working safety.

The machine is supplied with guards and safety devices which must not be removed or modified; the person in charge of safety and the machine operator must supervise so that the machine is always equipped with original guards and safety devices.





## **PERSONAL PROTECTIVE EQUIPMENT**

**PERSONAL PROTECTIVE EQUIPMENT IN CONFORMITY WITH CURRENT RULES:** all the personal protective equipment (PPE) indicated below must comply with the 2016-425 EC regulation (Personal Protective Equipment aka PPE) and the relevant technical standards and must be CE marked and have a specific declaration of conformity which, generally, refers to specific European technical standards (EN) of harmonized type. Operators must always report to the employer, manager and / or supervisor any malfunctions or characteristics of use of the PPE used and / or made available.

**HEAD:** the use of a cap to keep the hair gathered is mandatory in order to avoid entanglement within the moving elements; for hygiene reasons, the cap must always be clean and with no dust and must be able to retain the hair of the operators though they are long and/or voluminous. The hair might get entangled and cause serious accidents.

**EYES:** to protect the eyes from bone splinters and/or accidental blade breaking, the wearing of safety eye glasses, *integral or separated respect to devices to protect the respiratory tract (nose, mouth)*, is mandatory.

**NOSE, MOUTH:** to protect the respiratory tract from toxic emissions and/or miasmas of meat and similar substances under processing and at the same time for the hygiene of meat and similar substance under processing as for possible illnesses which the operator could carry, the wearing of filtering masks is mandatory; they have to be replaced with the frequency recommended by the Manufacturer and in any case as soon as they show signs of dirt or partial clogging; they have to be replaced after 2 (two) working days.

**EARS:** use headphones or earplugs to protect your ears.

**LIMBS AND BODY (what not to do):** never wear rings, wrist watches, bracelets, jewels, torn dresses or with loose parts, scarves, ties, belts not entirely inserted into relevant loops of the trousers; they might get entangled and cause serious accidents.

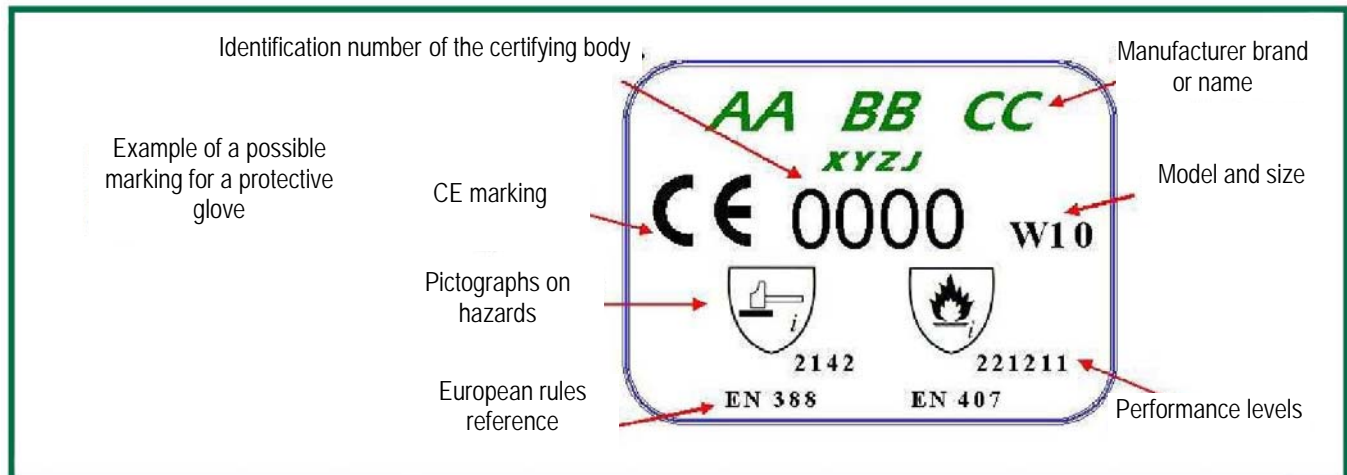
**LIMBS AND BODY (what to do):** for the superficial protection of both bust and limbs, always wear overalls or a work suit with elastic cuffs; both have to be worn tightly closed, without leaving them open or just partially tight nor with loose parts; tight the sleeves around the cuffs and always keep your hair - especially if long or voluminous - gathered in a cap. In particular, **use protective gloves for your hands that comply with the indications on the following two pages** and **never use metal gloves**.

**FEET:** it is mandatory to wear safety shoes with steel tips to protect the feet from the fall of heavy objects (the machine itself or its spare parts or big blocks of frozen food).





**HANDS:** to protect your hands, wear EC-marked protective gloves to be in conformity with the European EN 388 harmonized rule (protective gloves against mechanical hazards) since they must suitably protect hands against abrasion, cuts and tears and perforations, too. The following is an example of their marking.



### PROTECTIVE GLOVES AGAINST MECHANICAL HAZARDS (EN 388)

The gloves must fulfill the requisites of EN 420 while EN 388 establishes the compulsory requisites and the performance levels (PL) the gloves must have; the PL are indicated in the pictograph through a sequence of characters and each indicates a specific PL. They are:

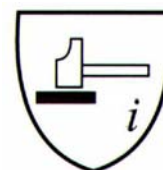
- a. abrasion resistance (PL from 1 to 4) 1<sup>st</sup> character under the pictograph of the hammer
- b. cutting resistance (PL from 1 to 5) 2<sup>nd</sup> character under the pictograph of the hammer
- c. tear resistance (PL from 1 to 4) 3<sup>rd</sup> character under the pictograph of the hammer
- d. perforation resistance (PL from 1 to 4) 4<sup>th</sup> character under the pictograph of the hammer

Gloves having the following characteristics (not necessary for the machine described in this handbook but reported for completeness) can also be obtained:

- e. antistatic nature (volume resistivity in W cm)
- f. impact cutting resistance (falling height: 150 mm - UNI EN 1082/1)

The gloves to be used according to EN 388 must have the following PL, Performance Levels:

- abrasion resistance: LP = 3 or 4
- cutting resistance: LP = 5
- tear resistance: LP = 3 or 4
- perforation resistance: LP = 2 or 3



Esempio di pittogramma su guanto per protezione meccanica

**3 5 3 2** (Performance Levels)

**WARNING:** according to the type of manufacturing, the employer shall choose the most suitable type of gloves among those having the PL characteristics previously mentioned.

**ATTENTION:** depending on the type of machining to be carried out, the employer shall choose the most appropriate type of gloves among those listed on characteristics of LP

**ATTENTION:** many types of metal mesh gloves are only suitable for the use of cutting tools moved by human force (knives, scissors, axes); with motorized band saws there is the risk of entanglement in the teeth of the band saw blade dragged with force and speed from the engine and, therefore, serious wounds to the hand; hence, their use is forbidden.



## OBLIGATIONS TO USE PPE

→ The employer is obliged to verify that each operator involved in the use, cleaning or maintenance of the machine is informed of the obligations and recommendations already set out regarding personal protective equipment.

**→ THE OPERATORS OF THE MACHINE MUST WEAR THE REQUIRED DEVICES EVEN IN THE ABSENCE OF THE EMPLOYER'S SUPERVISION.**

*The operators assigned to the use and / or cleaning of the machine, in addition to the gloves conforming to EN 388 referred to in the previous points, can also wear (at the same time) gloves in cotton or other comfortable material underneath (internally in contact with the skin) to absorb the sweat that the skin produces with the use of gloves due to the limited circulation of air. The under-gloves (to be worn in contact with the skin under gloves conforming to EN 388) are used to make the microclimate inside the protective gloves conforming to EN 388 more comfortable for the skin. However, make sure that they do not get soaked with water or humidity, otherwise they would be harmful.*

The employer must make the necessary personal protective equipment in the required size and quantity available free of charge to each operator assigned to the machine.

## NOISE AND HEARING CONTROL

The machines described in this instruction and maintenance handbook produce an aerial noise in the place of work (that is a continuous level of acoustic pressure of the emission weighted equivalent "A") lower than or equal to:

- **no-load sound power  $L_w = 80.8 \text{ dB (A)} \rightarrow L_{w4871} = 86 \text{ dB (A)}$**
- **sound pressure at operator position  $L_p = 72.7 \text{ dB (A)} \pm 5 \text{ dB (A)} \rightarrow L_{p4871} = 78 \text{ dB (A)}$**
- **operation at load sound power  $L_w = 96.6 \text{ dB (A)} \pm 5 \text{ dB (A)} \rightarrow L_{w4871} = 102 \text{ dB (A)}$**
- **sound pressure at operator position  $L_p = 88.2 \text{ dB (A)} \pm 5 \text{ dB (A)} \rightarrow L_{p4871} = 93 \text{ dB (A)}$**
- **measurement uncertainty  $\pm 5 \text{ dB (A)}$**

$L_w$  values measured according to UNI EN 3744: 2010

$L_p$  values measured according to UNI EN ISO 11204: 2010

$L_{p4871}$  and  $L_{w4871}$  values indicated according to UNI EN 4871: 2009

The use of new blades or very sharp blades and water-lubrication of the cutting area of bones contribute to reduce the noise. Other factors which affect the hazards linked to noise exposure in the place of work are the length of exposure, the characteristics of the buildings, the noise of adjacent machines, etc.

Therefore **THE EMPLOYER MUST** adopt the following measures:

- Limit the time of exposure through the adoption of shift work.
- Supply the workers with personal protection devices (protective headset) and instruct them on their correct use.
- Submit workers to regular health checks.





## SAFETY DEVICES

Never remove nor alter the safety devices since they have been installed for your safety. The main machine safety devices are the following:

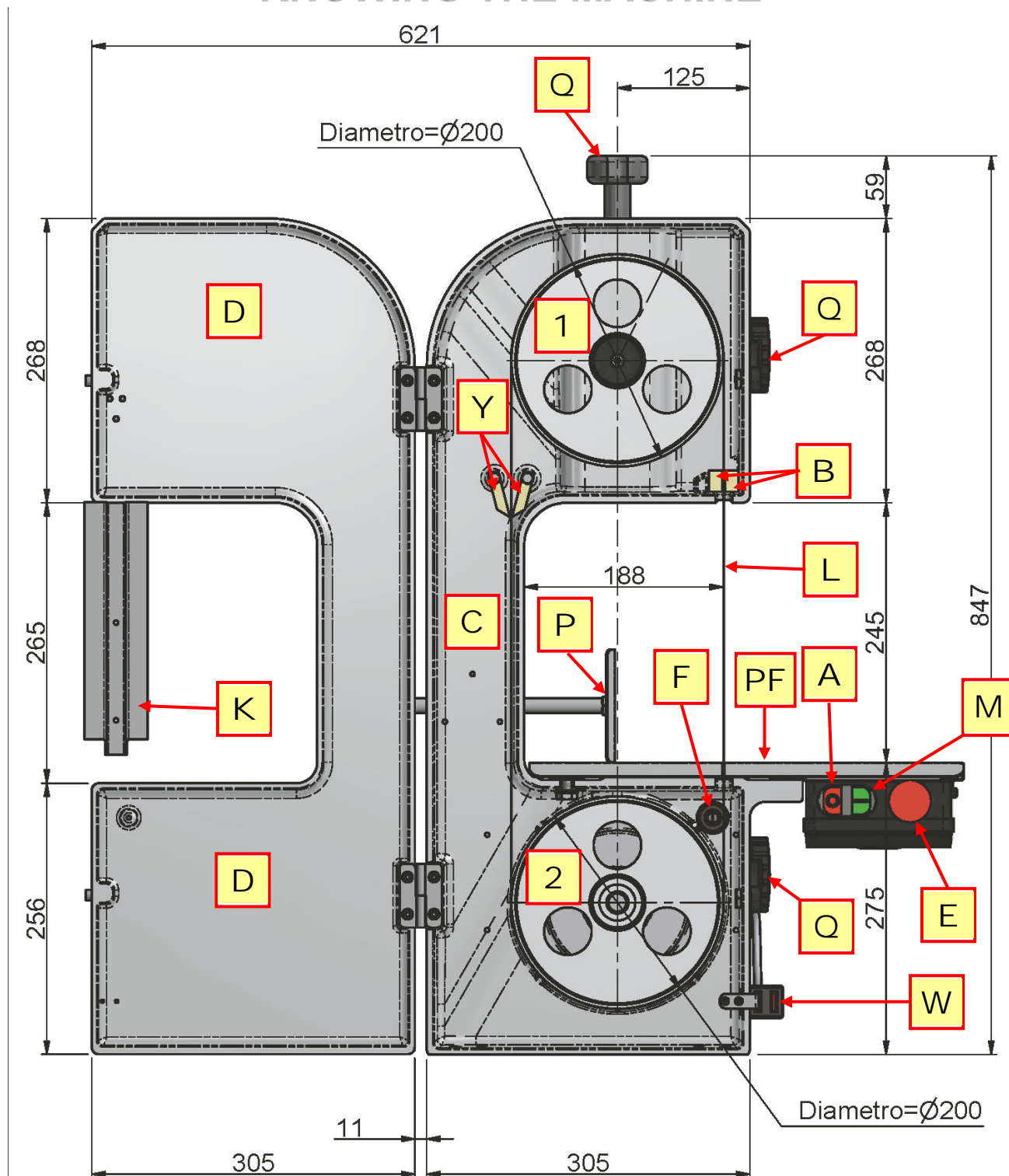
- Falling meat pusher.
- Manually adjustable blade guide and blade protection.
- Manually adjustable portioning device (lateral pusher).
- Door interlocked by safety microswitch.
- Knobs for door screwing locking.
- Grid-protected waste exit opening.
- On/off switch.
- Pilot light for electrical feeding.
- Safety fuse.
- Earthing circuit.
- Insulation class IP 54.
- Fireproof feeding cable.
- Earthing cable between door and frame.
- Labels and pictographs.
- Ergonomic pedestal.

## BLADE GUIDE SLIDING BLOCK ADJUSTMENT

With reference to the next page picture and descriptions:

- [P1] make sure that the machine is switched off (red  or black  pushbuttons pushed)
- [P2] make sure that the machine is not working (blade stopped);
- [P3] unscrew the horizontal small knob in the top rear side position, behind the block B, i.e. behind the blade guide sliding block, paying attention not to unscrew it completely from its seat;
- [P4] remove the sliding block (**B**) and clean both the block and its seat;
- [P5] evaluate the thickness of the sliding block (the sliding blocks of the blade guide continuously wear; therefore they have to be replaced when their thickness is below 1.5 cm) and, if necessary, replace it with a new sliding block;
- [P6] re-screw the small knob until the sliding block (**B**) is locked;

## KNOWING THE MACHINE



**LEGENDA:** (1) driving pulley; (2) free pulley driven by the saw blade; (C) machine body; (D) door; (PF) working table; (K) falling meat pusher; (M) start button; (A) stop button; (E) emergency stop button; (P) portion device; (B) blocks blade guide; (L) saw blade; (T) blade tension knob; (Q) door locking knobs screws; (W) female part of the safety microswitch; (Y) sliding blocks for saw blade cleaning; (F) saw blade thrust bearing;





## BLADE REPLACEMENT

Reference to the picture and descriptions of the previous page and side picture.



- [S1] make sure that the machine is switched off (red  or black  pushbuttons pushed)
- [S2] make sure that the machine is not working (blade stopped);
- [S3] open the door (D) of at least 90°;
- [S4] unscrew the black knob (T) located on the top to decrease the interaxle between the two pulleys and therefore reduce the tension of the blade until it easily and manually comes out from pulleys;
- [S5] extract the blade from the pulleys paying attention not to be injured (do not work bare hands, but use the prescribed protective gloves) and put it in a safe place not accessible to people who do not use the machine;
- [S6] assemble a new blade in the pulleys paying attention not to be injured (do not work bare hands, but use the prescribed protective gloves) inserting it in the pulleys with a shifting which is opposed to those performed to draw it out;
- [S7] check the correct positioning of the new blade on the two pulleys;
- [S8] screw the black knob (T) located on the top to increase the interaxle between the two pulleys and therefore increase the tension of the blade up to the desired value and in any case the blade cannot be manually extracted from the pulleys;
- [S9] close the door (D);
- [S10] **Adjustment:** screw the black knob (T) so that the white line on the neck of such knob is very close to the frame of the bone band saw (as per photo of the back side of the bone band saw);
- [S11] always check the blade tension when the machine is not working before restarting it (namely before restarting the motor);







## USE

- [U1] make sure that the machine is switched off (red  or black  pushbuttons pushed)
- [U2] make sure that the machine is not working (blade stopped);
- [U3] put the material to cut on the working table;
- [U4] adjust the height of the blade guide according to the height of the material to cut;
- [U5] adjust the portion device lateral position and leave a space similar to the thickness of the slice of material to be obtained from the cutting of the material under process between it and the saw blade;
- [U6] lift the falling meat pusher (keep it with a hand on relevant knob);
- [U7] bring the material to cut in contact with the portion device;
- [U8] lower the falling meat pusher onto the material to cut (keep it with a hand on relevant knob);
- [U9] → **NOTA BENE:** it is forbidden to cut without using the falling meat pusher and/or without using the portion device and/or without using the blade protection and/or without the correct adjustment of the blade guide;
- [U10] → **NOTA BENE:** it is forbidden to cut materials such as wood, plastic, paving tiles, bricks, stones, glass, metals, leather, cardboard, fabrics, etc. even though a specific blade for this aim is available;
- [U11] wear the safety gloves and start the machine after having checked that nobody is close to it by pushing the green or white “ON” = “ I ” pushbutton
- [U12] use the pusher (keep it with a hand on relevant knob) to push the material to cut to make it go towards the running blade until the end of the cutting of the desired slice;
- [U13] to cut other slices having the same thickness, go back to [U7];
- [U14] to cut other slices having a different thickness, go back to [U5];
- [U15] if the height of the material to cut varies of more than 1 cm when cutting more slices, go back to [U1].





## MAINTENANCE, CLEANING, REGULAR CHECKS

**WARNING:** Before any cleaning and/or maintenance and/or check, switch the machine off pushing the (red or black) **O = OFF** stop pushbutton and disconnect it from feeding power disconnecting the feeding plug too. Cleaning, maintenance and check have to be performed when the machine is not connected to the feeding power: **no exclusions are admitted**.

Before restarting the machine, make sure that no people are touching it. The use and the regular cleaning of the machine, according to the instructions of this handbook reduce the need for extraordinary maintenance and repair; the daily cleaning of the machine is an important factor to promptly detect possible defects or damages.

At least once a week, clean the machine with a soft and dry cloth which does not lose its fabric on the rubbed surfaces.

Avoid using petrol, solvents and any other type of detergent on the non-metallic parts which can be exclusively cleaned with a neutral and non-foamy water-based detergent, in case of need.

Never use abrasive products, chlorate substances, wire wools, brushes of any type, scrapers, etc., but just use small brushes having sufficiently rigid bristles and cloths which do not lose fabrics or fibers or fragments.

**WARNING!** The machine must never be washed with water jet of any nature and quantity (thus without buckets, rubber hoses or sponges).

**WARNING!** The machine does not need lubrication or greasing since it is equipped with self-lubricating bearings.

**WARNING!** After a thorough visual check at the beginning of each shift, pay attention to:

- the cleanness inside the machine with special care to the areas close to the pulleys; if necessary, clean and sanitize them with selected products that doesn't leave any residual on the machine;
- the cleanness of the lower container gathering the processed waste; if necessary, clean and sanitize it;
- the integrity of the electrical cable (with relevant plug) located outside the machine body;
- the integrity of the switchboard and the control pushbuttons (check whether there are cracks, splintering, scratches, distortions, cuts, etc.);
- the working of all safety devices: first, the emergency stop (red mushroom pushbutton on a yellow background) and door interlock microswitch; then all the remaining safety devices already listed;

**NOTA BENE:** if damaged or bad working components and/or devices are detected, do not allow staff to use the machine and put a warning about such prohibition on it; then contact the dealer or the Manufacturer for the maintenance interventions to be performed.





## DIAGNOSTICS

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Machine does not start	Lack of tension of the electrical network of the building.	Restore the tension of the electrical network of the building.
	ON/OFF switch of the electrical network of the building in “O” position.	Turn the ON/OFF switch of the electrical network of the building to “I”.
	Machine ON/OFF switch in “O” position.	Turn the ON/OFF switch to “I”.
	Machine fuse burned	Replace the fuse and check the electrical parameters (V, A, cos $\varphi$ ).
	Breakdown of machine ON/OFF switch.	Contact the manufacturer to have the ON/OFF switch replaced and check the electrical parameters (V, A, cos $\varphi$ ).
	The emergency (red mushroom on a yellow background) pushbutton is pushed.	Turn anticlockwise the emergency (red mushroom on a yellow background) pushbutton
	Breakdown of electronic control card.	Contact the manufacturer or the dealer to have the electronic card replaced and check electrical parameters (V, A, cos $\varphi$ ).
Machine does not stop	Machine ON/OFF switch in “I” position.	Turn the machine ON/OFF switch to “O”.
	Breakdown of machine ON/OFF switch.	Turn the ON/OFF switch of the electrical network of the building to “O” and contact the manufacturer or dealer to have the ON/OFF switch repaired.
	Breakdown of feeding electronic control card.	Contact the manufacturer or the dealer to have the electronic card replaced; check electrical parameters (V, A, cos $\varphi$ ).
Door is open but the machine does not stop	Breakdown of door safety microswitch	Contact the manufacturer or the dealer to have the door safety microswitch replaced.
The emergency pushbutton does not stop the machine	Breakdown of emergency pushbutton	Contact the manufacturer or the dealer to have the emergency pushbutton replaced.
	Breakdown of electronic control card.	Contact the manufacturer or the dealer to have the electronic card replaced and check electrical parameters (V, A, cos $\varphi$ ).



PROBLEM	POSSIBLE CAUSES	SOLUTIONS
The machine is noisy (vibration, creaking, whistling, etc.).	Ground backing of the working table (or the pedestal of the manufacturer) where the machine is laid with one or two supports which do not lay on the ground	Add some shims under the supports of the working table (or adjust the supports of the pedestal of the manufacturer) on which the machine is laid so that they all lay simultaneously
	One or two supports of the machine do not lay properly on the working table	Adjust the machine supports so that all lay simultaneously
	Saw blade too slow or too tight	Check the pulleys and the tension of the feeding band and adjust it through the upper black knob if it differs from relevant values
	One or both pulleys are damaged or out of their axis	Check the condition of the pulleys and if they are out of axis or not properly fixed, contact the manufacturer or the dealer to have them repaired
	The feeding and electronic control card is broken (it causes quick variations of speed which induce vibrations).	Contact the manufacturer or the dealer to replace the electronic card, and check electrical parameters (V, A, cos $\phi$ ).
	The door is not properly fixed	Check door hinges and relevant locking screws and, if necessary, screw them
	The safety microswitch is not properly fixed	Check the safety microswitch locking screws and, if necessary, screw them
	The sliding blocks of the blade guide are too tight on saw blade	Better adjust the sliding blocks of the blade guide slightly taking them away from the blade.
	Saw blade with damaged tothing	Replace the saw blade with a new and original one
	Saw blade with tothing unsuitable for the material to cut	If the material to cut is among those envisaged for the machine, contact the Manufacturer or the dealer to have a saw blade suitable for the material to cut, otherwise read below ↗.
	Material to cut is too hard	Avoid trying to cut such material since it is not included in the list supplied by the Manufacturer
	Material to cut is not included among those envisaged by the Manufacturer	Avoid trying to cut such material since it is not included in the list supplied by the Manufacturer



PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Coming out of the saw blade from pulleys	Saw blade is too slow or too tight	Check the pulleys and the tension of the feeding band and adjust it through the upper black knob if it differs from relevant values
	One or both pulleys are damaged or out from their axis	Check the pulleys and contact the Manufacturer or the dealer to have them repaired if they are out of their axis or not well fixed
	Bad quality of the blade	Replace the saw blade with a new and original one
Considerable heating of the saw blade	Loss of sharpening of the saw blade	Replace the saw blade with a new and original one
	Waste clogged between blade and blade guide	Disassembly and thoroughly clean the blade guide and then re-assemble it considering the safety position
	Bearings of one or both pulleys are damaged or blocked	Contact the Manufacturer or the dealer to replace the bearings
Cutting is not perfect	Saw blade is too slow or too tight	Check the pulleys and the tension of the feeding band and adjust it through the upper black knob if it differs from the relevant values
	Loss of sharpening of the saw blade	Replace the saw blade with a new and original one

## SPARE PARTS

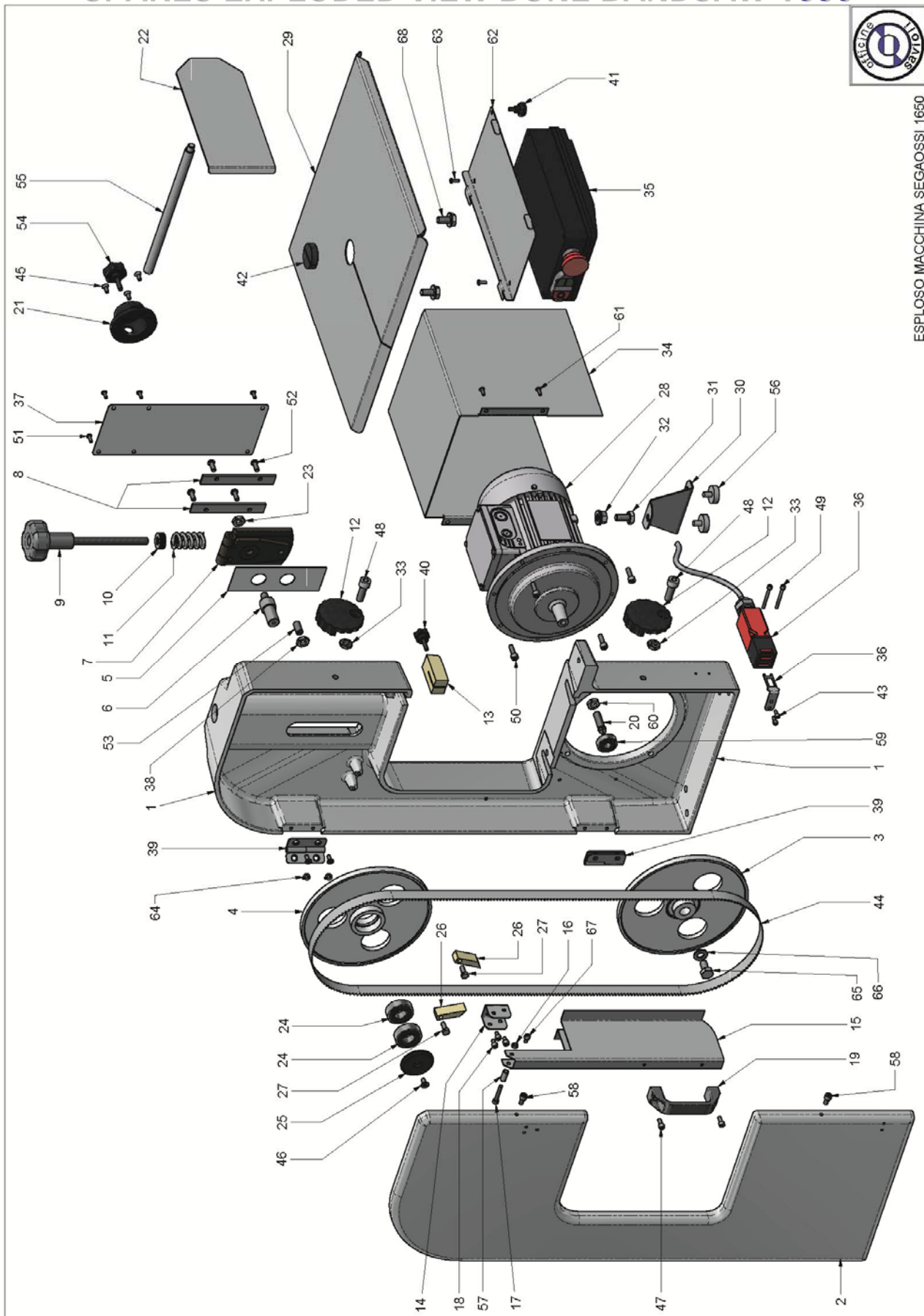
Exclusively use the original spare parts as per Manufacturer's instructions because non-original components may jeopardize the safety of the machine and the persons as well as damage materials and things close to it. The Manufacturer declares the warranty null and void and declines any liability for damages due to the use of non-original spares.

The spare parts must be directly required to the Manufacturer or his authorized dealer quoting the serial number of the machine and the date of purchase.

The following pages show the schemes and the reference lists to order the spare parts.



## SPARES EXPLODED VIEW BONE BANDSAW 1650





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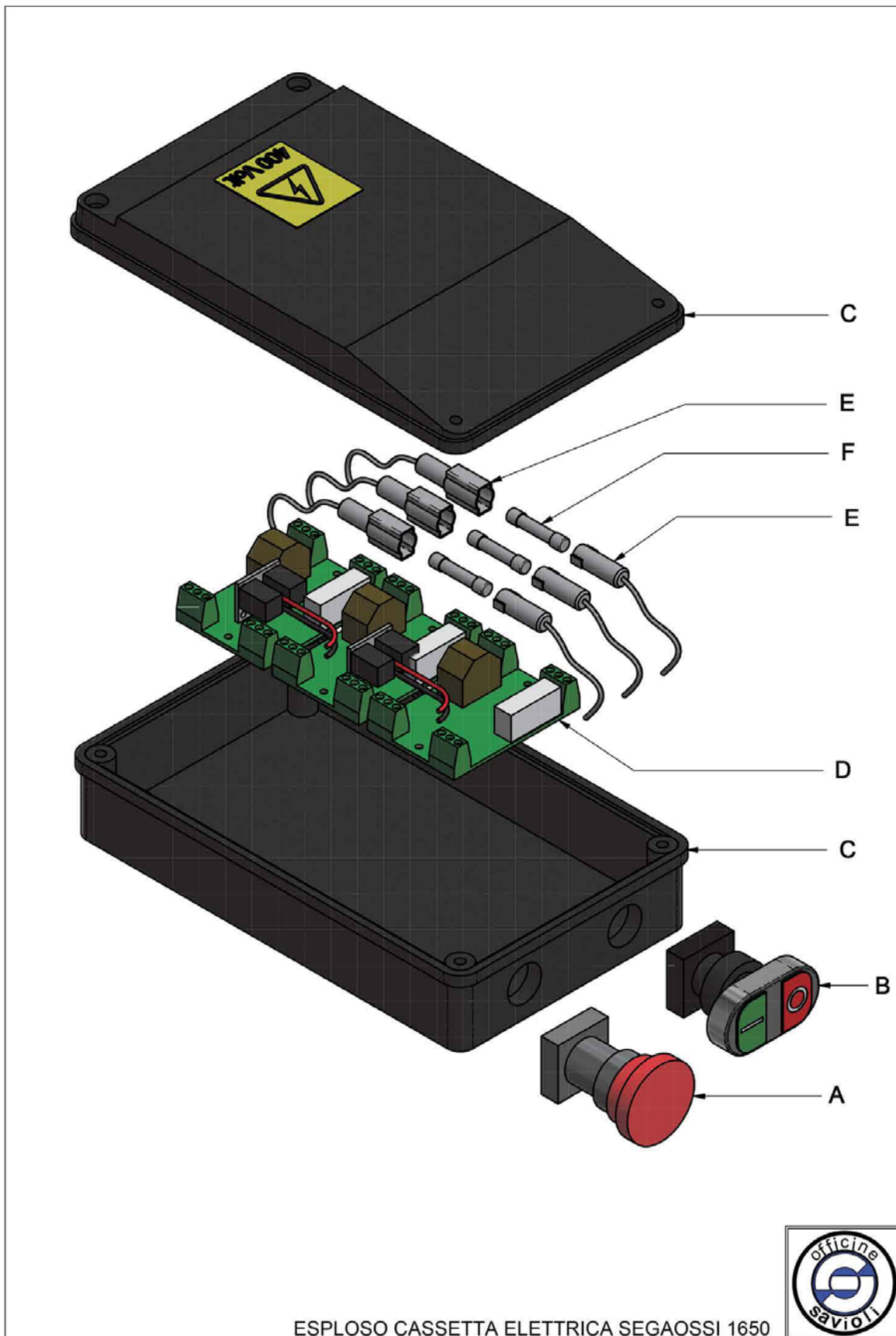
## **LIST OF SPARES BONE BANDSAW 1650**

- |   |   |
|---|---|
| 01) Machine body (not interchangeable)      | 35) Electric panel                            |
| 02) Machine door (not interchangeable)      | 36) Microswitch and fork                      |
| 03) Lower engine driven wheel               | 37) Coulissee guard                           |
| 04) Upper flywheel                          | 38) Flywheel setting nut                      |
| 05) Steel sheet coulissee                   | 39) Stainless steel hinge                     |
| 06) Upper flywheel pivot                    | 40) Blade guide wedge knob                    |
| 07) Coulissee                               | 41) Knob to fixing support of electric panel  |
| 08) Coulissee gib                           | 42) Bakelite disk                             |
| 09) Blade tightener knob                    | 43) Screw to fixing microswitch fork          |
| 10) Blade tightener bearing                 | 44) 1650 mm tempered saw blade                |
| 11) Blade tightener spring                  | 45) Screw to fixing portioning device support |
| 12) Aluminum blade guide ring nut           | 46) Screw to fixing anti-dust washer          |
| 13) Blade guide wedge                       | 47) Screw to fixing meat pusher handle        |
| 14) Meat pusher joint                       | 48) Screw to fixing ferrule                   |
| 15) Stainless steel meat pusher             | 49) Screw to fixing microswitch               |
| 16) Nut to fixing meat pusher               | 50) Screw to fixing motor                     |
| 17) Screw to fixing meat pusher             | 51) Screw to fixing coulissee guard           |
| 18) Screw to fixing meat pusher joint       | 52) Screw to fixing coulissee gib             |
| 19) Meat pusher knob                        | 53) Flywheel setting screw                    |
| 20) Thrust bearing pivot                    | 54) Portioning device support knob            |
| 21) Portioning device support               | 55) Portioning device rod                     |
| 22) Portioning device                       | 56) Rubber support                            |
| 23) Flywheel pivot nut                      | 57) Brass bushing to fixing meat pusher       |
| 24) Upper flywheel bearing 6203 2RS         | 58) Ferrule screw                             |
| 25) Anti-dust washer                        | 59) Thrust bearing                            |
| 26) Blade-cleaning scraper                  | 60) Thrust bearing pivot nut                  |
| 27) Blade-cleaning scraper screw and washer | 61) Screw to fixing case motor cap            |
| 28) Motor                                   | 62) Support to fixing electric panel          |
| 29) Stainless steel working table           | 63) Screw to fixing electric panel            |
| 30) Motor support                           | 64) Screw to fixing hinge                     |
| 31) Motor support screw and washer          | 65) Lower flywheel screw                      |
| 32) Motor support thickness                 | 66) Lower flywheel washer                     |
| 33) Ferrule nut                             | 67) Screw to stop meat pusher                 |
| 34) Case motor cap                          | 68) Screw and washer to fixing working table  |

### **LIST OF ELECTRICAL PANEL SPARES** (see the view in the next page):

- A) Emergency pushbutton with electric contact
- B) Start/Stop/Pilot light pushbutton with electric contacts
- C) Plastic box
- D) Electronic card
- E) Fuse(s) support
- F) Fuse(s)

## ELECTRICAL PANEL EXPLODED VIEW





## STORAGE

In order to preserve the switched off machine for a very long period and apart from disconnecting it from the power network through (“male”) plug disconnection from the (“female”) feeding plug, the following rules must be abided by:

- do not lay on the machine any other object of any nature, dimension and weight;
- make sure that the place of storage is dry, not humid, dust-free, clean and free from insects or other animals and protected against bad weather conditions or other agents (for example, atmospheric agents, drops of water or other liquids, pollution) which might damage it; the place must not be subject to considerable temperature ranges;
- in any case, abide by the data of the machine technical specification indicated in the first pages of this operating handbook;
- if the original packing is still available, put the machine into it or cover it with a piece of cloth of nylon or cellophane or polyethylene or other material of suitable size and -if possible- stuff it to avoid it being damaged due to fortuitous falls or damaged by other materials which might enter into contact with it.

## DISPOSAL



It is also forbidden to leave and/or scatter the machine and/or any of its parts in the environment and it is also forbidden to dispose it in the container for solid urban waste, as is shown by the WEEE symbol, on your left.

If the machine is no longer used, deliver it to qualified disposal facilities or authorized dealers..

## NOTES FOR THE STAFF OF THE DISPOSAL FACILITIES

During the disassembly operations do not stand neither under nor over the machine because all the disassembly can be performed without making the aforementioned dangerous operations, but remaining next to the machine.

Before dismantling any part and / or disconnect and / or loosen any connecting element, ensure that no piece can fall on someone.

Remember that it is also mandatory to use of PPE normally provided for wreckage.

Never perform the above disassembly alone but always be assisted by someone who can help and / or assist in case of error or accident.

The collection and separation of various types of materials (metals, plastics, electric cables, glasses, etc.) is the professional relevance of the wreckage and is not covered by this user manual..



## LIST OF INTERVENTIONS PERFORMED

### NUMBER, DATE, REASON OF INTERVENTION

N.1) data: \_ \_ \_ \_ \_

N.2) data: \_ \_ \_ \_ \_

N.3) data: \_ \_ \_ \_ \_

N.4) data: \_ \_ \_ \_ \_

N.5) data: \_ \_ \_ \_ \_

N.6) data: \_ \_ \_ \_ \_

N.7) data: \_ \_ \_ \_ \_





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## NUMBER, DATE, REASON OF INTERVENTION

**N.8) data:** \_ \_ \_ \_ \_

**N.9) data:** \_ \_ \_ \_ \_

**N.10) data:** \_ \_ \_ \_ \_

**N.11) data:** \_ \_ \_ \_ \_

**N.12) data:** \_ \_ \_ \_ \_

**N.13) data:** \_ \_ \_ \_ \_

**N.14) data:** \_ \_ \_ \_ \_



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## NUMBER, DATE, REASON OF INTERVENTION

**N.15) data:** \_ \_ \_ \_ \_

**N.16) data:** \_ \_ \_ \_ \_

**N.17) data:** \_ \_ \_ \_ \_

**N.18) data:** \_ \_ \_ \_ \_

**N.19) data:** \_ \_ \_ \_ \_

**N.20) data:** \_ \_ \_ \_ \_

**N.21) data:** \_ \_ \_ \_ \_

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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## ELECTRICAL LAYOUTS

**NOTE 1:** for the sole purpose of increasing the margin of safety, all the fuses indicated in the wiring diagrams on the following pages can be replaced by fuses with lower intervention amperage, up to -10% max. that, however, intervening at lower current flows, can cause more frequent stops; fuses with higher amperage intervention should never be used.

**NOTE 2:** in each case it is necessary to adequately protect the line of the machine's electrical power supply (ie, the host of the building electrical system) with corresponding to the motor type circuit breaker according to differential installed, which will be chosen and edited electrical trusted by the installer.



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## **BONE BANDSAW 1650 THREE PHASES**





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## **BONE BANDSAW 1650 SINGLE PHASES**



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## **BONE BANDSAW 1650: ELECTRICAL COMPONENT LIST**



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