SOOT ABATEMENT SYSTEM
JUNIOR

INSTRUCTION MANUAL
(TRANSLATION OF THE ORIGINAL INSTRUCTIONS)



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1 FOREWORD

1.1 Use of the instructions

This instruction manual and all the attached documents are an integral part of the purchased machine, and provide useful instructions on how to operate it correctly.

IMPORTANT

USE OF THE INSTRUCTIONS

For your own safety and the safety of persons exposed to hazards during the life cycle of the machine, it is mandatory to refer to the instructions provided and always contact the manufacturer in the event of any doubt arising from the absence or difficult interpretation of these instructions, see **Chapter "Information for the user"**, section "Purpose of the instruction manual".

- This manual and all attached publications must always accompany the machine, of which they are an integral part, throughout the period of operation.
- Keep this manual and all the attached publications in an accessible place known to all users (operators and maintenance personnel).
- The "original instructions" are written in ITALIAN. Any different language is a "translation of the original instructions," in accordance with European Directive 2006/42/EC.
- The information contained in this manual is the property of the manufacturer.
- All reproduction rights of this manual are reserved to the manufacturer.
- Reproduction, even partial, without prior authorisation is prohibited.
- This manual may not be reproduced or disclosed to third parties without the written permission of the manufacturer**.**
- The manufacturer reserves the right to change the product characteristics and contents of this manual without prior notice.
- The descriptions and illustrations provided in this publication are not binding, see **Chapter "User Information", section "Illustrations"**.
- Before operating on the machine, read and understand the technical instructions contained in this publication and in the attached publications, carefully following the indications given.

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3 IDENTIFICATION

3.1 Purpose of the chapter

IMPORTANT

READ CAREFULLY THE CHAPTER
The chapter contains information on the identification of this publication, the manufacturer of the machine, the machine itself and its certification.

3.2 Identification of the instruction manual

Document:	**MUM_SMOKI JUNIOR ABBATTITORE DI FULIGGINE_0_it**
Edition:	**01/2023**
Revision:-	**0**
Date:	**09/01/2023**

3.3 Manufacturer identification

Name of the company:	**Smoki S.r.l.**
Address:	**Via Cella Raibano 16C** **47843 Misano Adriatico (RN)** **ITALIA**
Telephone:	**+39 0541 833748**
E-mail:	**info@smoki.it – commerciale@smoki.it**
Website:	**www.smoki.it**

3.4 Identification plate

The identification data of the machine can be found on the identification plate (**1**), the position of which is shown in the figure below.

CAUTION

STORAGE OF PLATE DATA

The identification data must always accompany any request for information, for spare parts or other.

- It is forbidden to remove the plate or replace it.
- In case of damage always contact the manufacturer.
- It is advisable to write down the plate data in order to preserve them for future references.



Ref.	DATA	Description
1	-	Identification plate.
2	COMPANY NAME	Manufacturer identification.
3	MARKING IDENTIFICATION	In this area of the plate, the logo relating to the type of certification issued is affixed.
4	MODEL	Identification of the machine model.
5	SERIAL NUMBER	Unique machine identification number.
6	YEAR	Year in which the manufacturing process was completed.

The remaining characteristics will be listed in the machine characteristics reference table.

3.5 EC Declaration of conformity

02

SMOKI s.r.l.

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SOOT ABATEMENT SYSTEM

"CE" CONFORMITY CERTIFICATE

SMOKI S.R.L. DECLARES, UNDER ITS OWN CIVIL AND PENAL RESPONSIBILITY, THAT THE MACHINE DESCRIBED BELOW:

BRAND	FUNCTION	MODEL	SINGLE-PHASE VOLTAGE	WEIGHT	SERIAL NUMBER	CONSTRUCTION YEAR
SMOKI sd	SOOT ABATEMENT SYSTEM	SMOKI JUNIOR	220 V Single-phase 4,4A 0,67kw 50-60 Hz	72 Kg.	.....	.....

COMPLIES WITH
THE DESIGN AND CONSTRUCTION REQUIREMENTS OF
THE
FOLLOWING DIRECTIVES:

EEC Directives	EEC References	Italian Laws	Main Reference Laws
Machine Safety Directive and subsequent amendments	2006/42/CE	D.L. n.17 del 27/01/10	UNI EN ISO 12100-1 UNI EN ISO 12100-2 UNI EN ISO 11202
Low Voltage Directive and subsequent amendments	2014/35/CE	D.L.85 del 19/05/2016	CEI EN 61000-6-3 CEI EN 61000-6-1
Electromagnetic Compatibility Directive and subsequent amendments	2014/30/CE	D.L.80 del 18/05/2016	EN 60335-1:2013 EN 60335-2-6:2015

Legal Representative of the Company
and person allowed to make
up the technical file
Marco Pirani

Misano Adriatico (RN), (date)

S.Junior.Ssd 18/10/2016

4 INFORMATION FOR THE USER

4.1 Purpose of the instruction manual

In accordance with paragraph 1.7.4 of the European Directive 2006/42/EC, this manual provides important instructions for the safety and correct handling of the machine.

IMPORTANT

READ THE CONTENTS AND ENSURE YOU UNDERSTAND THEM

In this manual, SMOKI s.r.l. provides the technical elements for correct use of its systems, indicating any possible risks.

This manual examines the most general cases. For particular information and better

understanding of the directives described here, we recommend that you contact our technical personnel.

The manual contains a complete description of the main parts, explaining how they work through diagrams, and recommendations for their maintenance.

Particular attention is given to safety, and all related aspects, in order to enable the operator to work with the maximum tranquillity.

IMPORTANT

READ THE CONTENTS AND ENSURE YOU UNDERSTAND THEM

This instruction manual is indispensable and necessary to train and inform the personnel assigned to operate the machine. Due to the specificity of the machine's use, the instructions have been written for professional operators, thus taking into account the level of general training and insight that can reasonably be expected from these operators.

- Although the manual provides information on how to operate properly the machine and on the residual risks of the operations, it does not replace the experience of "expert personnel", who are considered to be trained and informed for their tasks and familiar with the associated safety and operating procedures.
- For the selection of suitable personnel, see **Chapter "Security", section "Qualification of personnel"**.
- Carefully read and understand this manual in all its parts before operating on the machine.
- Only follow the instructions provided and always contact the manufacturer if in doubt.
- Do not perform operations for which no information has been provided by the manufacturer.
- Do not perform operations where the instructions provided by the manufacturer are difficult to interpret.
- Do not perform operations in a different way than described in this manual.
- Do not perform operations that are explicitly forbidden in this manual.
- Should any operating conditions occur that are not expected or not described within the instruction manual, contact the manufacturer immediately.
- The manufacturer accepts no liability for non-compliance with this manual.

4.1.1 Receipt and storage of instructions

The customer and/or employer is responsible for training and informing the personnel assigned to work on the machine and must pass on the information in the instruction manual to the end users.

It is mandatory to keep all instructions (instruction manual and accompanying documentation) in a safe place, accessible and known to all users for future reference. Such documentation must always accompany the machine even if it is transferred to a third party.

The manufacturer reserves the right to provide a copy of the instructions in electronic format.

4.1.2 Request for further copies and/or updates

Further copies of the instructions, in addition to those contractually agreed upon at the time of sale, must be requested with a regular purchase order.

Manual updates, where necessary, must be requested from the manufacturer who will evaluate the manual revision methods. The update must be requested with a regular purchase order and all old copies in the customer's possession must be destroyed and replaced, notifying the manufacturer.

Requests for specific notes on the manual as well as requests for interpretative notes and clarifications of the manual must be agreed with the manufacturer.

4.2 Consultation instructions

Warnings involving personal safety and proper use of machinery are represented in the following style:

“TYPE”
DESCRIPTION Consequence • Action to take. • ...

The word 'TYPE' can take on the following meanings:

HAZARD
Indicates an imminently dangerous situation which, if not avoided, could result in death or serious injury.

WARNING
Indicates a potentially dangerous situation which, if not avoided, could result in death or serious injury.

CAUTION
Indicates a potentially dangerous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT
Indicates an obligation for special behaviour or activities for the safe operation of the machine, or possible misuse of the machine.

Particularly useful tips and information are represented in the following style:

NOTE: useful information.

4.3 Glossary

4.3.1 Glossary of safety terms

In accordance with the EU Machinery Directive (Directive 2006/42/EC), the following definitions (Annex I, paragraph 1.1.1.) are given, which are used within the instruction manual.

HAZARD
A potential source of injury or damage to health.

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

EXPOSED PERSON
Any person wholly or partially in a danger zone.

OPERATOR
The person or persons with the task of installing, operating, adjusting, cleaning, repairing and transporting a machine, or carrying out its maintenance.

RISK
Combination of the probability and severity of an injury or damage to health arising in a hazardous situation.

GUARD
A part of the machinery used specifically to provide protection by means of a physical barrier.

PROTECTIVE DEVICE
A device (other than a guard) which reduces the risk, either alone or in conjunction with a guard.

INTENDED USE
The use of machinery in accordance with the information provided in the instructions for use;

REASONABLY FORESEEABLE MISUSE
The use of machinery in a way not intended in the instructions for use, but which may result from readily predictable human behaviour.

In accordance with the current European Directives on the safety and health of workers in the workplace, the following definitions used within the instruction manual are provided.

PERSONAL PROTECTIVE EQUIPMENT (PPE)
Personal protective equipment (PPE) means any equipment intended to be worn and held by the worker for the purpose of protecting him against one or more risks likely to threaten safety or health at work, as well as any complement or accessory intended for that purpose. The following are not personal protective equipment:

- Ordinary work clothes and uniforms not specifically intended to protect the safety and health of the worker;
- The equipment of the emergency and rescue services;
- The personal protective equipment of the armed forces, police forces and service personnel for maintaining public order;
- The personal protective equipment specific to road transport vehicles;
- Sports materials;
- Materials for self-defence or deterrence;
- Portable devices for detecting and reporting hazards and harmful factors.

WORKER
A person employed by an employer, excluding domestic and family service workers, in an employment relationship, including a special employment relationship.
Members of cooperatives or societies, including de facto ones, who work on behalf of such companies and bodies, and users of school, university and vocational guidance or training services with employers in order to facilitate or perfect their career choices are treated as workers.

Students at educational and university establishments and participants in vocational training courses in which laboratories, machines, apparatus and work equipment in general, and chemical, physical and biological agents are used, are also treated in the same way. The persons referred to in the preceding sentence shall not be counted for the purposes of determining the number of workers from whom particular obligations are imposed by this decree.

EMPLOYER
The person who holds the employment relationship with the worker or, in any case, the person who, according to the type and organisation of the undertaking, has responsibility for the undertaking itself or the production unit as the holder of decision-making and spending powers.

INTERLOCKING DEVICE (INTERLOCK)
Mechanical, electrical or other device, the purpose of which is to prevent elements of a machine from operating under specified conditions (generally until the guard is closed).

INTERLOCKING GUARD

A guard associated with an interlocking device, so that:

- The hazardous functions of the machine 'affected' by the guard cannot be performed until the guard has been closed;
- If the guard is opened while the machine is performing hazardous functions, a stop command is given;
- Closing the guard allows the execution of the hazardous functions of the machine 'affected' by the guard, but does not command its start-up.

INTERLOCKED GUARD WITH GUARD LOCK

A guard associated with an interlocking device and a guard locking device, so that:

- The hazardous functions of the machine 'affected' by the guard cannot be performed until the guard has been closed and locked;
- The guard remains closed and locked until the danger of injury from the hazardous functions of the machine has stopped;
- Closing and locking the guard allows the execution of the hazardous functions of the machine 'affected' by the guard, but does not control its start-up.

GUARD LOCKING DEVICE

Device designed to lock a guard in the closed position and connected to the control system so that:

- The machine cannot operate until the guard has been closed and locked;
- The guard remains locked until the risk has stopped.

4.4 Illustrations

The illustrations in the manual may show the structure or parts of the machine in different colours to the one in your possession. Differences in colour do not invalidate the correctness of the information provided, with the exception of colours strictly related to the safety of exposed persons and the machine.

If used to exemplify certain machine functions, the illustrations in the manual may differ from the machine in your possession or may not be complete. If necessary, as a supplement to the instructions in the manual, it is advisable to consult the specific drawing to be requested from the manufacturer (e.g. installation layout, assembly layout, etc.) of the component or group of components on which work needs to be carried out.

HAZARD

VARIOUS RISKS ARISING FROM IMPROPER USE OF THE MACHINE.

For the sake of clarity, some illustrations may show the machine with guards and/or protective measures removed.

- It is FORBIDDEN to use the machine with guards and/or protective measures removed and/or disabled.

4.5 Warranty

The manufacturer guarantees its machine and equipment against defects and/or faults in material and/or workmanship up to a contractually agreed period, and in any case in accordance with the applicable legal warranty provisions. Any disputes shall be settled exclusively by the contractually agreed court of law.

IMPORTANT

TERMS OF THE WARRANTY

The warranty will only be valid if the assembly is carried out by the manufacturer's specialist staff. The following operations will also be a sufficient condition for the forfeiture of the aforementioned warranty.

1) The manufacturer guarantees its systems for the legally required period of 12 (twelve) months from the date of purchase shown on the invoice issued by the seller.
2) The warranty covers all parts of the machine except the electric parts.
Damages caused by careless shipment or handling of the product, negligence or inability to use the system,
improper or erroneous installation and maintenance, inadequacy of the electrical system to which the equipment is connected, tampering by unauthorized or unskilled personnel and any other cause independent of the manufacturer are not covered by the warranty.
3) During the warranty period, the manufacturer agrees, through the retailer who sold the machine and in accordance with the terms of the previous paragraph, to replace or repair free of charge any parts that should exhibit malfunctions due to flaws in the original materials or assembly. For repairs made on the premises, the user shall pay a service charge at the current rates. If the installation or part is repaired in the factory, the shipping costs are for the account of the user. Any repair made during the warranty period does not extend the warranty.
4) In order to qualify for repairs under the warranty, the user must exhibit, at the request of our representative, the invoice confirming the date of purchase of the appliance.
5) The manufacturer is not liable for any damages other than replacement of defective parts, and will not accept any charges for direct or indirect damages caused to persons or property by defective operation of the system or its parts, or caused after the expiration of the warranty.
6) The manufacturer recognizes only the terms of the warranty as outlined in this certificate. No one is authorized to modify or release others, whether written or verbal.

HAZARD

MODIFICATION OPERATIONS

The manufacturer accepts no liability in the event of injury due to disassembly, tampering (modification) or exclusion of guards and/or safety devices, or in the event of injury due to operations carried out by personnel with less specific training than defined in the instruction manual.

- Maintain the machine in efficiency according to the original design and as described in this instruction manual.
- Only employ personnel suitable for the tasks to be performed.

HAZARD

COMPONENT REPLACEMENT

Unauthorized tampering/replacement of one or more parts of the components of the machine, and the use of accessories, tools, consumables other than those recommended by the manufacturer, can create an accident hazard and relieve the manufacturer of civil liability and penalties.

- Use only original spare parts.

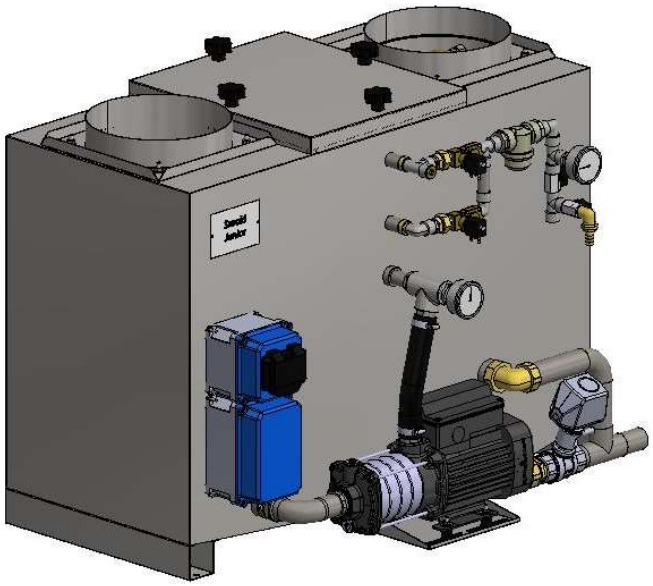
IMPORTANT

The above points are taken from the ***general conditions of sale*** attached to the sales contract; the latter are absolutely authentic and it is therefore necessary to refer to them for other considerations not reported in this section.

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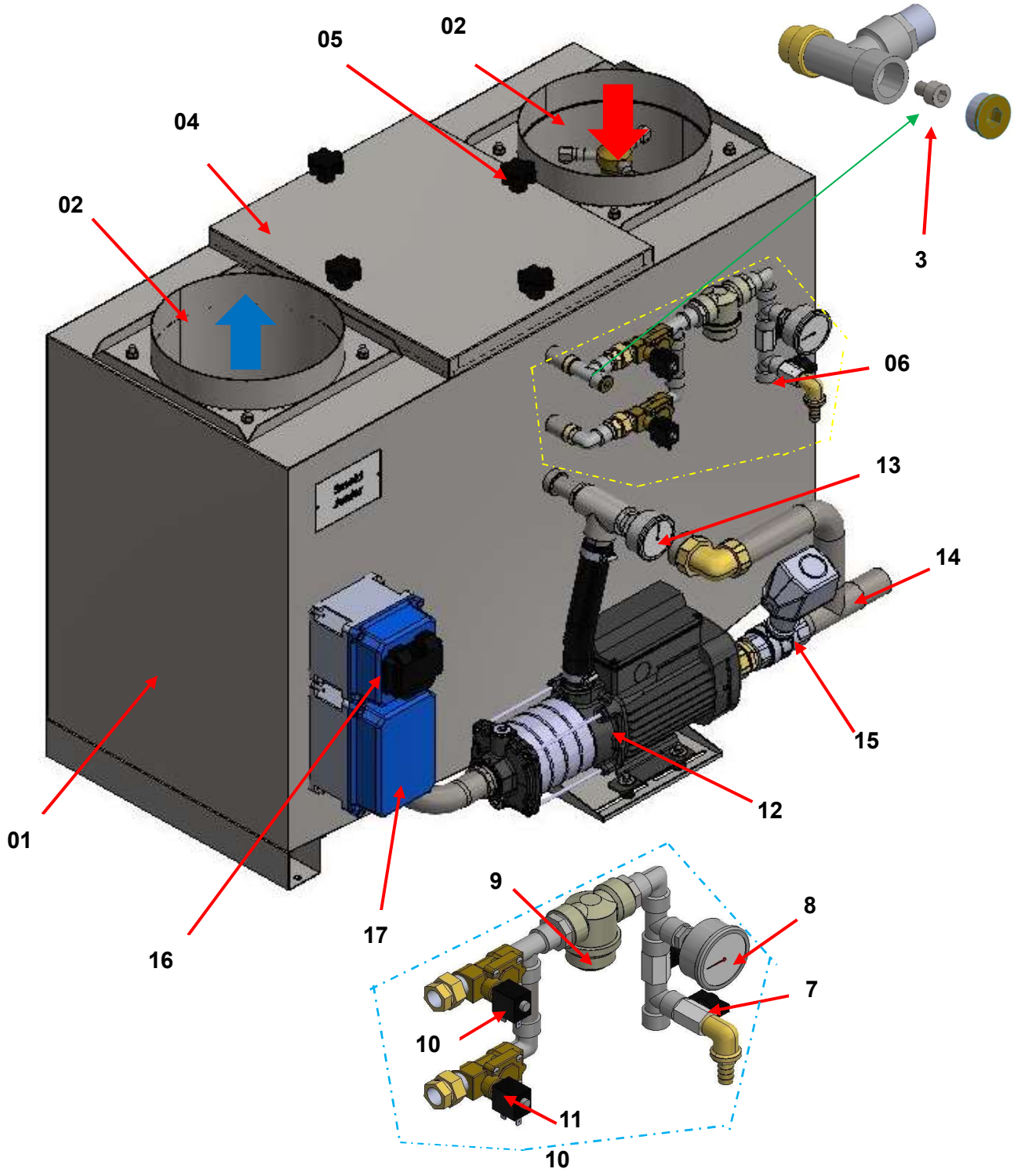
5 DESCRIPTION AND TECHNICAL DATA

5.1 General description of the system



The function of **"JUNIOR"** equipment is exclusively that of soot abatement in smoke.
It serves to filter the exhaust fumes (smoke) from wood ovens such as those used in pizzerias, restaurants, diners, etc.
The "JUNIOR" system, combined at any point with the smokestack of a wood oven, provides an effective natural filter against air pollution.
In this connection, the **"JUNIOR"** equipment is designed and made using **carefully selected materials to ensure long life**.
The "**JUNIOR**" system uses water as a natural filter; **any other use** than as indicated in this manual is **strictly prohibited**.
Soot abatement is achieved by having the exhaust smoke pass through a sheet of water generated by a spray unit inside the "**JUNIOR**" machine, which reduces the particles contained in the smoke, purifying it of residues and cooling it.
The exhaust smoke is conveyed into a cylinder inside the machine, equipped with 9/12 conical nozzles depending on the model. These spray the water and filter the smoke as it passes, so that the filtered particles fall into the recycle tank and are discharged with the drain water. The exhaust fumes, purified and cooled, are sent into the atmosphere.
The filtration process achieves an abatement level of approximately: 60-70% of the colour of the smoke and 40-50% of the odour.
The electric starter consists of an automatic switch (max 10 amp) located near the oven or on the power panel. The machine is also equipped with a circuit breaker (ON/OFF switch) and a max level indicator, inside an electric box with a transparent door.
All systems of protection and safety as well as all electrical parts comply with the standards in force.

5.1.1 Main external components



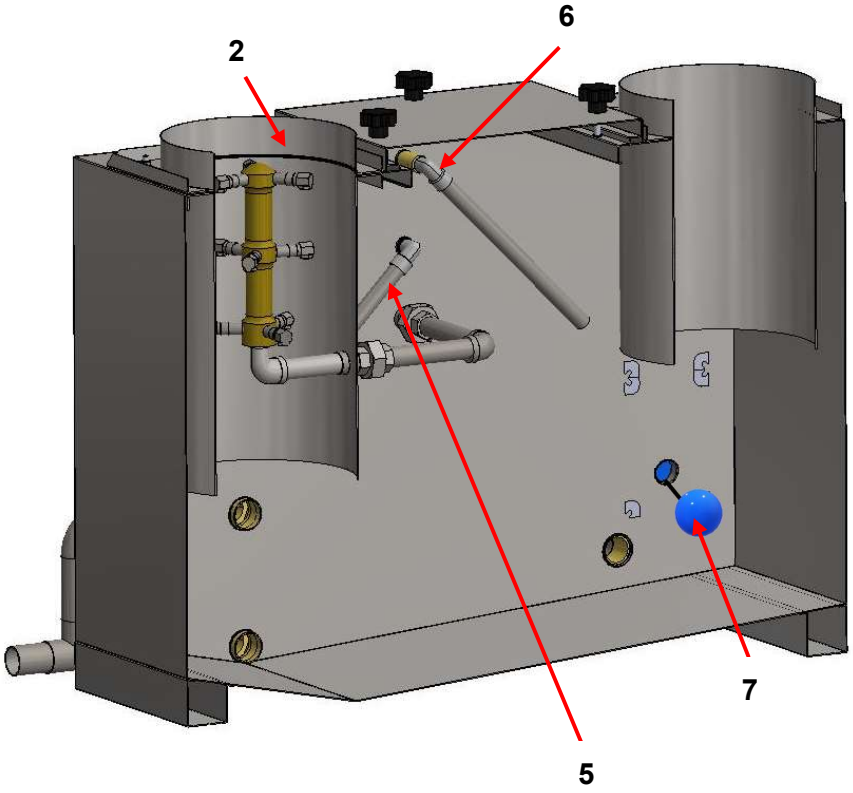
NAME OF PART:

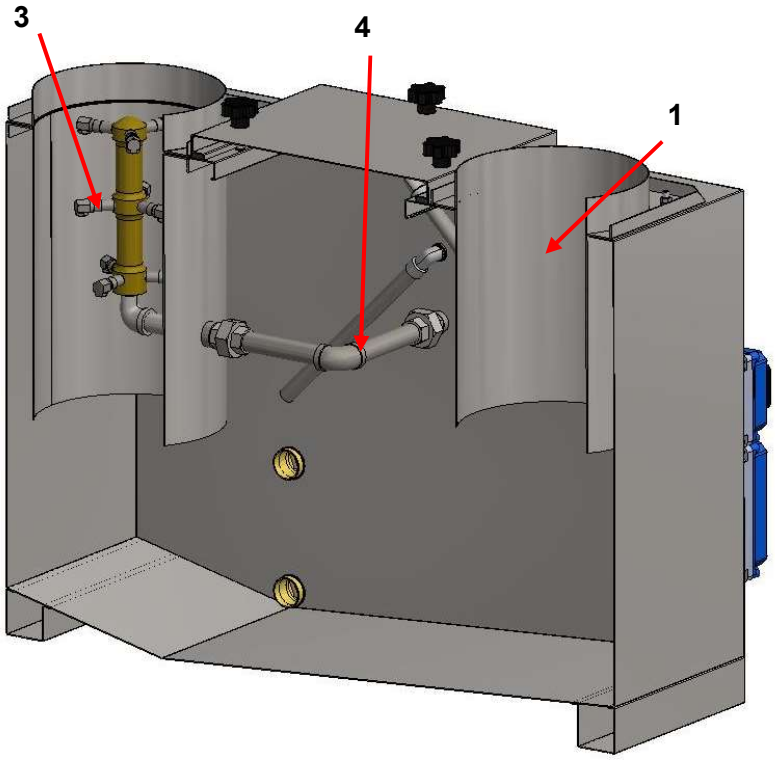
1. **MACHINE BODY**
2. **SMOKESTACK CONNECTION** ***(THE SMOKE INLET AND OUTLET CAN BE REVERSED, ACCORDING TO THE CUSTOMER'S CHOICE)***
3. **MAINTENANCE NOZZLE**
4. **MACHINE COVER**
5. **COVER FASTENING KNOBS**
6. **TAP "A" FOR PERMANENT WATER CONNECTION**
7. **AUXILIARY TAP "B"**
8. **WATER PRESSURE GAUGE**
9. **WATER CONNECTION FILTER**
10. **LEVEL MAINTENANCE SOLENOID**
11. **RAPID FILLING SOLENOID**
12. **PUMP**
13. **PUMP PRESSURE GAUGE**
14. **SEWER DISCHARGE**
15. **ELECTRICAL WATER DRAIN VALVE/MANUAL WATER DRAIN LEVER**
16. **POWER PANEL WITH CIRCUIT BREAKER AND MAX LEVEL INDICATOR**
17. **WATERTIGHT LEVEL GAUGE BOX**

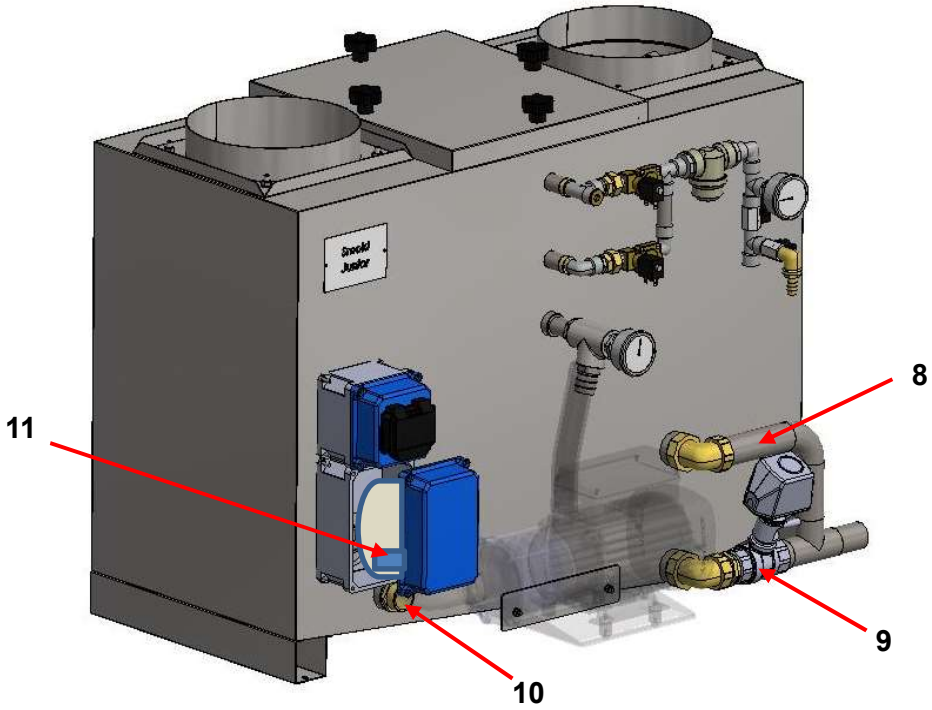
IMPORTANT

Depending on the client's needs, the cylinders ("**OUT**" and "**IN**") can be reversed only if explicitly requested at the time of the order!

5.1.2 Main internal components







NAME OF PART:

1. **SMOKE EXPULSION "OUT" CYLINDER**
2. **SMOKE INTAKE "IN" CYLINDER**
3. **SET OF SPRAY NOZZLES**
4. **INTERNAL "L" CONNECTION PIPE, BETWEEN PUMP AND SPRAY NOZZLES SET**
5. **COUPLING TO SOLENOID (RAPID FILLING)**
6. **COUPLING TO MAINTENANCE SOLENOID**
7. **FLOAT**
8. **WATER DRAIN OVERFLOW**
9. **WATER DRAIN GATE**
10. **INTAKE PUMP**
11. **LEVEL METER**

IMPORTANT

Depending on the client's needs, the cylinders ("**OUT**" and "**IN**") can be reversed only if explicitly requested at the time of the order!

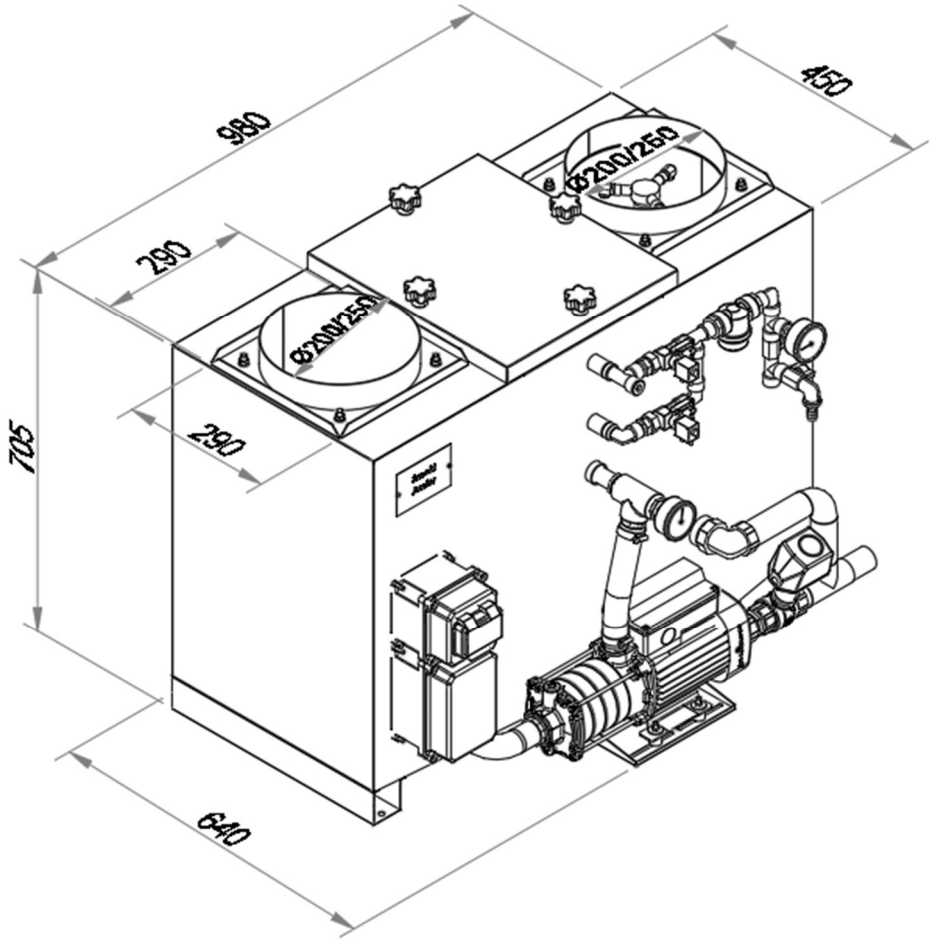
5.1.3 General characteristics

GENERAL CHARACTERISTICS
POWER SUPPLY .....220V AC 50-60HZ WEIGHT .....72Kg (empty) TOTAL INSTALLED POWER ..... 670w MACHINE DEPTH ..... 640mm WIDTH .....980 mm. HEIGHT ..... 705 mm. NOISE LEVEL ..... 25-30dB WATER TANK CAPACITY..... 70 litres WATER CONSUMPTION ..... 40 litres/h (2 bar) AIR FLOW RATE.....250m³/h

Data	Value	Unit
APPLICATION	The machine is designed for installation either inside closed places (like restaurants, pizzerias, etc.) or outside, connected in both cased to a fume discharge system (smokestack). Installation in cold, damp places is possible.	-
WORKING TEMPERATURE	10 ÷ 50	°C
WEATHER	The machine is protected against the weather (rain, snow and hail) by the outdoor insulation (NOT INCLUDED IN THE MACHINE PURCHASE). However an extreme reduction of the atmospheric temperature (below -10 °C) or the formation of ice may damage the machine and interfere with its proper operation.	
RUNNING TIME	CONTINUOUS	-

5.1.4 Dimensions

The overall dimensions of the machine are shown below.



NOTE: *Measurements are in mm.*

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6 SAFETY

6.1 Purpose of the chapter

IMPORTANT

READ CAREFULLY THE CHAPTER

The chapter contains safety information about the machine. Knowledge and understanding of the contents of the chapter is a prerequisite for reading all chapters of the manual, which is why it is mandatory that the personnel in charge of operating the machine are trained and instructed in all the information in this chapter.

- Read and understand the contents.

6.2 Intended use

Intended use means the use of the machine in accordance with the information given in the operating instructions.

6.3 Reasonably foreseeable misuse

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

HAZARD

VARIOUS RISKS ARISING FROM IMPROPER USE OF THE MACHINE.
Misuse of the machine is extremely dangerous. The manufacturer accepts no liability for any damage to persons or property resulting from use other than intended.

- Use the machine in accordance with its intended use and the instructions provided.

The experience of the manufacturer allows to report in advance the following cases of incorrect use for which it is not possible to use the machine:

A) INSTALLATION
It is considered misuse:

- Install the machine in environments where an explosive atmosphere remains or is likely to form during normal operation for short or long periods (classification according to 1999/92/EC ATEX Directive).
- Install the machine outdoors or in environments whose characteristics do not comply with the environmental technical data contained in the instructions.
- Install the machine without respecting the instructions provided by the manufacturer.

B) USE
It is considered misuse:

- Use by operators who have not been previously trained and informed about all risks and the residual risks of the machine as well as trained on safety.
- Not to use personal protective equipment (PPE) as required in the instructions and by the regulations in force in the country of use.
- To temporarily remove or circumvent the protective measures.
- To deliberately lock oneself inside the protective devices.
- To use the machine even when it shows signs of failure or is partially damaged.
- To use the machine not observing the technical data relating to the work limits (materials, speeds, etc.).
- If machine is being activated, by the only operator assigned to use it, without checking before acting on the controls, that there are no people exposed in the danger zones of the machine.

C) TRAINING AND INFORMING PEOPLE
It is considered misuse:

- Operate on the machine without having read and understood the instructions supplied by the manufacturer.
- Carry out operations for which no information has been provided by the manufacturer.
- Perform operations where the instructions provided by the manufacturer are difficult to interpret.
- Perform operations in a different way than described in the instructions.
- Perform operations explicitly prohibited in the instructions.

D) MODIFICATIONS
It is considered misuse:

- Make modifications of any kind that vary the intended use of the machine.

6.4 General safety rules

Listed below are a series of general rules for the correct use of the machine to be integrated with specific information on the operations that must be undertaken for its use and maintenance.

6.4.1 Safety rules for the client and/or employer

IMPORTANT

OBLIGATIONS OF THE EMPLOYER

When making the machine available to the personnel responsible for use and maintenance, it is the obligation of the customer and/or employer to comply with the provisions of the European Directives on health and safety in the workplace and in any case with the regulations of the State where the machine is installed and put into service. These obligations are beyond the responsibility of the manufacturer. Special attention should be paid to the following obligations in particular.

- It is mandatory to carry out a risk assessment of the machine in relation to the characteristics of the installation environment and the characteristics of the working methods of the user company. Assess and understand every risk, as well as the residual risks indicated in the manual, and adopt appropriate technical, organizational and procedural measures to inform and train staff who are appointed to use and maintain the machine.
- It is mandatory to select personnel and provide for their education and training. The personnel chosen must be made up of people who have reached the minimum age for admission to work, and are in adequate psycho-physical conditions for the duties to be performed.
- It is mandatory to choose the personal protective equipment (PPE) suitable for the tasks to be performed and to equip the staff with them (if necessary).

6.4.2 Safety rules for ordinary people

IMPORTANT

INFORMATION AND SURVEILLANCE OBLIGATIONS

Ordinary people (untrained and uninstructed) cannot operate the machine and can only approach if duly informed.

- It is mandatory for the customer and/or employer to inform of the risks of the machine and supervise ordinary people who pass near it.
- It is forbidden for ordinary people to operate the machine.

6.4.3 Safety rules for the operator

IMPORTANT

OBLIGATIONS FOR THE OPERATOR

The operator actively participates in maintaining a high level of machine safety over time. Please consider the following aspects regarding your own responsibility for use.

- Operate on the machine only with the prior authorisation of the employer.
- Know and use this manual correctly.
- Before operating on the machine, you must undergo training, carried out by the manufacturer or your employer, and comply with the instructions in the instruction manual, respecting the provisions of the operating and safety procedures.
- Respect the warnings posted near dangerous areas.
- Use personal protective equipment (PPE).
- The clothing of those who work on the machine must comply with the essential safety requirements in force in their country, as indicated in the specific directives.
- Make sure that the work area and the machine are free from production residues and objects not necessary for its use.
- Check the efficiency of all guards, alarm devices and protective devices daily and before use; do not operate in the event of malfunctions and restore correct operation before using the machine.
- Do not operate if the guards and/or protective devices have been removed.
- Do not circumvent or voluntarily tamper with guards and protective devices.
- Preserve the characteristics of the machine by absolutely avoiding carrying out modifications that alter its functioning.
- Do not use the machine in the presence of operating anomalies or when fault conditions occur.

HAZARD

VARIOUS RISKS ARISING FROM IMPROPER USE OF THE MACHINE.
The work area must never be occupied, so that nothing can interfere with the operator's freedom of movement.

- In the event of an emergency, immediate access to the machine by the assigned personnel must be guaranteed.
- Access to this area is forbidden to people who are not directly involved in the operation of the machine so as to avoid dangers due to carelessness or negligence during the performance of a task.
- The operator is therefore recommended to keep the work area free of any equipment at all times and to prohibit access to unauthorised persons in order to achieve ideal safety conditions for working on the machine.

6.5 Protective measures adopted

The paragraph contains information on the protection measures adopted to eliminate or reduce the risks present on the machine.

When the adoption of a protective measure does not completely eliminate a risk, but the same remains in a reduced form, this is described in this manual in the form of a residual risk.

HAZARD

VARIOUS RISKS ARISING FROM IMPROPER USE OF THE PROTECTIVE MEASURES
The protective measures adopted must be checked and kept intact throughout the life of the machine.

- Carry out the periodic checks described in the manual.
- It is forbidden to remove or circumvent, even temporarily, the protective measures (e.g. guards, photocell barriers, etc.).

6.5.1 Time limits

The machine is intended for an operational life of 20 years. The command and control circuits having safety functions have been created considering this limit.

6.5.2 Checks of the protective measures

Ref.	MEASURE	CHECK PROCEDURE	FREQUENCY
B	Fixed and/or mobile guards	• Check for loss or damage to any part of the guard, especially if this causes a decrease in the safety functions (e.g. reduction in impact resistance, scratches on glass, etc.) • Replace the parts subject to wear, checking in particular the deterioration of the joints or fixing points. • Check for deterioration due to corrosion, temperature changes or chemical effects. • Check that there are no changes to the safety distances and opening dimensions	MONTHLY
N	Direct / indirect contacts	• Check that the protective sheath of the electric cables is present and intact in all its parts. • Check the intervention times of the power supply protection device (residual-current device). • Check, if present, the state of efficiency of the system against atmospheric discharges.	YEARLY

6.6 Information and warnings on the machine

In compliance with paragraph 1.7.1 of the European Directive 2006/42/EC, the information and warnings described below are supplied on the machine.

IMPORTANT

OBLIGATIONS FOR THE OPERATOR

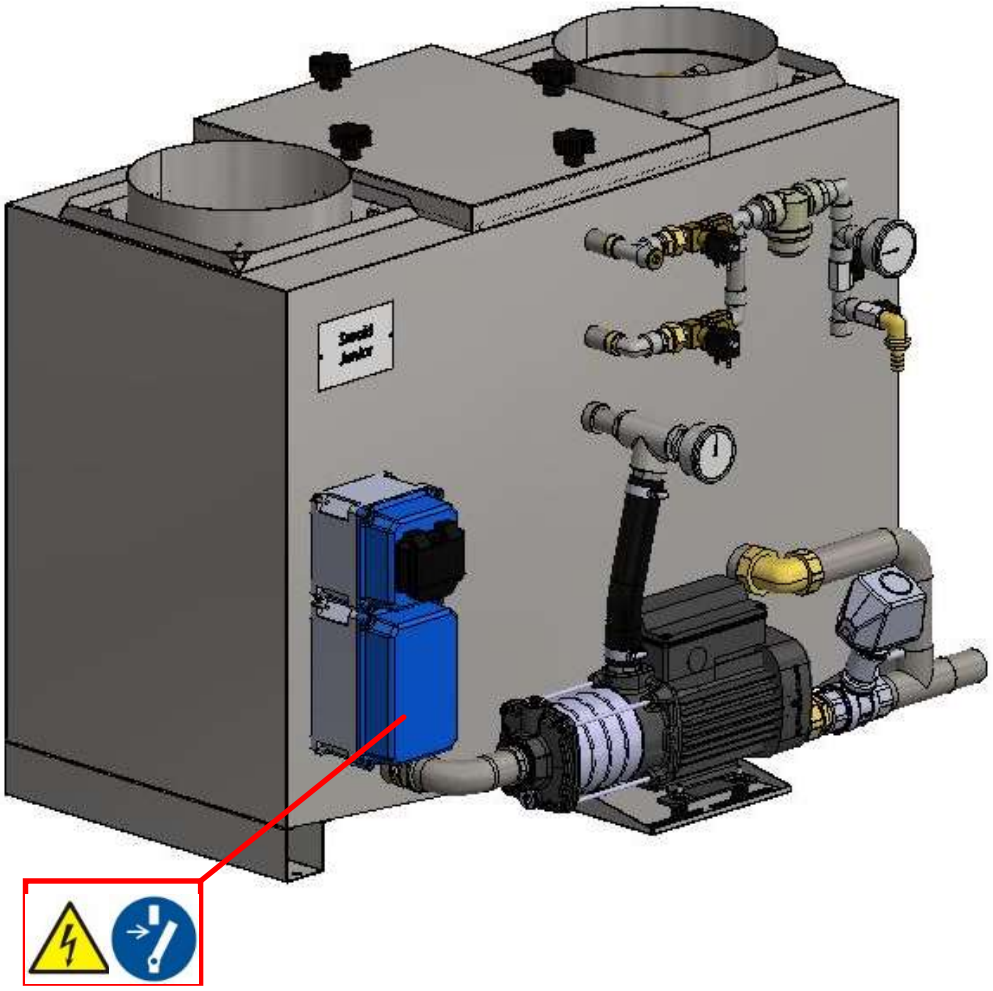
Failure to comply with any requirement, due to deterioration, loss or failure to consult a safety sticker, can cause serious accidents.

- It is mandatory to know and respect the information and warnings on the machine in accordance with the meaning and actions described in this instruction manual.
- The information and warnings on the machine must be kept intact throughout the life of the machine; in this regard, specific verification instructions are given in the following paragraphs.
- The Manufacturer declines all responsibility deriving from failure to comply with the instructions indicated on the machine and in the supplied manuals.

6.6.1 Summary table of notices and warnings

PICTOGRAM	INDICATIONS / WARNINGS
 Electrical hazards	Keep a safe distance to avoid dangers deriving from direct or indirect contact with live parts or equipment. Comply with the safety provisions and use the appropriate personal protective equipment (PPE) (protective gloves against electrical risks).
 Disconnection obligation	Positioned on the electrical panel, it indicates the obligation to disconnect the energy supply sources before carrying out maintenance operations or operations for which the isolation of the energy supply sources is foreseen.

6.6.2 Layout of the information and warning signs



6.7 Protective measures to be taken by the user

6.7.1 Type of personal protective equipment (PPE)

Symbol	Description	Technical standard
	**Whole body protection** (1, 2, 3, 4, 5 6, 7) Always wear protective clothing suitable for the job to be performed. The column to the side shows the reference standards based on the required protection requirements.	1) UNI EN ISO13688 Protective clothing general requirements 2) UNI EN ISO 342 Clothing for protection against the cold 3) UNI EN ISO 11612 Protective clothing against heat and flames 4) UNI EN 943-1-2 Protective clothing against chemicals 5) UNI EN 13034 Protective clothing against liquid chemicals 6) UNI EN 1149 Protective clothing – electrostatic properties 7) IEC EN 61482-1-2 Clothing against the thermal effect of the electric arc
	**Head protection** Always wear a protective hard hat (or helmet) when lifting and positioning the machine and in all cases where there is a risk of objects falling from above.	UNI EN 397 Protective hard hats for industry
	**Hand protection** (1, 2, 3) Always wear protective gloves if operations that expose you to various risk factors are necessary. The column to the side shows the reference standards based on the required protection requirements.	1) UNI EN 374 Protective gloves against chemicals 2) UNI EN 388 Protective gloves against mechanical and electrostatic risks 3) UNI EN 407 Protective gloves against thermal risks

	**Eye protection** Always wear if operations where there is a danger of projection of materials or exposure to splashes are necessary.	UNI EN 166 Personal eye protection - Specifications
	**Hearing protection** (1, 2) Wear personal hearing protection devices in accordance with the noise risk assessment of your work environment and with the regulatory provisions in force in your country. The column to the side shows the reference standards based on the required protection requirements.	1) UNI EN 352-1 Ear-muffs 2) UNI EN 352-2 Hearing protectors
	**Feet protection** (1, 2, 3) Always wear footwear for protection against accidents. The column to the side shows the reference standards based on the required protection requirements.	1) UNI EN ISO 20345 Safety footwear 2) UNI EN ISO 20346 Protective footwear 3) UNI EN ISO 20347 Work footwear
	**Respiratory protection** (1, 2, 3, 4) Always wear respiratory protection masks if it is necessary to clean the machine with solvents or chemical products. The column to the side shows the reference standards based on the required protection requirements.	1) UNI EN 149 Dust filtering half masks 2) UNI EN 405 Gas and particles filtering half masks 3) UNI EN 143 Particle filters 4) UNI EN 14387 Gas filters and combined filters
	Protection against falls from height (1, 2, 3, 4, 5, 6, 7, 8)	1) UNI EN 353-1-2 Guided type fall arresters

	Always wear safety belt and harnesses if work at height is required. The column to the side shows the reference standards based on the required protection requirements.	2) UNI EN 354 Lanyards 3) UNI EN 355 Energy absorbers 4) UNI EN 360 Retractable type fall arresters 5) UNI EN 361 Body harnesses 6) UNI EN 363 Fall arrest systems 7) UNI EN 795 Anchoring devices

6.7.2 Use of PPE

Phase	Task	Risk scenario	Measure (PPE)	Person
1. Transport	Packing/unpacking	Packing and unpacking operations that require the use of tools	Hand protection (mechanical risks)	TS
	Handling and transportation	Work near parts of the machine that have sharp edges or abrasive surfaces	Hand protection (mechanical risks)	TS
		Passing or standing near a suspended load	Head protection	TS
2. Assembly Installation and commissioning	Assembly	Work near suspended loads.	Head protection	TS MA
		Operate in the areas intended for assembly of the machine	Hand protection (mechanical risks)	TS MA

Phase	Task	Risk scenario	Measure (PPE)	Person
5. Maintenance	Lubrication/greasing	Lubrication operations performed on the machine	- Hand protection (products/chemical agents) - Respiratory protections - Eye protection	MA
	Cleaning and inspections	Using toxic and/or harmful substances to clean the machine.	- Hand protection (products/chemical agents) - Respiratory protections - Eye protection	MA
	Replacement of worn parts and adjustments on components	Maintenance operations involving the use of ladders and/or scaffolding	Protections for working at height	MA
7. Dismantling, scrapping, disposal	Disassembly	Operate in the areas dedicated to the assembly and disassembly of the machinery	Hand protection (mechanical risks)	TS MA

Warnings regarding residual risks
In accordance with paragraph 1.7.2 of the European Directive 2006/42/EC, the residual risks that remain despite having adopted the protection measures integrated in the design and the protections, and the complementary protection measures, are described.

The sections below describe the residual risks, sub-divided by the stage of the machine in its life cycle:

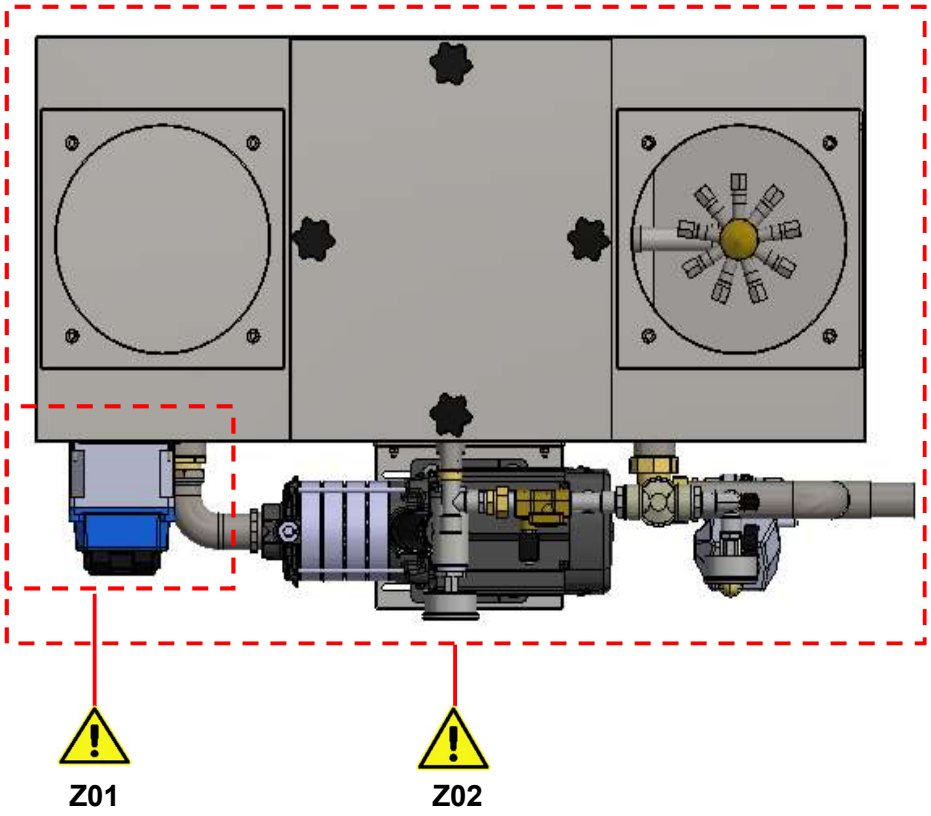
NOTE: In assessing the risks, the manufacturer, in compliance with current legislation, did not take into account (nor did he have the necessary information) the risks inherent in the working environment and the specific working methods of the user company.

NOTE: The following abbreviations are present in the risk sheets, reported in the following paragraphs
PC = Ordinary Person,
TS = Specialist Technician,
TS = Manufacturer Technician,
OP = Operator,
MA - Maintenance Technician.

6.7.3 Danger zones

Ref.	Description	Note
Z00	**All areas**	The risk could be present in all areas.
Z0A	**Areas dedicated to transport, assembly and installation and dismantling**	Areas where transport, assembly, installation and dismantling operations take place. The zones include both the machine and the parts of the site identified for the execution of these activities.
Z01	**Electrical equipment**	Electrical panels, boxes, machine edges where there are live parts. Operations on electrical equipment are intended exclusively for specialised technical personnel. NOTE: The external part of the electrical panel is accessible to the operator only for operating the on/off switch of the machine and for operating the machine controls (if present).
Z02	**Cleaning zone**	Area outside and inside the machine where cleaning operations are carried out by maintenance personnel only.

6.7.4 Zones layout



6.7.5 Residual risks

1. Transport			
Task	Packing/unpacking		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Contact with tool parts that can cause cuts		
Type	9. Environment of use		
Source	Activities and/or processes carried out near the machine		
Situation	Packing and unpacking operations that require the use of tools		
Consequence	Various dangers (cutting of hands and fingers)		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of cutting due to the use of tools when packing and unpacking the machine.		
Instructions	- Before using the tools for the operations to be carried out, check the level of wear and replace them, if necessary. - During the packing and unpacking operations, use protective gloves against mechanical risks.		
P.P.E.	Hand protection (mechanical risks)		

1. Transport			
Task	Packing/unpacking		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Environmental pollution		
Type	9. Environment of use		
Source	Pollution		
Situation	Disposal of packaging		
Consequence	Any other consequences caused by sources of risk of the machine or machine parts		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risks to the environment deriving from the disposal of packaging		
Instructions	- Packaging cannot be abandoned in the environment, but must be disposed of according to the regulations in force in the country where the machine is installed.		
P.P.E.	NA		

1. Transport			
Task	Handling and transportation		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Slipping, tripping and falling from parts of machines or areas not prepared for the person to climb		
Type	1. Mechanical		
Source	Rough, slippery surface		
Situation	Climbing onto the transport vehicle platform, load unit or machine parts		
Consequence	Slipping, tripping and falling from height		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of falling from vehicles used for work at height		
Instructions	- IT IS FORBIDDEN to access any point of the structures of the machine which are not designed for this purpose. - The employer/client is required to use ladders or scaffolding that comply with the requirements of the legislation in force. - Use personal protective equipment (PPE) suitable for work at height		
P.P.E.	NA		

1. Transport			
Task	Handling and transportation		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Loss of load stability		
Type	1. Mechanical		
Source	Instability		
Situation	Cargo handling on the vehicle platform and on the ground		
Consequence	Crushing of the body and head		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Personnel in charge of handling and transporting the load may be exposed to the fall of moving parts		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the lifting and handling instructions provided. - The employer is required to use only expert personnel for handling and transport operations.		
P.P.E.	NA		

1. Transport			
Task	Handling and transportation		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Contact with machine sharp elements and edges		
Type	1. Mechanical		
Source	Sharp parts		
Situation	Work near parts of the machine that have sharp edges or abrasive surfaces		
Consequence	Hands and arms cuts		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Exposure to mechanical risks during transport, assembly and disassembly operations performed by the maintenance technician and the specialist technician		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the instructions for the operation to be performed. - The employer is required to use only expert personnel for transport, assembly and disassembly operations. - Do not carry out maintenance operations not described in the instructions provided or operations for which the specific knowledge and support of the manufacturer is required.		
P.P.E.	Hand protection (mechanical risks)		

1. Transport			
Task	Handling and transportation		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Possible fall of the load during the handling phase also due to the breaking of straps or cables used for lifting		
Type	1. Mechanical		
Source	Falling objects		
Situation	Passing or standing near a suspended load		
Consequence	Crushing of the body and head		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Personnel in charge of handling and transporting the load may be exposed to the fall of moving parts		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the lifting and handling instructions provided. - The employer is required to use only expert personnel for handling and transport operations.		
P.P.E.	Head protection		

1. Transport			
Task	Handling and transportation		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Working with poor mental effort Overexertion		
Type	8. Ergonomics		
Source	- Excessive / poor mental effort - Overexertion		
Situation	Loading and unloading of materials		
Consequence	Sickness Fatigue Stress		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	personnel responsible for loading and unloading the material may suffer physical injury due to insufficient awareness of the risk.		
Instructions	- The personnel responsible for loading and unloading materials must be adequately trained and informed on the risks present during the operation		
P.P.E.	NA		

1. Transport			
Task	Passing or standing near danger zones (transport phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Possible fall of the load during the handling phase also due to the breaking of straps or cables used for lifting		
Type	9. Environment of use		
Source	Various hazards (falling objects) arising from activities and/or processes		
Situation	Passing and standing near areas reserved for unloading from the vehicle		
Consequence	Crushing of the body and head		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

1. Transport			
Task	Passing or standing near danger zones (transport phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Impact and collision caused by the presence of the moving vehicles		
Type	9. Environment of use		
Source	Traffic		
Situation	Passing and standing near the areas reserved for the movement of transport and unloading vehicles		
Consequence	Impact or collision		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

2. Assembly Installation and commissioning			
Task	Commissioning test		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	- Contact with live elements (direct contact) - Contact with live parts in the event of a fault (indirect contact)		
Situation	Working near electrical panels or live parts while testing machine movements		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

2. Assembly Installation and commissioning			
Task	Connection to energy supply sources		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	- Contact with live elements (direct contact) - Contact with live parts in the event of a fault (indirect contact)		
Situation	Working near electrical panels or live parts		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

2. Assembly Installation and commissioning			
Task	Connection to energy supply sources		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Fire caused by electrical components and subsequent contact with flammable material		
Type	3. Thermal		
Source	Fire		
Situation	Working near electrical panels or live parts in the presence of flammable material		
Consequence	Burn Scalding		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of fire due to possible faults in the electrical system and subsequent contact with flammable material		
Instructions	- The employer is required to provide extinguishing equipment near the electrical cabinets		
P.P.E.	NA		

2. Assembly Installation and commissioning			
Task	Assembly		
Exposed person	TS MA	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Contact with sharp machine elements or edges		
Type	1. Mechanical		
Source	Sharp parts		
Situation	Operate in the areas intended for assembly of the machine		
Consequence	Hands and arm cuts		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Exposure to mechanical risks during transport, assembly and disassembly operations performed by the maintenance technician and the specialist technician		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the instructions for the operation to be performed. - The employer is required to use only expert personnel for transport, assembly and disassembly operations. - Do not carry out maintenance operations not described in the instructions provided or operations for which the specific knowledge and support of the manufacturer is required.		
P.P.E.	Hand protection (mechanical risks)		

2. Assembly Installation and commissioning			
Task	Assembly		
Exposed person	TS MA	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Possible fall of the load during the assembly phase also due to the breaking of straps or cables used for lifting		
Type	1. Mechanical		
Source	Falling objects Position elevated above ground		
Situation	Work near suspended loads.		
Consequence	Crushing of the body and head		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Personnel in charge of handling and transporting the load may be exposed to the fall of moving parts		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the lifting and handling instructions provided. - The employer is required to use only expert personnel for handling and transport operations.		
P.P.E.	Head protection		

2. Assembly Installation and commissioning			
Task	Passing or standing near danger zones (assembly, installation and commissioning phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Impact and collision caused by the presence of the moving vehicles		
Type	9. Environment of use		
Source	Traffic		
Situation	Passing and standing near the areas reserved for the movement of transport and unloading vehicles		
Consequence	Impact or collision		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

2. Assembly Installation and commissioning			
Task	Passing or standing near danger zones (assembly, installation and commissioning phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Construction site activities that can cause damage to uninformed people		
Type	9. Environment of use		
Source	Activities and/or processes carried out near the machine		
Situation	Passing and standing near assembly, installation and commissioning areas		
Consequence	Various hazards (mechanical, electrical, etc.) arising from activities and/or processes		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

4. Use			
Task	Passing or standing near dangerous areas (use phase)		
Exposed person	PC	**Zone**	Z00
TYPE OF HAZARD			
Hazardous event	Contact with moving parts of the machine		
Type	9. Environment of use		
Source	-Various hazards (mechanical, electrical, etc.) arising from activities and/or processes		
Situation	Passing or standing near the machine during operation		
Consequence	- Entrapment and entanglement, - Crushing of limbs and body		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

4. Use			
Task	Machine operation		
Exposed person	OP	**Zone**	Z02
TYPE OF HAZARD			
Hazardous event	Contact with the abrasive surface of the rotating input cylinder		
Type	1. Mechanical		
Source	Rotating elements		
Situation	Operating near the lamination zone		
Consequence	- Friction or abrasion,		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of abrasion when inserting limbs into the lamination unit rotation zone		
Instructions	- IT IS FORBIDDEN to put your hands near the laminating unit - Before intervening to recover the wire after breaking, stop the machine		
P.P.E.	NA		

5. Maintenance			
Task	Intervention on the machine systems		
Exposed person	MA	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts even after the main switch has been disconnected: - Interface signals - Circuits upstream of the switch.		
Type	2. Electrical		
Source	- Contacts with live parts, - Contact with live parts in the event of a fault		
Situation	Maintenance operations on the electrical system (inspections, adjustments, replacement of components both inside and outside the casing)		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

5. Maintenance			
Task	Intervention on the machine systems		
Exposed person	MA	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	- Contacts with live parts, - Contact with live parts in the event of a fault		
Situation	Maintenance operations on the electrical system (adjustments, components replacement)		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

5. Maintenance			
Task	Passing or standing near dangerous areas (maintenance phase)		
Exposed person	PC	**Zone**	Z00
TYPE OF HAZARD			
Hazardous event	Contact with moving parts of the machine		
Type	9. Environment of use		
Source	-Various hazards (mechanical, electrical, etc.) arising from activities and/or processes		
Situation	Passing or standing near the machine during operation		
Consequence	- Entrapment and entanglement, - Crushing of limbs and body		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

5. Maintenance			
Task	Cleaning and inspections		
Exposed person	MA	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	- Contact with live elements (direct contact) - Contact with live parts in the event of a fault (indirect contact)		
Situation	Inspection and cleaning activities on the electrical panel (outside casing)		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

5. Maintenance			
Task	Cleaning and inspections		
Exposed person	MA	**Zone**	Z00
TYPE OF HAZARD			
Hazardous event	Using toxic and/or harmful substances to clean the machine (either by contact with the skin or by inhaling hazardous vapours, e.g. accidental mixing of detergents).		
Type	7. Materials and substances		
Source	Fluids		
Situation	Using toxic and/or harmful substances to clean the machine.		
Consequence	Poisoning, sensitisation		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of sensitization/allergy deriving from the type of substance used for machine cleaning or due to the lubrication, either by contact with the skin or by inhaling hazardous vapours (e.g. accidental mixing of detergents).		
Instructions	Follow the instructions on the safety data sheets of the product used. It remains the obligation of the customer/employer to provide appropriate PPE for cleaning or lubrication operations based on the risks deriving from the use of any harmful substances.		
P.P.E.	- Hand protection (products/chemical agents) - Respiratory protections - Eye protection		

6. Troubleshooting			
Task	Component failures		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	Contact with live parts, Contact with live parts in the event of a fault		
Situation	Maintenance work on the electrical system (inspections, adjustments, component replacements)		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

6. Troubleshooting			
Task	Passing or standing near danger zones (troubleshooting/defect search phase)		
Exposed person	PC	**Zone**	Z00
TYPE OF HAZARD			
Hazardous event	Contact with moving parts of the machine		
Type	9. Environment of use		
Source	-Various hazards (mechanical, electrical, etc.) arising from activities and/or processes		
Situation	Passing or standing near the machine during operation		
Consequence	- Entrapment and entanglement, - Crushing of limbs and body		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Passing or parking near danger zones (dismantling, scrapping, disposal phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Construction site activities that can cause damage to uninformed people		
Type	9. Environment of use		
Source	Activities and/or processes carried out near the machine		
Situation	Passing and standing near areas reserved for dismantling, scrapping, disposal		
Consequence	Various hazards (mechanical, electrical, etc.) arising from activities and/or processes		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Passing or parking near danger zones (dismantling, scrapping, disposal phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Impact and collision caused by moving transport and loading equipment		
Type	9. Environment of use		
Source	Traffic		
Situation	Passing and standing near areas reserved for the transport vehicles movement and for materials loading		
Consequence	Impact or collision		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Passing or parking near danger zones (dismantling, scrapping, disposal phase)		
Exposed person	PC	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Possible fall of the load during the handling phase also due to the breaking of straps or cables used for lifting		
Type	9. Environment of use		
Source	-Various hazards (falling objects) arising from activities and/or processes		
Situation	Passing and standing near areas reserved for loading on the transport vehicle		
Consequence	Crushing of the body and head		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Untrained ordinary people can be exposed to various risks deriving from both the machine and the work environment.		
Instructions	Ordinary people who for some reason find themselves passing or stopping near the machinery must always be accompanied by personnel trained and informed about the risks present, who have the task of supervising ordinary people. The employer is requested that access to dangerous areas by ordinary people be limited through appropriate company procedures.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Waste disposal for scrapping		
Exposed person	TS	**Zone**	Z0A
TYPE OF HAZARD			
Hazardous event	Environmental pollution		
Type	9. Environment of use		
Source	Pollution		
Situation	Dismantling the machine for end-of-life		
Consequence	Any other consequences caused by sources of risk of the machine or machine parts		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risks generated by machine dismantling at end-of-life		
Instructions	- Final decommissioning and scrapping must be carried out by technical personnel working in a specialist waste treatment centre, to which the machine must be sent or its collection must be requested. -The machine cannot be disposed of in the environment, either intact or partially disassembled or demolished.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Disassembly		
Exposed person	TS MA	**Zone**	Z00
TYPE OF HAZARD			
Hazardous event	Contact with sharp machine elements or edges		
Type	1. Mechanical		
Source	Sharp parts		
Situation	Operate in the areas dedicated to the assembly and disassembly of the machinery		
Consequence	Hands and arm cuts		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Exposure to mechanical risks during transport, assembly and disassembly operations performed by the maintenance technician and the specialist technician		
Instructions	- The operation is reserved exclusively to expert personnel with relevant knowledge and experience, such as to allow them to assess the risks and avoid the dangers that the job may create. - Cordon off the area where the work is to be carried out and prohibit access to unauthorised people. - Follow the instructions for the operation to be performed. - The employer is required to use only expert personnel for transport, assembly and disassembly operations. - Do not carry out maintenance operations not described in the instructions provided or operations for which the specific knowledge and support of the manufacturer is required.		
P.P.E.	Hand protection (mechanical risks)		

7. Dismantling, scrapping, disposal			
Task	Disassembly		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Direct and indirect contact with live parts		
Type	2. Electrical		
Source	Contact with live parts, Contact with live parts in the event of a fault		
Situation	Working near electrical panels or live parts		
Consequence	Electrocution		
RESIDUAL RISK			
Level of risk	**WARNING**		
Risk	Risk of electrocution due to direct and indirect contact with live parts.		
Instructions	- Operations on both energized and de-energized electrical equipment are reserved exclusively to expert personnel (PES) and informed personnel (PAV), according to the definition given by CEI 11-27. The IEC EN 60204-1 standard makes no difference between work performed on electrical equipment that is de-energized or energized, thus not necessarily requiring the use of Eligible Persons (PEI) for the latter, according to the definition given by CEI 11-27. - Live operations that take place inside the electrical panel are only possible after disconnecting the power supply and opening the panel door, and re-energizing the equipment by voluntarily turning the main switch to the ON position.		
P.P.E.	NA		

7. Dismantling, scrapping, disposal			
Task	Disassembly		
Exposed person	TS TF	**Zone**	Z01
TYPE OF HAZARD			
Hazardous event	Fire caused by electrical components and subsequent contact with flammable material		
Type	3. Thermal		
Source	Fire		
Situation	Working near electrical panels or live parts in the presence of flammable material		
Consequence	Burn Scalding		
RESIDUAL RISK			
Level of risk	**CAUTION**		
Risk	Risk of fire due to possible faults in the electrical system and subsequent contact with flammable material		
Instructions	- The employer is required to provide extinguishing equipment near the electrical cabinets		
P.P.E.	NA		

7 TRANSPORT AND UNLOADING

7.1 Purpose of the chapter

The chapter contains the information required to correctly transport and unload the machine.

HAZARD

VARIOUS HAZARDS ARISING FROM LOAD HANDLING OPERATIONS

Load-handling operations may present various risks (crushing, shearing, etc.) to persons present in the areas where the operations take place.

- Unloading and handling of the machine must only be carried out by trained and experienced technicians who are familiar with load handling activities.
- The area for unloading and handling shall be delimited and accessible only to personnel assigned to the operations.

7.2 Transport information

The machine is shipped in perfect working condition after being tested at the manufacturer's factory.

Depending on the type and size of the components to be shipped, the manufacturer will use appropriate packaging to ensure integrity and preservation during transport until delivery to the customer.

Depending on the distance to the place of delivery, the customer's requirements and the storage time of the machine inside the packaging, the machine will be shipped directly on the truck bed or inside containers. The number and type of trucks and/or containers may vary depending on the load units to be shipped.

In anticipation of a long stay in the packaging or in the case of crossing stretches of sea, where necessary, appropriate precautions are taken to prevent oxidation and rusting of metal parts and the formation of moisture and condensation in electrical equipment.

7.3 Equipment required for unloading

The customer receiving the machine must equip himself with the unloading equipment listed below. The dimensioning of the equipment must be made according to the masses of the load units to be lifted and the characteristics of the environment in which the unloading will take place.

Device		Required
Pallet truck		**yes**
Forklift		**No/Yes**
Lifting straps		**No/Yes**
Shackle		**no**
Adjustable chains		**NO**
Traverse		**no**
Ladders and scaffolding		**no**

Preparation of the unloading area
Follow the instructions below in order to set up a dedicated area for unloading.

Procedure:

1) Reserve a working area that allows the machine to be unloaded easily. It must be possible to manoeuvre in the area the transport lorry and means provided for unloading.
2) Delimit the area and prohibit access to unauthorized people.



7.4 Unloading from the vehicle

Follow the instructions below for proper unloading from transport vehicles.

Procedure:

1) Use ladders and scaffolding to get on and off the vehicle. Do not climb on either the transport vehicle or the loading units.
2) Check that the load units have not been moved or damaged during transport. If this is the case, report it immediately to the transporter and the manufacturer.
3) Always start unloading the easily accessible load units by unloading one at a time.
4) Locate the attachment points of the load units and always secure the lifting devices before removing the straps and crossbars that secure the load.
5) Reach the attachment points of the load units. Secure the lifting devices by bringing them slightly under tension but without lifting the load.
6) Remove the blocks and straps used to stabilise the load units during transport so that they can be lifted.
7) Move away and unload.

7.5 Handling of load groups

Please follow the instructions below for the correct handling of the load units.

Procedure:

1) There may be illustrations on the load unit indicating the type of lifting or other useful information. Pay attention to the presence of these warnings and always follow their instructions. The following table describes the meaning of the symbols that can be used:

SYMBOL	DESCRIPTION
	**ISO 780 symbol 6.** Sling here. Point where lifting devices (straps, chains, etc.) can be passed.
	**ISO 780 symbol 1.** Fragile. Load and unload carefully.
	**ISO 780 symbol 7.** Keep the packaging dry and protect it from the weather.
	**ISO 780 symbol 3.** This way up. Do not turn the packaging upside down.
	**ISO 780 symbol 8.** Centre of gravity. Centre of gravity of the packaging.
	**ISO 780 symbol 2.** Do not use lifting hooks.
	**DIN 30600 N.02903** Do not use forklifts.

General notes for lifting and handling
The load groups can be lifted and then moved in two different ways:

Lifting from below:
Using the forks of a forklift or pallet truck properly inserted into the appropriate slots of the loading unit.

Procedure:

1) Ensure that the lifting devices are centred in relation to the centre of gravity.
2) Lift and move the load unit while keeping it horizontal, avoiding shocks and jolts.
3) Unload carefully by placing the loading unit as close as possible to the point of installation, laying it on the ground very slowly in order to avoid damage to the most delicate parts.
4) During this operation, the lifting equipment must be driven by trained personnel assisted on the ground by a person in charge of signalling, since the size of the machine does not allow sufficient visibility for manoeuvring.

WARNING

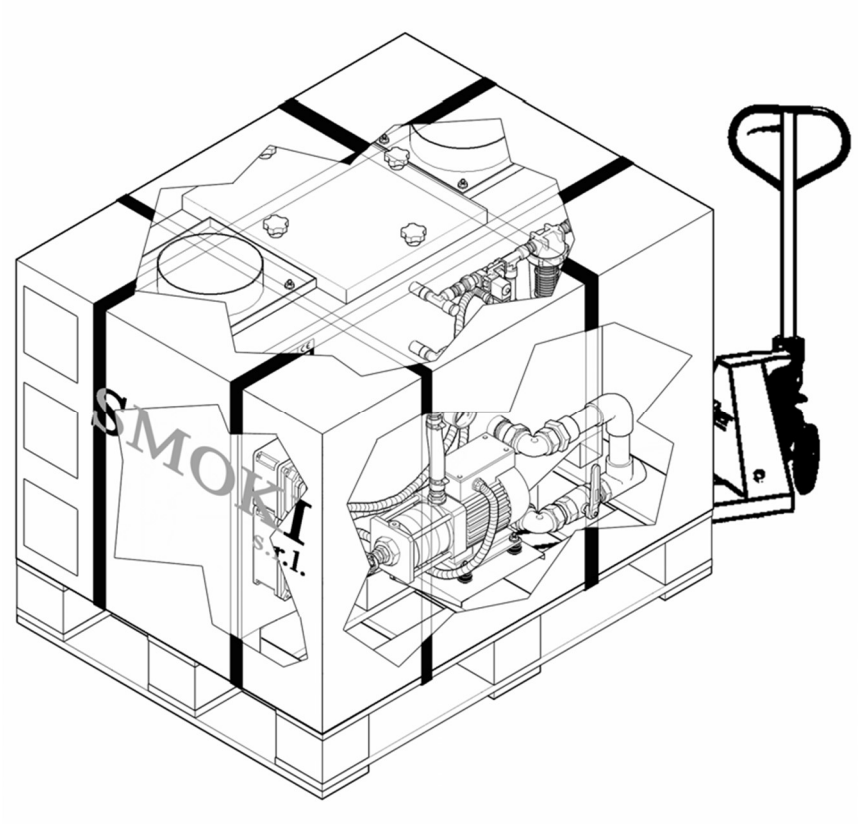
VARIOUS HAZARDS ARISING FROM LOAD HANDLING OPERATIONS
During the loads lifting and handling, there are risks of collision with the handled load and of crushing between the load and fixed parts (machinery, building structures, etc.).

- Entrust all lifting and handling operations to specialized personnel (riggers, crane operators, forklift operators, etc.) coordinated, if necessary, by an expert signalman.
- Lifting devices (if required) must necessarily be appropriate for the weight of the load groups to be handled. These devices must also be in excellent condition and certified to safely lift the weight of the machine.
- During moving of the various units, we recommend that only unloading and transport personnel operate in the work area. This is in compliance with common safety regulations that require buffer zones around suspended loads, forklifts, and/or moving bridge cranes.
- Do not stand or walk under the suspended load.
- Authorised operators must be equipped with the personal protective equipment required for material lifting operations.

7.6 Unpacking

Upon receipt of the material, follow the instructions below to unpack it properly.

SMOKI systems are delivered in a cardboard carton suitable for the shipment of equipment of this type, on a wood pallet not suitable for stacking, fastened to the pallet with straps.



Procedure:

1) Open the packaging protecting each individual module.
2) Check that the material is in perfect condition and that it corresponds to what is described on the accompanying documents.
3) Once the packaging has been removed, there must be no problems or signs of tampering. If it did occur, first notify the transporter, then the manufacturer.

WARNING

Use only a forklift or truck crane to handle and move the machine. Make sure the hoisting equipment has a capacity of at least 150 kg.

IMPORTANT

DISPOSAL OF PACKAGING

Disposal of the packaging material will be the responsibility of the recipient, which must do so in accordance with the laws in force in the country that the machine will be used in.

- Unpack the load units, taking care to separate and sort the waste from the packaging materials.

4) In some machines, the expedient of blocking certain mechanical parts by interposing wooden blocks is adopted in order to prevent movement and/or damage to the various assemblies during transport.

5) As a rule, this is not the case with our machines; if, however, in special cases, this is necessary, we will clearly mark this on the machine.

8 INSTALLATION AND COMMISSIONING

8.1 Systems connections

8.1.1 Electrical system connection

IMPORTANT

EXECUTION OF ELECTRICAL WORK

The installation of electrical equipment must be carried out in accordance with current legislation on safety and electrical installations.

- It is the obligation of the final machine manufacturer to assess compliance with the applicable directives and standards.

Prerequisites:

The customer receiving the machine must carry out the following work in advance:

- Provide electrical conduits between the machine's electrical cabinet and the distribution board.
- All “connection” operations must be performed by specialized personnel and are the customer’s responsibility in all cases.

HAZARD

RISK OF ELECTROCUTION

Poorly executed connection or wiring can cause electrical hazards.

- Make sure that the electrical panel of the machine is actually set up for the mains voltage. If necessary to change the supply voltage, contact the Manufacturer.
- If it is necessary to work on the electrical system upstream of the main switch (e.g. phase inversion), the main line switch must be locked in the "OFF" position so that only the maintenance operator can reactivate it (e.g. padlock).

8.2 Commissioning (first start-up)

HAZARD

VARIOUS MECHANICAL HAZARDS RESULTING FROM THE ABSENCE OR TEMPORARY DISABLING OF MACHINE PROTECTION MEASURES

During the initial start-up phase, protection measures may be removed or temporarily disabled for technical reasons.

- Only experienced personnel (maintenance technicians and/or the manufacturer's), trained and informed of the risks involved, are authorised to work on the machine with the protective measures removed or temporarily disabled.
- Personnel assigned to work on the machine (machine operator) must be informed of the risks present at this stage and remain away from the danger zones.
- It is mandatory to affix a warning sign and not to approach the dangerous zones of the machine.

8.2.1 Necessary checks for the first start-up

Carry out the following checks before testing the movements:

Procedure:

1) Check that the mechanical and electrical assembly operations, described in the previous paragraphs, have all been completed.
2) Power up the machine and check that all energy sources are working properly.
3) Before using the system, check carefully to make sure it is intact and working perfectly. Check the safety devices and make sure there are no damaged parts.
4) Checks that the moving parts are free to move and that there are no broken parts, make sure all the other parts have been correctly assembled and check for any conditions that could interfere with normal operation of the equipment - such as the capacity and drainage of water - and that the fume intake and exhaust are optimal.
5) Safety devices or damaged parts must be replaced or repaired in a workmanlike manner by a Service Centre, unless the user instructions state otherwise.
6) The switches, solenoids, pump, level meter and power cord must be replaced by a Service Centre when damaged.
7) Do not use the system with the switch that cannot be turned “ON” and “OFF”.
8) Before cleaning or performing maintenance on the machine, always turn the switch to OFF to disconnect the power.
9) Check periodically that the sheathing on the power cord is intact, without abrasions, cracks or swellings, and that it is not twisted. If you notice any alteration, check it and having it replaced without delay if necessary.

8.2.2 Machine first start-up

The first start-up of the machine must be performed by our after-sales service or by the maintenance technician, after having been authorised. The first start-up procedure can be carried out without the product, to check the correct operation of the machine assemblies, and then with the product to be processed to check the correct operation of the machine.

HAZARD

MACHINE START-UP
Starting the machine untimely with personnel operating on moving parts or power circuits causes danger to any "exposed persons".

8.2.3 Commissioning after a long period of inactivity

After a long period of inactivity of the machine, it is necessary to repeat the operations described for the first start-up of the machine.

WARNING

- Do not use the system if it is not properly grounded!

8.2.4 Location of the system

When installing the Junior system, the client can decide one of the following options, depending on his needs:

INDOOR INSTALLATION (OPTION A)

As shown in fig. 24, the JUNIOR system is installed inside the building. The smokestack of the oven exhaust pipe is connected directly to the entrance marked "IN" on the machine.

The exit marked "OUT" of the JUNIOR unit is directly connected to the chimney and goes out through the roof.

The smoke intake through the oven-smokestack connection to the JUNIOR system must have a minimum 5° ascending angle, to prevent load loss or air pockets, where the oven is the lowest point and the "IN" entrance to the JUNIOR is the highest point.

Maintain the same angle of the outgoing smokestack.

In this connection, it is clear from the drawing in fig. 24 that the standing base of the JUNIOR (450 depth x 980 width) must be made of masonry or shelving of suitable load-bearing capacity.

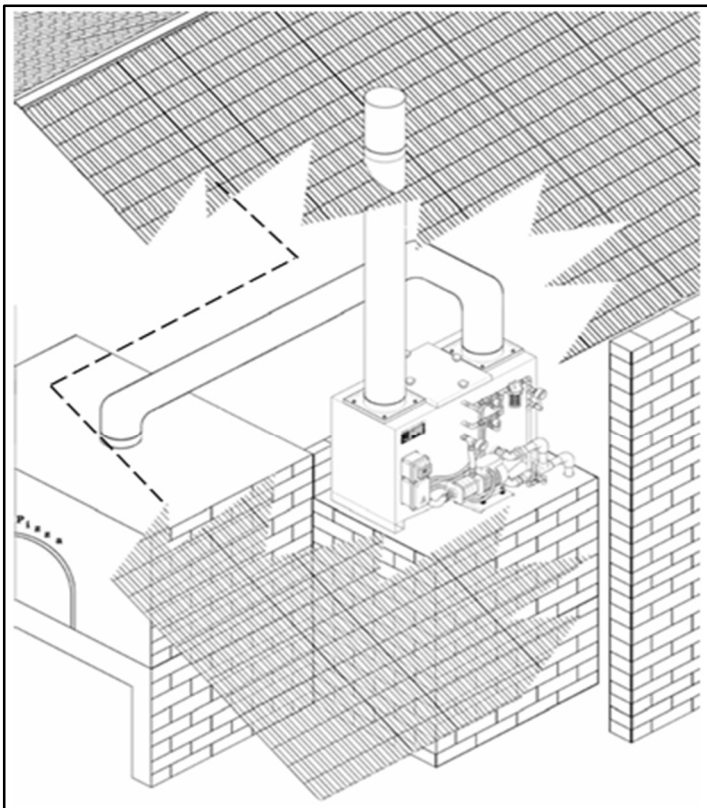


Fig. 24

INDOOR INSTALLATION (OPTION B)

As shown in fig. 25, the JUNIOR system is installed directly over the oven, inside the building.

The oven smokestack is connected directly to the entrance marked "IN" of the JUNIOR unit. The exit marked "OUT" of the JUNIOR unit is directly connected to the chimney and goes out through the roof.

The smoke intake through the oven-smokestack connection to the JUNIOR system must have a minimum 5° ascending angle, to prevent load loss or air pockets, where the oven is the lowest point and the "IN" entrance to the JUNIOR is the highest point. In this connection, it is clear from the drawing in fig. 25 that the standing base of the JUNIOR (450 depth x 980 width) makes use of the masonry roof of the oven, which is of suitable load-bearing capacity.

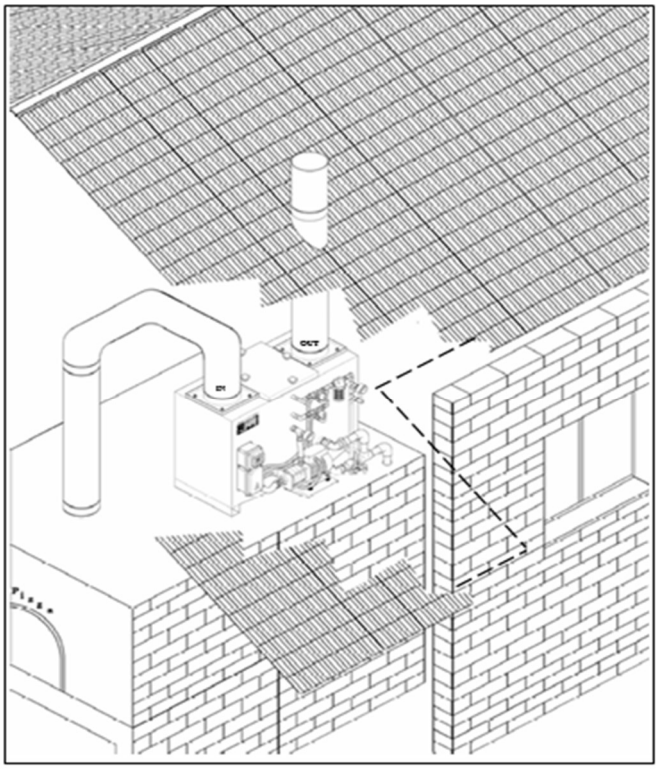


Fig. 25

INDOOR INSTALLATION (OPTION C)

As shown in fig. 26, the JUNIOR system is installed directly over the oven, inside the building.

The existing smokestack in dotted lines in fig. 26 is interrupted, deviating it directly towards the entrance marked "IN" on the JUNIOR unit.

From the JUNIOR unit the return connection departs for the interrupted smokestack which, as before, goes through the roof.

The smoke intake through the smokestack to the JUNIOR unit must make a 5° angle in ascent, to prevent load loss or air pockets. Maintain the same angle of the outgoing smokestack.

In this connection, it is clear from the drawing in fig. 26 that the standing base of the JUNIOR (450 depth x 980 width) makes use of the masonry roof of the oven, which is of suitable load-bearing capacity.

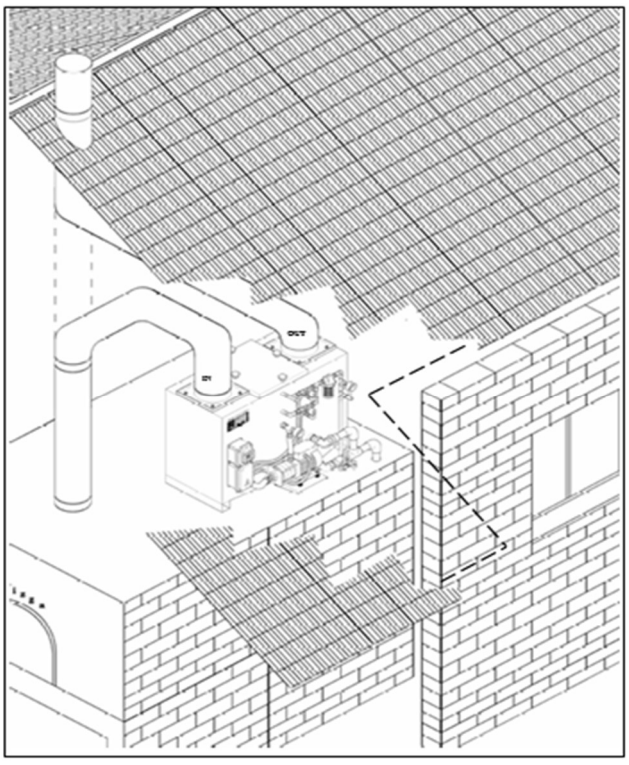


Fig. 26

INSTALLATION OUTSIDE OF BUILDING

As shown in fig. 27, the JUNIOR system can be installed directly on the roof of the building.

The existing smokestack (particularly the part that goes through the roof) is connected directly to the entrance marked "IN" of the JUNIOR unit.

The outgoing stub departs from the JUNIOR unit. The smoke intake through the smokestack to the JUNIOR unit must make a 5° angle in ascent, to prevent load loss or air pockets.

In this connection it is clear from the drawing in fig. 27 that the standing base of the JUNIOR (450 depth x 980 width) is provided on the roof with a support in masonry of suitable load-bearing capacity.

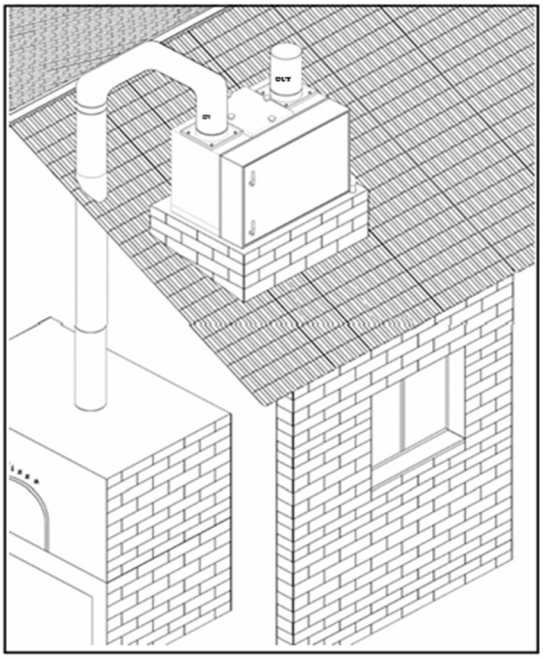


Fig. 27

WARNING

When the JUNIOR system is installed outdoors it must be provided with the special insulated cover for outdoor installation (optional) to protect the system from the weather. A severe temperature drop (below -10 C°) could cause unsafe conditions.

9 COMMANDS

9.1 Purpose of the chapter

IMPORTANT

READ CAREFULLY THE CHAPTER

The chapter contains information on the controls provided for the operation and control of the machine.

- It is MANDATORY that the personnel in charge of operation be duly trained and instructed in the location of the controls on the machine and their correct use.
- Read and understand the contents.

10 USE

10.1 Purpose of the chapter

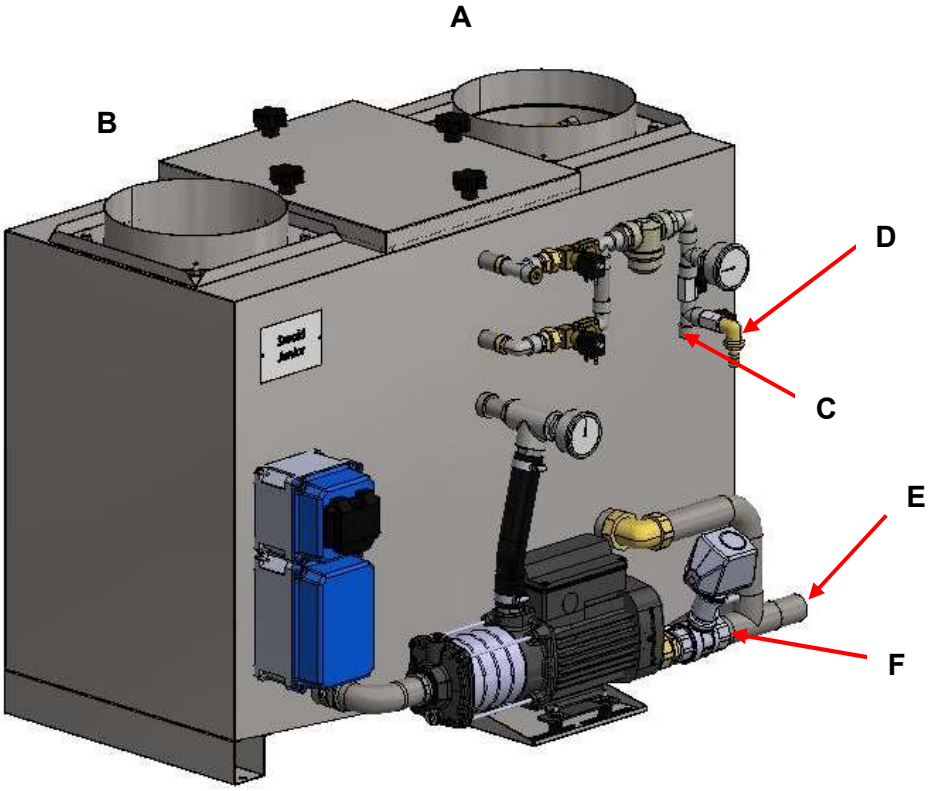
IMPORTANT

READ CAREFULLY THE CHAPTER

This chapter will provide descriptions of the intended use operations.

- Correct instructions for future operators, maintenance and service technicians implies a general theoretical knowledge of all described operations.
- Read and understand the contents.

10.2 System operation



1. **INSTALLATION**
   The machine must be installed on a perfectly flat surface that is not slippery, not shaky and sufficiently far away from any obstacle. Installation must be made by qualified personnel only.

2. **ELECTRICAL CONNECTION**
   Compare the data on the identification plate with the mains voltage.
   If they do not match, do not start the machine, and contact the service department. Connection to the electrical system (to EEC standards), including compulsory grounding, must be made by specialized personnel only. The electrical system to which the JUNIOR machine is connected must be controlled upstream by a differential magneto-thermal switch.

3. **CONNECTION TO SMOKESTACK**
   Make sure the system is correctly connected to the smokestack so that smoke entered through opening "A" and exit through opening "B" using a suitable pipeline

(pipes and elbows) in AISI 316 stainless steel ∅160, 180, 200 and 250 smooth, not corrugated, and watertight (against condensation).

4. CONNECTION TO WATER SUPPLY

Permanently connect the system to the existing water supply with the water tap "C". Make sure it is connected to the water supply by reading the water pressure on the pressure gauge (the ideal water pressure is 1.5 -

3 bar); if higher, install a pressure reducer to ensure lower water consumption. Close auxiliary tap "D" in the "OFF" position indicated by the arrow on the lever.

5. CONNECTION TO SEWER SYSTEM

Permanently connect the system to the existing sewer system through drain "E", taking special care to make sure that the water drain gate "F" – in case it is manual, otherwise everything is operated by an electric drain valve – is closed (vertical position). It is indispensable to install a trap in the immediate vicinity of the system!

6. SYSTEM START-UP

To start the system, make sure the circuit breaker on the power panel is turned to “ON”, and then switch on the automatic electric line switch:

- Power switch ("ON" position), usually located on the power panel or in the immediate vicinity of the oven, as shown in fig. 09.

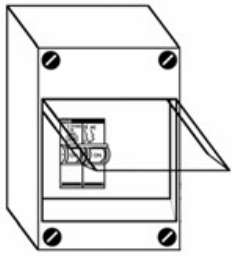


Fig.9

HAZARD

For greater operator safety, **SMOKI s.r.l.** considers it fundamental for the electrical system to which the “JUNIOR” system is connected to comply with the standards as foreseen by Italian law, and therefore to be equipped with a differential magnetothermal switch.

7. SWITCHING OFF THE SYSTEM

To switch the system off use the electric line switch: - Power switch ("OFF" position), usually located on the power panel or in the immediate vicinity of the oven, as shown in fig. 10.

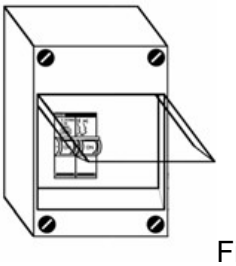


Fig.10

11 MAINTENANCE

11.1 Purpose of the chapter

The chapter contains information on the maintenance operations that must be carried out to keep the machine in proper working order at all times, in accordance with the purposes for which it was built.

By definition, MAINTENANCE is the combination of all technical and administrative actions, including supervisory actions, aimed at maintaining or returning an entity to a state in which it can perform the required function.

This information is divided according to the type of maintenance:

- Inspection work
- Cleaning work
- Lubrication and greasing work
- Mechanical maintenance work
- Electrical maintenance work

IMPORTANT

SAFETY OF MAINTENANCE PERSONNEL

It is MANDATORY that maintenance personnel is trained and instructed regarding the residual hazards that remain during maintenance operations.

- The complete list of risks and related safety measures are described in the **chapter 'Safety'**.
- Knowledge of the contents of the **chapter "Safety"** is a prerequisite for machine maintenance.
- For all work not described in this chapter, it is MANDATORY to always contact the manufacturer for support.

11.2 System maintenance frequency

The **maintenance procedures** described below cover the entire maintenance process (biweekly, routine and special). The operator should perform them in their proper chronological order.

The procedures are divided into "**biweekly**" every 15 days (fig. marked with letter "**A**"); "**routine**" every 60 days (fig. marked with letter "B") and "**special**" **every 6 months** (fig. marked with letter "C").

Biweekly maintenance procedures The *BIWEEKLY* maintenance procedures must be carried out at regular intervals every 15 (fifteen) days. All figures marked with the letter "**A**" are biweekly maintenance procedures. They consist mainly of cleaning the water filter if necessary and changing the recycle water, so as to improve the effectiveness of the smoke washing system and reduce atmospheric pollution.	A
Routine maintenance procedures The *ROUTINE* maintenance procedures must be carried out at regular intervals every 60 (sixty) days. All figures marked with the letter "**B**" are routine maintenance procedures. They consist mainly of the **biweekly maintenance procedures** plus **cleaning the recycle tank**, with particular attention to the **drains** and **float arm**.	B
Special maintenance procedures The *SPECIAL* maintenance procedures must be carried out at regular intervals every **6 (six) months**. All figures marked with letter **"*c*"** constitute special maintenance operations. They consists mainly of the **biweekly** and **routine maintenance** procedures, plus **cleaning the maintenance nozzle**. The special maintenance procedures are all described below.	C

11.3 Maintenance procedures

Before proceeding with any operations of maintenance, comply with the following warnings:

CAUTION! 

Do not touch the electric parts with wet hands. DANGER OF ELECTROCUTION!

CAUTION! 

Do not perform maintenance procedures outdoors in case of rain. DANGER OF SHORT CIRCUIT AND LIGHTNING!

CAUTION! 

Before performing any type of repairs or maintenance, switch off the automatic power line switch, the circuit breaker on the power panel on the machine, and provide yourself with adequate safety gear such as gloves, goggles and footwear.

IMPORTANT!

Maintenance of the JUNIOR must be assigned exclusively to qualified personnel (persons with adequate technical experience in the field). Failure to perform maintenance with the frequency indicated by the manufacturer will cause immediate loss of the benefits of the warranty!

For operations of maintenance proceed as follows, respecting the exact sequence of chronological order:

Disconnecting automatic switch Turn off the system by disconnecting the automatic switch of the electric line ("OFF" position) as shown in fig.11

A B C

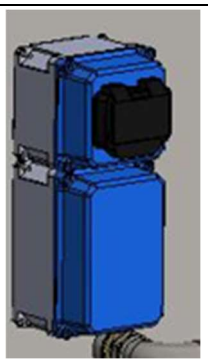


Fig.11

Disconnecting circuit breaker

Switch off the circuit breaker on the power panel of the machine, as shown in fig. 12

A B C

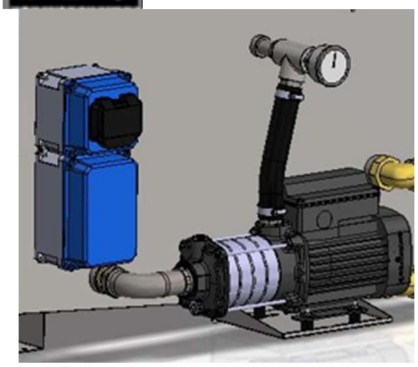


Fig.12

Closure of water connection tap

Turn the lever of the tap upward to the horizontal "OFF" position as shown in fig. 13

The water pressure gauge should drop gradually until, with the tap closed, it reaches 0 bar.

A B C

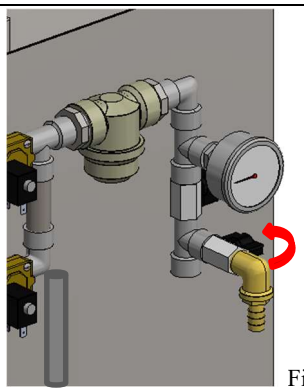
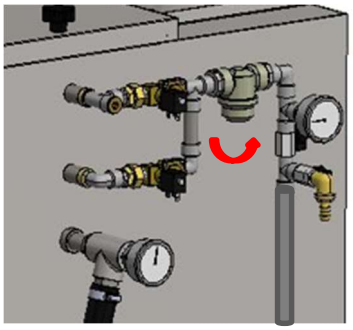


Fig.13

Cleaning water supply filter Turn the rung on the glass of the water filter clockwise and empty it into a bucket. Remove the filtering cartridge and clean by washing it with clean water (see fig. 14).

Fig. 14

A B C



Opening water drain gate

In the case of an electric water drain valve (see image 15), activate the opening using the control panel supplied with the machine, otherwise unscrew the release screw on the electric valve and manually activate the selector.

In the case of a manual valve, turn the control lever of the gate to the horizontal position.

The water level in the machine will start to fall.

A B C

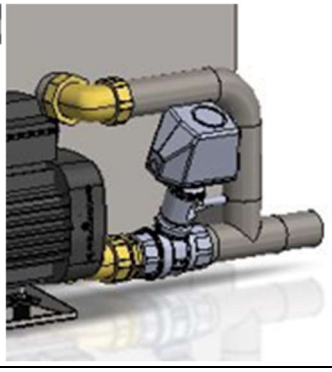


Fig.15

+ - Cleaning water tank

Turn clockwise to unscrew the 4 (four) fastening knobs on the cover and remove them.

Place all the knobs in one spot near the machine so as not to lose them. Now carefully remove the cover from the machine body (see fig. 16).

B C

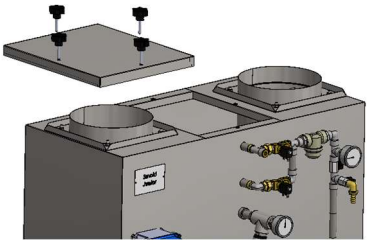


Fig.16

Cleaning the water tank

Carry out the tank cleaning. Open auxiliary tap "B" connected to a hose and remove any impurities in the tank with the jet of water. (See fig. 17).

In the unlikely case that the water level does not go down, check to make sure:

the drain lever is open (horizontal position),

the water drain inside the tank is not clogged with muddy waste, in which case remove the waste manually.

Thoroughly clean the float arm in the tank.

After cleaning the water tank close auxiliary tap "B".

B C

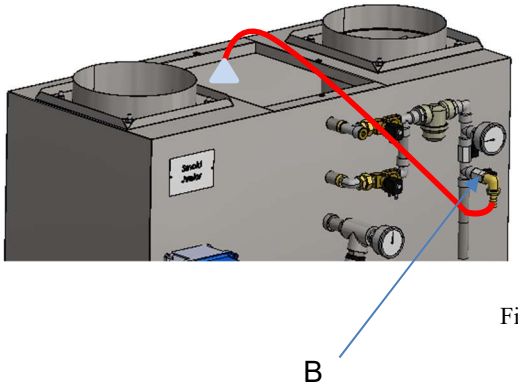


Fig.17

Maintenance nozzle cleaning

Clean the maintenance nozzle by turning cap "A" shown in Fig. 18 with an Allen key (size 10)

Remove nut "A" and clean the nozzle to remove any residues with water or compressed air. To reassemble proceed as follows:

Position the maintenance nozzle in its housing

Use a 10 mm Allen key to tighten cap "A".

C

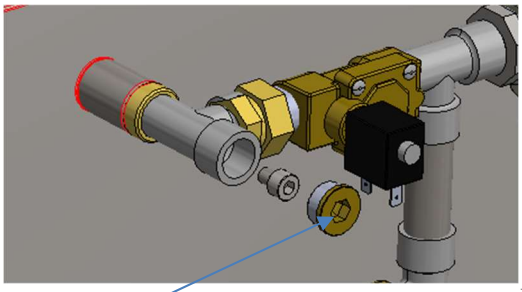


Fig.18

Reassembly of cover

Pick up the machine cover and apply it on the inspection window, taking special care of the gasket in positioning it.

Position the 4 (four) fixing knobs in their seats provided in the lid and machine body and screw them clockwise (fig. 19)

B C

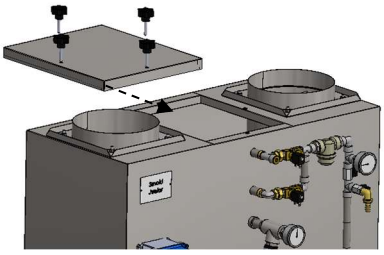


Fig.19

Opening the water tap

Turn the tap lever to the vertical position shown in fig. 20.

The water pressure gauge should rise gradually to reach the value, with the tap open, of 1.5 - 3 bar.

The water tap must be left open!

A B C

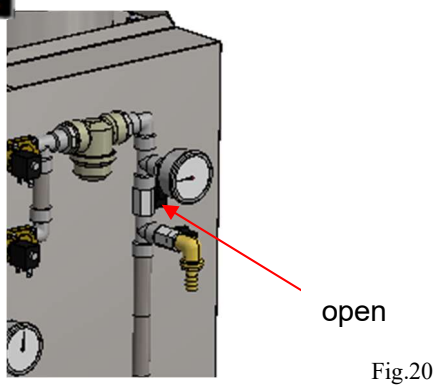


Fig.20

Closing the water drain gate

In the case of a manual valve:

turn the gate lever counter-clockwise to the vertical position as shown in fig. 21.

In the case of an electric valve:

activate the closure using the control panel supplied with the machine, otherwise close the valve manually and tighten the locking screw on the electric valve

A B C

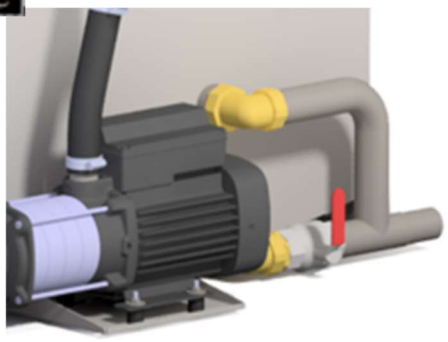


Fig.21

Connecting circuit breaker

Turn the circuit breaker on the machine power panel to "ON"

The system can now be started with the automatic switch on the power line at any time!

A B C

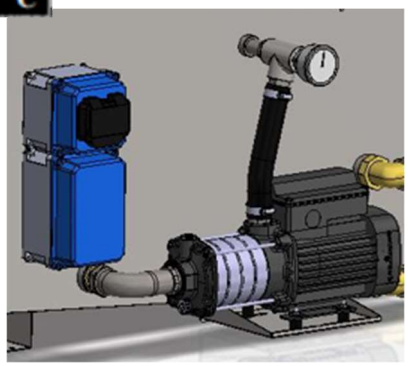


Fig.22

Connecting automatic switch

Switch the system on by turning the automatic switch on the power line to "ON" as shown in fig. 23

A B C

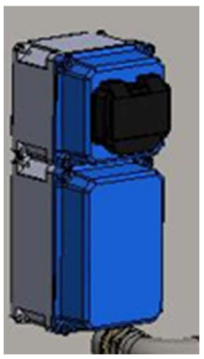


Fig.23

IMPORTANT

The pump will not start until the water tank has filled up again. Wait about 10 minutes. Make sure the water tap remains open and the pressure gauge shows a value of about 1.5 - 3 bar.!

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12 DISMANTLING AND SCRAPPING

12.1 Purpose of the chapter

IMPORTANT

READ CAREFULLY THE CHAPTER

All the operations described in this chapter are reserved exclusively for technical personnel specialized in load handling and waste disposal.

- Final decommissioning and scrapping must be carried out by technical personnel working in a specialized waste treatment centre, to which the machine must be delivered or requested to be collected.
- The machine cannot be disposed of in the environment, either intact or partially disassembled or demolished.
- Always contact the manufacturer for the necessary support.

12.2 Decommissioning for long periods

If you decide not to use the machine for long periods, carry out the following operations to ensure correct storage and conservation.

Storage location requirements:

- Whether the machine is dismantled or left inactive, it is important that the storage place has the temperature and humidity characteristics that comply with the technical data.
- The storage place should not be dirty and exposed to the accumulation of dust and dirt.
- Always store the machine in a closed place protected from bad weather.

Procedure:

1) Always contact the manufacturer for disassembly and handling of the machine.
2) Disconnect all energy sources.
3) Clean the machine by completely removing machining residues and dust.
4) Grease and lubricate all components.
5) If the machine is not to be used for a period exceeding 3 months, protect the parts subject to rust formation with a suitable protective product. Protect electrical and electronic equipment by placing bags of anti-humidity salt in electrical cabinets.
6) Cover the machine with cloths to avoid dust deposits.

Decommissioning and scrapping

Procedure:

1) Carefully consult the laws in force in the user's countries regarding environmental protection and safety procedures. In accordance with the provisions of the law, activate the inspection procedure of the competent body and the consequent recording of the demolition.
2) Disconnect all energy sources.
3) Disassemble the electrical panel and all the plastic components such as covers and pipes and send them to separate collection. Electrical cabinets and control panels will have to be completely dismantled by separating the electrical components from the cables. The electric cables on board the machine will be collected with the electric cables of the cabinets.
4) Disassemble the various components of the machine and then disassemble them to divide the parts according to the type of metal or alloy, taking care to eliminate oil or grease residues from the various parts.
5) Once the first division has been made, the plastic pipes will be separated from the rubber pipes and gaskets.
6) The electric motors will be stacked separately from the reducers. As for the reducers, they will have to be emptied of oil. The recovered oil must be collected in drums, stored and not dispersed into the environment. The same procedure must be followed when in the presence of grease.

12.2.1 Separation, classification and disposal of waste

Waste is defined as any substance or object that is the product of human activities or natural cycles, abandoned or destined to be abandoned.

The following categories of waste must be considered special waste:

- Machinery and equipment in general deteriorated and obsolete.
- Out of use motor vehicles and their components.

European directive 2008/98/EC sets out a legal framework for the treatment of waste within the European Union.



Waste Electrical and Electronic Equipment may contain dangerous substances with potentially harmful effects on the environment and human health. It is therefore recommended to dispose of it correctly using suitable precautions. With reference to the WEEE directive (Waste Electrical and Electronic Equipment - WEEE directive 2012/19/EU), the user, during disposal, must separate the electrical and electronic components and dispose of them in the appropriate authorized collection centres.

12.2.2 Type of waste produced by demolishing the machine

IMPORTANT



WASTE MANAGEMENT

The following table summarizes and classifies the type of waste produced by demolishing the machine.

- Inquire with the competent authorities regarding the waste storage and disposal methods in force.
- Always contact the manufacturer for the necessary support.

Component / material	Location
Electrical cables	Electrical equipment wiring
Iron material	Structure, fixed and/or mobile guards
Stainless steel	Structure
Lubricants	Pumps
Plastic	Other machine parts

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13 TROUBLESHOOTING

13.1 Purpose of the chapter

The information below is intended to assist in the identification and correction of any anomalies and/or malfunctions that may occur when using the machine.

IMPORTANT

STAFF SAFETY
It is MANDATORY to section off power supply sources and lock them with suitable padlocks and jaws

- Before carrying out any operations, read the **chapter "Safety"** carefully.
- Some faults can be solved by the operator; others require precise technical expertise or special skills, and must only be carried out by experienced and qualified personnel with recognised experience in the specific field of intervention.
- For all work not described in this chapter, it is MANDATORY to always contact the manufacturer for support.

13.2 Faults

PROBLEM	CAUSE	REMEDY
The JUNIOR system does not start	• No electric connection • Automatic “mains switch” in “OFF” position • Circuit breaker in “OFF” position • No water in tank	- Have the system connected as instructed in the user manual, by qualified personnel. - Set the automatic “mains” switch to the “ON” position - Set the circuit breaker to the “ON” position - Make sure the intake tap is open - Check the water pressure on the gauge - Wait about 10 minutes until the tank refills to the set level.
The WATER PRESSURE gauge remains on 0 bar	• No water connection • Permanent water tap closed • Pressure gauge broken	- Permanently connect the water tap - Open the permanent water tap by turning it to "ON” Replace pressure gauge. -replace pressure gauge
The PUMP does not start	• No electric connection • Automatic line switch deactivated, in "OFF" position • Machine circuit breaker deactivated, • in 'OFF' position • Insufficient water level	- Have the system connected as instructed in the user manual, by qualified personnel. - Set the line automatic switch to the “ON” position - Set the machine circuit breaker to the “ON” position - Check the water pressure on the gauge. - Wait about 10 minutes until the tank refills to the set level. - During these 10 minutes, the rapid filling solenoid has to start and draw water through the coupling (see page 10 item 06).

PROBLEM	CAUSE	REMEDY
cont.'d ./.. The PUMP does not start	■ The level meter blocked or faulty	- Clean the float arm inside the tank thoroughly (see page 10 item 08). Replace the faulty level meter (see page 10 point 12).
The pump pressure gauge remains on 0 bar	■ The pump does not run or is dirty/clogged ■ Insufficient water level (tank partially empty) ■ Pressure gauge faulty ■ The level meter blocked or faulty	- Replace the pump or clean the impellers. - Check the water pressure on the gauge (see page 09 item 08). - Wait about 10 minutes until the tank refills to the set level. - During these 10 minutes, the rapid filling solenoid has to start and draw water through the coupling - Replace pressure gauge. - Thoroughly clean the float arm in the tank Replace the faulty level meter
MAX LEVEL indicator light on	■ Water level above maximum setting ■ Rapid filling solenoid faulty ■ overflow (see page 10 item 09) clogged by muddy waste ■ The level meter blocked or faulty	- Check the function of the permanent sewer connection - Open the water drain gate - Replace or clean the solenoid. - Manually remove waste - Thoroughly clean the float arm in the tank - Replace the faulty level meter
CIRCUIT BREAKER not	■ Circuit breaker faulty	-Replace the circuit breaker
AUTOMATIC SWITCH not working cont.'d ./..	■ Automatic switch faulty	-Replace automatic switch

PROBLEM	CAUSE	REMEDY
cont.'d ./.. LEVEL METER blocked	④ Insufficient cleaning	- Perform biweekly, routine and special maintenance with the required frequency as indicated in the user manual, - Thoroughly clean the float arm in the tank
PUMP goes on and off after long intervals	④ Maintenance nozzle clogged Level maintenance solenoid ④ faulty	Clean the maintenance nozzle as explained in the special maintenance procedures - Replace or clean the solenoid.
Water pressure gauge shows a reading below 2.0 bar	④ Nozzles clogged ④ Pump worn	Replace worn nozzles. -Overhaul the pump and replace if necessary.

14 WIRING DIAGRAMS

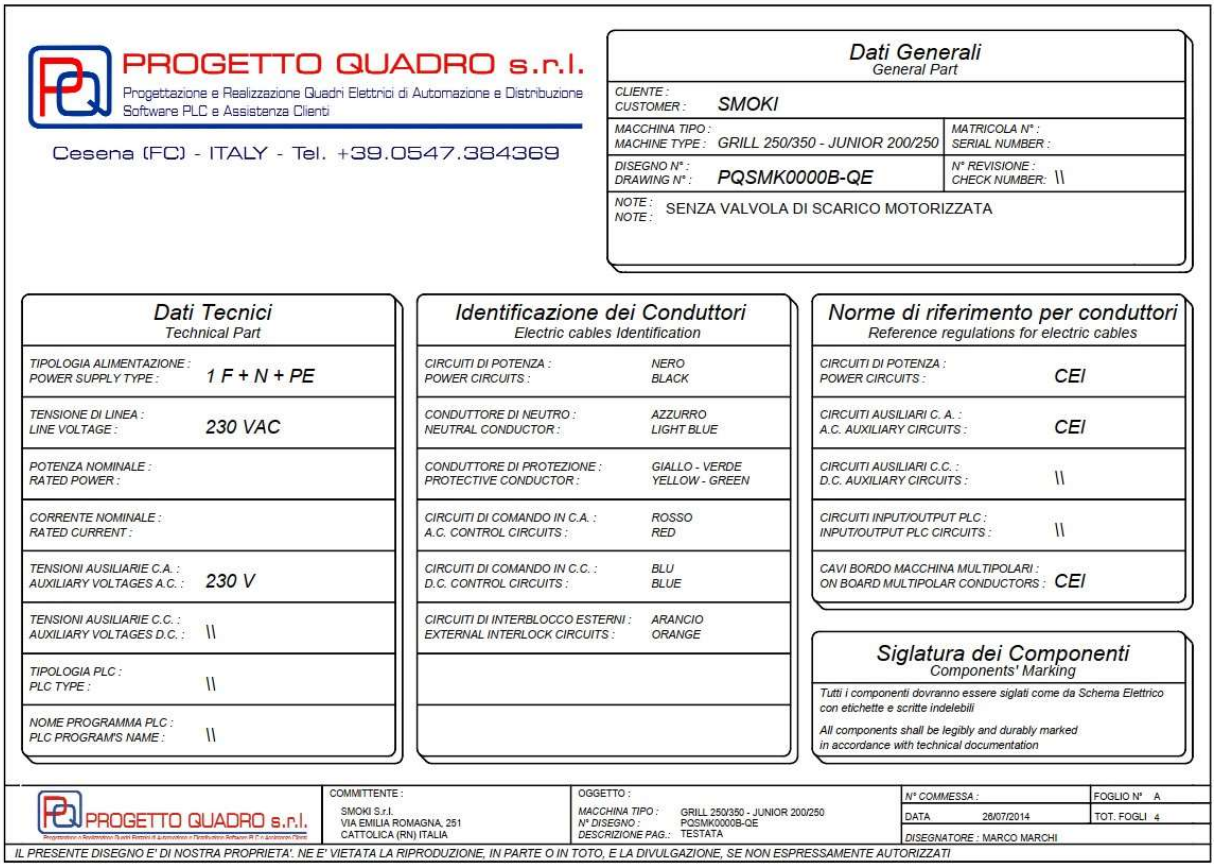
14.1 Purpose of the chapter

The wiring diagram of the soot abatement system is shown below.
Two wiring diagrams will be inserted:

- **PQSMK0000B-QE without electric water drain valve**
- **PQSMK0000B2-QE with electric water drain valve**

Therefore, pay attention when consulting them

14.2 Wiring diagram PQSMK0000B-QE



PROGETTO QUADRO s.r.l.
Progettazione e Realizzazione Quadri Elettrici di Automazione e Distribuzione
Software PLC e Assistenza Clienti
Cesena (FC) - ITALY - Tel. +39.0547.384369

Dati Generali / General Part

CLIENTE / CUSTOMER	SMOKI
MACCHINA TIPO / MACHINE TYPE	GRILL 250/350 - JUNIOR 200/250
MATRICOLA N° / SERIAL NUMBER	
DISEGNO N° / DRAWING N°	PQSMK0000B-QE
N° REVISIONE / CHECK NUMBER	\\
NOTE / NOTE	SENZA VALVOLA DI SCARICO MOTORIZZATA

Dati Tecnici / Technical Part

TIPOLOGIA ALIMENTAZIONE / POWER SUPPLY TYPE	1 F + N + PE
TENSIONE DI LINEA / LINE VOLTAGE	230 VAC
POTENZA NOMINALE / RATED POWER	
CORRENTE NOMINALE / RATED CURRENT	
TENSIONI AUSILIARIE C.A. / AUXILIARY VOLTAGES A.C.	230 V
TENSIONI AUSILIARIE C.C. / AUXILIARY VOLTAGES D.C.	\\
TIPOLOGIA PLC / PLC TYPE	\\
NOME PROGRAMMA PLC / PLC PROGRAM'S NAME	\\

Identificazione dei Conduttori / Electric cables Identification

CIRCUITI DI POTENZA / POWER CIRCUITS	NERO / BLACK
CONDUTTORE DI NEUTRO / NEUTRAL CONDUCTOR	AZZURRO / LIGHT BLUE
CONDUTTORE DI PROTEZIONE / PROTECTIVE CONDUCTOR	GIALLO - VERDE / YELLOW - GREEN
CIRCUITI DI COMANDO IN C.A. / A.C. CONTROL CIRCUITS	ROSSO / RED
CIRCUITI DI COMANDO IN C.C. / D.C. CONTROL CIRCUITS	BLU / BLUE
CIRCUITI DI INTERBLOCCO ESTERNI / EXTERNAL INTERLOCK CIRCUITS	ARANCIO / ORANGE

Norme di riferimento per conduttori / Reference regulations for electric cables

CIRCUITI DI POTENZA / POWER CIRCUITS	CEI
CIRCUITI AUSILIARI C. A. / A.C. AUXILIARY CIRCUITS	CEI
CIRCUITI AUSILIARI C.C. / D.C. AUXILIARY CIRCUITS	\\
CIRCUITI INPUT/OUTPUT PLC / INPUT/OUTPUT PLC CIRCUITS	\\
CAVI BORDO MACCHINA MULTIPOLARI / ON BOARD MULTIPOLAR CONDUCTORS	CEI

Siglatura dei Componenti / Components' Marking

Tutti i componenti dovranno essere siglati come da Schema Elettrico con etichette e scritte indelebili

All components shall be legibly and durably marked in accordance with technical documentation

PROGETTO QUADRO s.r.l.

COMMITTENTE: SMOKI S.r.l. VIA EMILIA ROMAGNA, 251 CATTOLICA (RN) ITALIA

OGGETTO: MACCHINA TIPO: GRILL 250/350 - JUNIOR 200/250 — N° DISEGNO: PQSMK0000B-QE — DESCRIZIONE PAG.: TESTATA

N° COMMESSA: — FOGLIO N° A — DATA 26/07/2014 — TOT. FOGLI 4 — DISEGNATORE: MARCO MARCHI

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI

INDICE

Codice Principale	Ubicazione	Oggetto	Da pagina	a pagina	Indice di rivisione
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B-QE LEGENDA APPARECCHI	1		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B-QE LEGENDA SIMBOLI MULTIFILARI	2		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B-QE MORSETTIERA	3		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B-QE CIRCUITO DI POTENZA E COMANDO	4		

PROGETTO QUADRO s.r.l.

COMMITTENTE :
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OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK0000B-QE
DESCRIZIONE PAG. : INDICE

N° COMMESSA :
DATA 28/07/2014
DISEGNATORE : MARCO MARCHI
FOGLIO N° B
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

Legenda Apparecchi

Sigla	Descrizione	Note
-EV1	Ventilatori	
-EV2	Ventilatori	
-HL1	Segnalazioni Luminose	
-MS1	Motori In Corrente Alternata	
-QF1	Interruttori Automatici	
-SL1	Livellostati	

PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA EMILIA ROMAGNA, 251
CATTOLICA (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK0000B-QE
DESCRIZIONE PAG. : LEGENDA APPARECCHI

N° COMMESSA :
DATA 28/07/2014
DISEGNATORE : MARCO MARCHI
FOGLIO N° 1
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

Legenda Simboli Multifilari

	Interruttore automatico magnetotermico 2P
	Contatti di scambio con interruzione momentanea
	Segnalazione luminosa, segno generale
	Motore AC monofase
	ELETTROVALVOLA

PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA EMILIA ROMAGNA, 251
CATTOLICA (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK00008-QE
DESCRIZIONE PAG. : LEGENDA SIMBOLI MULTIFILARI

N° COMMESSA : FOGLIO N° 2
DATA 26/07/2014 TOT. FOGLI 4
DISEGNATORE : MARCO MARCHI

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

X1

Verifica / Verify																				
Origine / Origin			X1_PE	X1_PE	X1_SL1	X1_SL1	-QF13	-SL1	-QF13	-HL1	-SL1	-QF12	-SL1	X1_2N	-EV2A1	-EV1A2	X1_U1	X1_U1
MORSETTIERA TERMINAL BOARD	Ponti / Junction								o			o	o					
	Morsetto / Terminal block		PE	PE	U1	U1	1N	1N	PA1	1L1	1L1	L1.1	2N	2N	2N	2N	3L1	3L1
	Filo / Wires		PE	PE	U1	U1	1N	1N	PA1	1L1	1L1	L1.1	2N	2N	2N	2N	3L1	3L1
Destinazione / Destination					-MB1U	-SL1	-MB1V	-QF13		-EV2A1	-HL1		-HL1		X1_2N	X1_2N	-SL1	-EV1A1
Posizione / Ubication			-KA	-KB	-KA	-MB	-KA	-KB	-KB	-MB	-KB	-KB	-KH	-KH	-KB	-KB	-MB	-MB

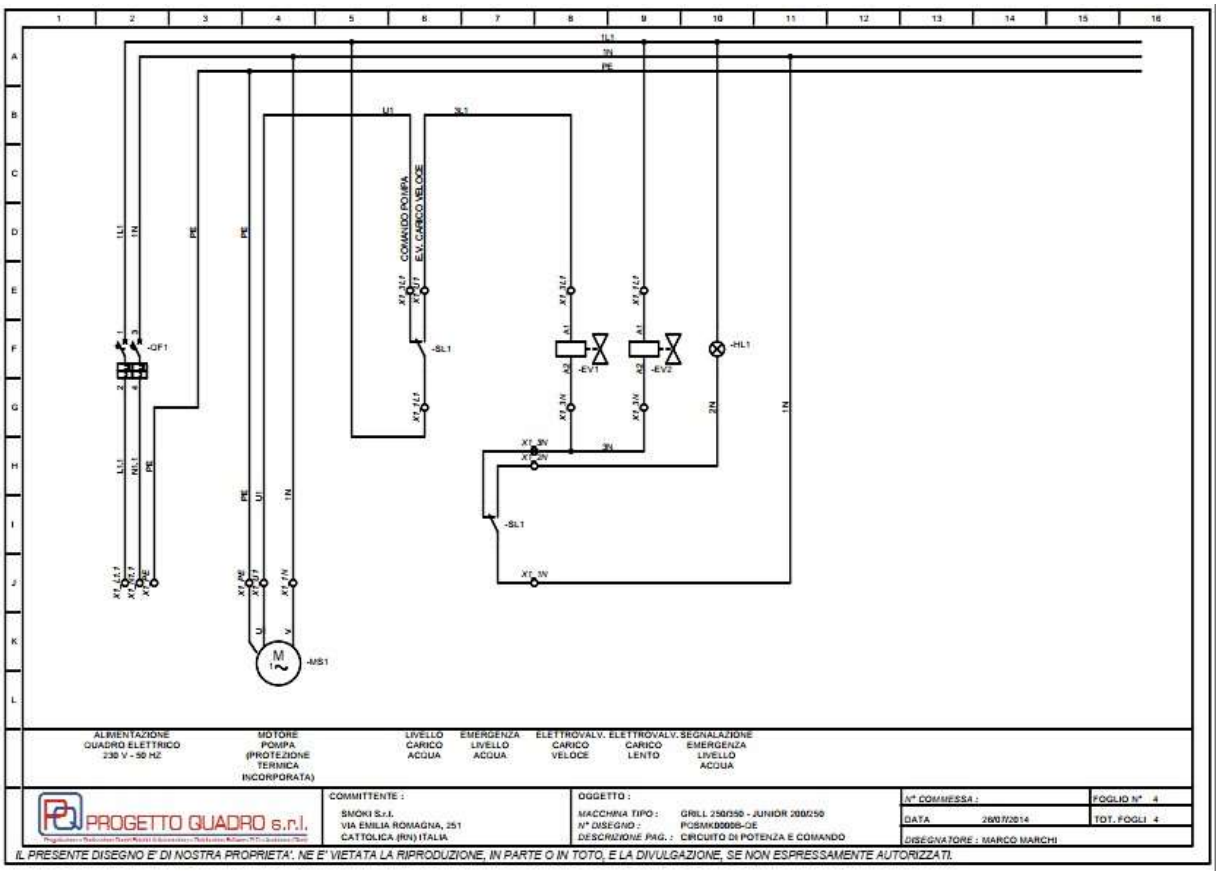
PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA EMILIA ROMAGNA, 251
CATTOLICA (RN) ITALIA

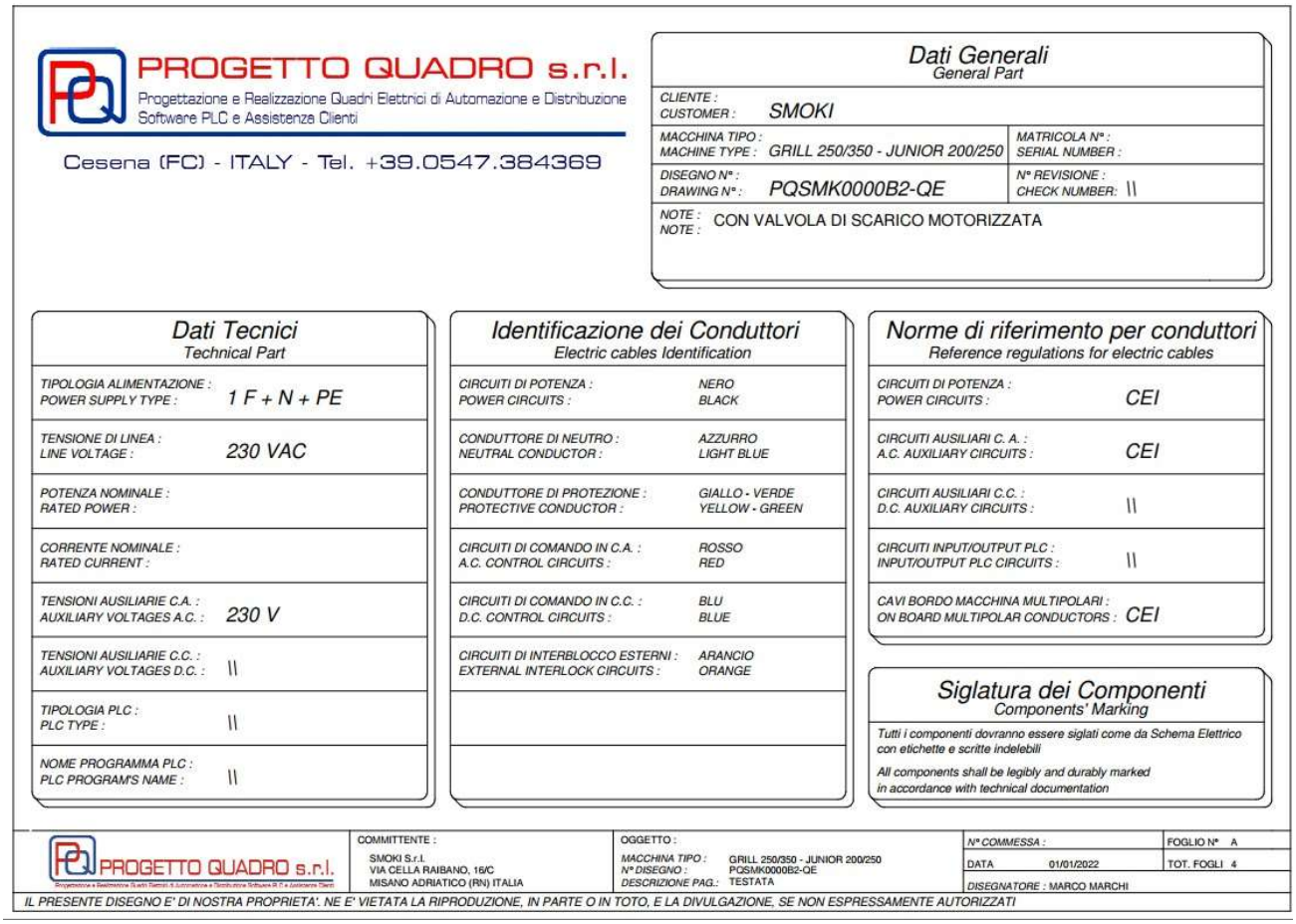
OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK00008-QE
DESCRIZIONE PAG. : MORSETTIERA

N° COMMESSA : FOGLIO N° 3
DATA 26/07/2014 TOT. FOGLI 4
DISEGNATORE : MARCO MARCHI

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.


ALIMENTAZIONE QUADRO ELETTRICO 230 V - 50 HZ
MOTORE POMPA (PROTEZIONE TERMICA INCORPORATA)
LIVELLO CARICO ACQUA
EMERGENZA LIVELLO ACQUA
ELETTROVALV. CARICO VELOCE
ELETTROVALV. CARICO LENTO
SEGNALAZIONE EMERGENZA LIVELLO ACQUA
-QF1
-SL1
-EV1
-EV2
-HL1
-MS1
COMANDO POMPA
E.V. CARICO VELOCE
PROGETTO QUADRO s.r.l.
COMMITTENTE :
SMOKI S.r.l.
VIA EMILIA ROMAGNA, 251
CATTOLICA (RN) ITALIA
OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : POSMKB0006-OE
DESCRIZIONE PAG. : CIRCUITO DI POTENZA E COMANDO
N° COMMESSA :
FOGLIO N° 4
DATA 26/07/2014
TOT. FOGLI 4
DISEGNATORE : MARCO MARCHI
IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA', NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

14.3 Wiring diagram PQSMK0000B2-QE



PROGETTO QUADRO s.r.l.
Progettazione e Realizzazione Quadri Elettrici di Automazione e Distribuzione
Software PLC e Assistenza Clienti
Cesena (FC) - ITALY - Tel. +39.0547.384369

Dati Generali / General Part

CLIENTE : / CUSTOMER :	SMOKI		
MACCHINA TIPO : / MACHINE TYPE :	GRILL 250/350 - JUNIOR 200/250	MATRICOLA N° : / SERIAL NUMBER :	
DISEGNO N° : / DRAWING N° :	PQSMK0000B2-QE	N° REVISIONE : / CHECK NUMBER:	| |
NOTE : / NOTE :	CON VALVOLA DI SCARICO MOTORIZZATA		

Dati Tecnici / Technical Part

TIPOLOGIA ALIMENTAZIONE : / POWER SUPPLY TYPE :	1 F + N + PE
TENSIONE DI LINEA : / LINE VOLTAGE :	230 VAC
POTENZA NOMINALE : / RATED POWER :	
CORRENTE NOMINALE : / RATED CURRENT :	
TENSIONI AUSILIARIE C.A. : / AUXILIARY VOLTAGES A.C. :	230 V
TENSIONI AUSILIARIE C.C. : / AUXILIARY VOLTAGES D.C. :	| |
TIPOLOGIA PLC : / PLC TYPE :	| |
NOME PROGRAMMA PLC : / PLC PROGRAM'S NAME :	| |

Identificazione dei Conduttori / Electric cables Identification

CIRCUITI DI POTENZA : / POWER CIRCUITS :	NERO / BLACK
CONDUTTORE DI NEUTRO : / NEUTRAL CONDUCTOR :	AZZURRO / LIGHT BLUE
CONDUTTORE DI PROTEZIONE : / PROTECTIVE CONDUCTOR :	GIALLO - VERDE / YELLOW - GREEN
CIRCUITI DI COMANDO IN C.A. : / A.C. CONTROL CIRCUITS :	ROSSO / RED
CIRCUITI DI COMANDO IN C.C. : / D.C. CONTROL CIRCUITS :	BLU / BLUE
CIRCUITI DI INTERBLOCCO ESTERNI : / EXTERNAL INTERLOCK CIRCUITS :	ARANCIO / ORANGE

Norme di riferimento per conduttori / Reference regulations for electric cables

CIRCUITI DI POTENZA : / POWER CIRCUITS :	CEI
CIRCUITI AUSILIARI C. A. : / A.C. AUXILIARY CIRCUITS :	CEI
CIRCUITI AUSILIARI C.C. : / D.C. AUXILIARY CIRCUITS :	| |
CIRCUITI INPUT/OUTPUT PLC : / INPUT/OUTPUT PLC CIRCUITS :	| |
CAVI BORDO MACCHINA MULTIPOLARI : / ON BOARD MULTIPOLAR CONDUCTORS :	CEI

Siglatura dei Componenti / Components' Marking

Tutti i componenti dovranno essere siglati come da Schema Elettrico con etichette e scritte indelebili

All components shall be legibly and durably marked in accordance with technical documentation

PROGETTO QUADRO s.r.l.

COMMITTENTE : SMOKI S.r.l. VIA CELLA RAIBANO, 16/C MISANO ADRIATICO (RN) ITALIA

OGGETTO : MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250 — N° DISEGNO : PQSMK0000B2-QE — DESCRIZIONE PAG.: TESTATA

N° COMMESSA : — FOGLIO N° A — DATA 01/01/2022 — TOT. FOGLI 4 — DISEGNATORE : MARCO MARCHI

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI

INDICE

Codice Principale	Ubicazione	Oggetto	Da pagina a pagina		Indice di rivisione
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B2-QE LEGENDA APPARECCHI	1		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B2-QE LEGENDA SIMBOLI MULTIFILARI	2		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B2-QE MORSETTIERA	3		
		GRILL 250/350 - JUNIOR 200/250 PQSMK0000B2-QE CIRCUITO DI POTENZA E COMANDO	4		

PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA CELLA RAIBANO, 16/C
MISANO ADRIATICO (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK0000B2-QE
DESCRIZIONE PAG. : INDICE

N° COMMESSA :
DATA 01/01/2022
DISEGNATORE : MARCO MARCHI

FOGLIO N° B
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

Legenda Apparecchi

Sigla	Descrizione	Note
-EV1	Ventilatori	
-EV2	Ventilatori	
-HL1	Segnalazioni Luminose	
-KA1	Relè Ausiliari	
-MS1	Motori In Corrente Alternata	
-QF1	Interruttori Automatici	
-SA1	Selettori	
-SL1	Livellostati	

PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA CELLA RAIBANO, 16/C
MISANO ADRIATICO (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK0000B2-QE
DESCRIZIONE PAG. : LEGENDA APPARECCHI

N° COMMESSA :
DATA 01/01/2022
DISEGNATORE : MARCO MARCHI

FOGLIO N° 1
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

Legenda Simboli Multifilari

	Selettore 0-1 2P fisse
	Interruttore automatico magnetotermico 2P
	Bobina, segno generale
	Contatti di scambio con interruzione momentanea
	Contatto normalmente chiuso
	Segnalazione luminosa, segno generale
	Motore AC monofase
	ELETTROVALVOLA

PROGETTO QUADRO s.r.l.

COMMITTENTE :
SMOKI S.r.l.
VIA CELLA RAIBANO, 16/C
MISANO ADRIATICO (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : POSMK0000B2-DE
DESCRIZIONE PAG. : LEGENDA SIMBOLI MULTIFILARI

N° COMMESSA :
DATA 01/01/2022
DISEGNATORE : MARCO MARCHI

FOGLIO N° 2
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA': NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

X1

Verifica *Verify*																							
Origine *Origin*		X1_PE	X1_PE	X1_3L1	X1_3L1	-QF1:3	-KL1	-KL1	-SL1	-QF1:2	-QF1:4	-SL1	-EV1:V2	-EV2:V2	X1_3N	X1_U1	X1_U1	-SK1:14	-SL1				
MORSETTIERA TERMINAL BOARD	*Ponti* *Junction*																						
	Morsetto *Terminal block*	PE	PE	U1	U1	1N	1L1	1L1	1L1	L1.1	N1.1	2N	3N	3N	3N	3L1	3L1	4L1	4N				
	Fili *Wires*	PE	PE	U1	U1	1N	1L1	1L1	1L1	L1.1	N1.1	2N	3N	3N	3N	3L1	3L1	4L1	4N				
Destinazione *Destination*				-AB1:U	-SL1	-AB1:V	-SA1:13	-EV2A1	-KL1			-KL1	X1_3N	X1_3N		-SL1	-EV1:A1		-XA1:22				
Posizione *Ubication*		-AU1	-AU2	-AU1	-AE6	-AU1	-AR1:4	-AE9	-AK08	-AU2	-AU2	-AN7	-AX08	-AK08	-AN7	-AK6	-AE8	-AC1:4	-AU7				

PROGETTO QUADRO s.r.l.

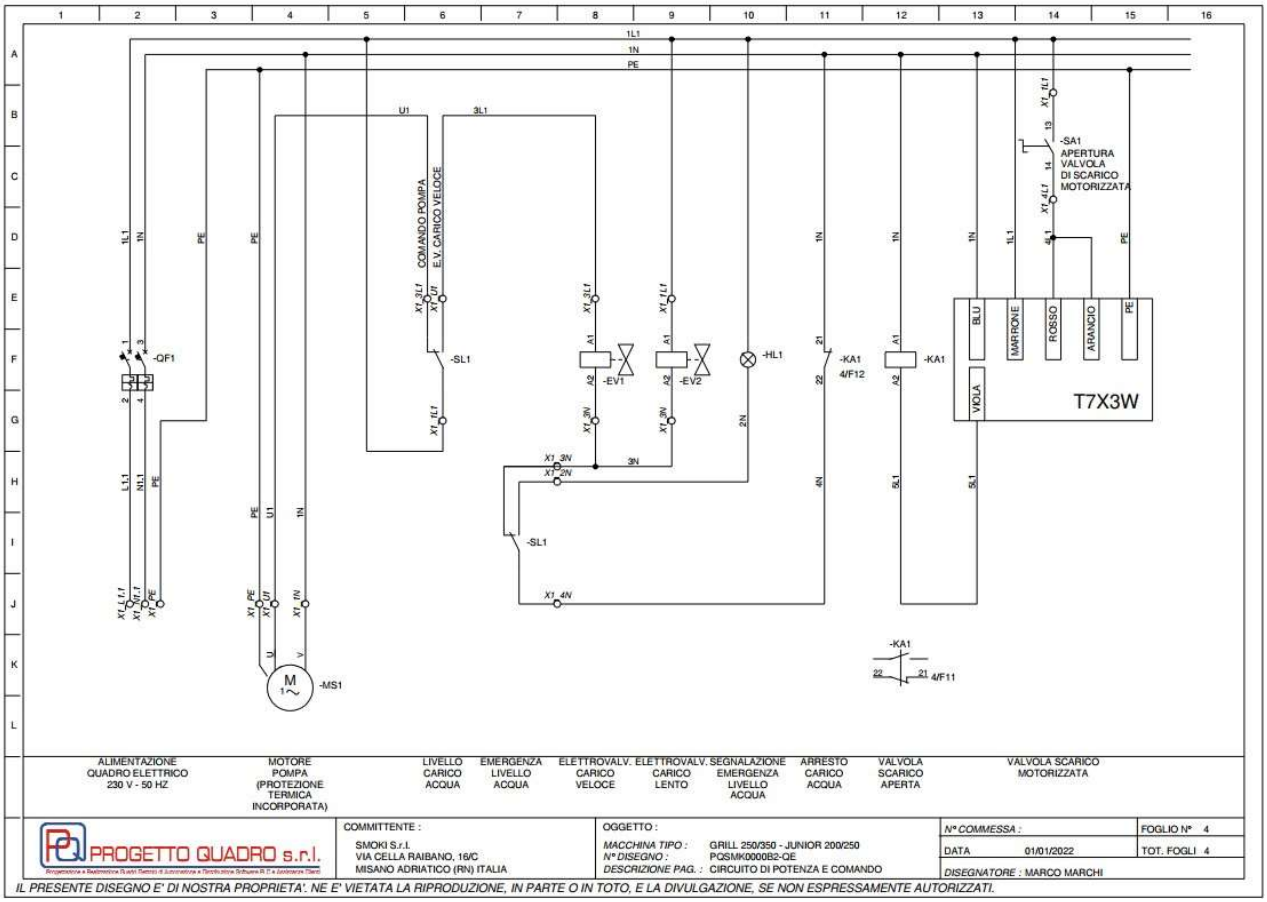
COMMITTENTE :
SMOKI S.r.l.
VIA CELLA RAIBANO, 16/C
MISANO ADRIATICO (RN) ITALIA

OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : POSMK0000B2-DE
DESCRIZIONE PAG. : MORSETTIERA

N° COMMESSA :
DATA 01/01/2022
DISEGNATORE : MARCO MARCHI

FOGLIO N° 3
TOT. FOGLI 4

IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA': NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L
1L1
1N
PE
U1
3L1
COMANDO POMPA
E.V. CARICO VELOCE
-QF1
-SL1
-EV1
-EV2
-HL1
-KA1
4/F12
-KA1
4/F11
-SA1
APERTURA
VALVOLA
DI SCARICO
MOTORIZZATA
BLU
MARRONE
ROSSO
ARANCIO
PE
VIOLA
T7X3W
-MS1
M
3~
3N
2N
4N
5L1
ALIMENTAZIONE QUADRO ELETTRICO 230 V - 50 HZ
MOTORE POMPA (PROTEZIONE TERMICA INCORPORATA)
LIVELLO CARICO ACQUA
EMERGENZA LIVELLO ACQUA
ELETTROVALV. CARICO VELOCE
ELETTROVALV. CARICO LENTO
SEGNALAZIONE EMERGENZA LIVELLO ACQUA
ARRESTO CARICO ACQUA
VALVOLA SCARICO APERTA
VALVOLA SCARICO MOTORIZZATA
PROGETTO QUADRO s.r.l.
COMMITTENTE :
SMOKI S.r.l.
VIA CELLA RAIBANO, 16/C
MISANO ADRIATICO (RN) ITALIA
OGGETTO :
MACCHINA TIPO : GRILL 250/350 - JUNIOR 200/250
N° DISEGNO : PQSMK0000B2-QE
DESCRIZIONE PAG. : CIRCUITO DI POTENZA E COMANDO
N° COMMESSA :
FOGLIO N° 4
DATA 01/01/2022
TOT. FOGLI 4
DISEGNATORE : MARCO MARCHI
IL PRESENTE DISEGNO E' DI NOSTRA PROPRIETA'. NE E' VIETATA LA RIPRODUZIONE, IN PARTE O IN TOTO, E LA DIVULGAZIONE, SE NON ESPRESSAMENTE AUTORIZZATI.

Smoki srl:
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ADRIATICO (RN) ITALY
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