

SMOKI®

s.r.l.

Use and Maintenance Manual

SMOKE ZAPPER POLLUTION CONTROL UNIT MODELS: 200, 250 and 300



Patent Nr. 01273286



POLLUTION CONTROL UNIT | FILE # MH60276 | LISTED TO UL 8782

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ENGLISH VERSION

DEAR CUSTOMER

Thank you for choosing our SMOKE ZAPPER. Please, feel free to contact us anytime for any kind of information.

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SMOKI® srl, leader in the field of wood-fired pollution control units,
supplies the most important commercial foodservice establishments in Italy and abroad.

Installation shall be in accordance with NFPA 96, *Standard for the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations* and ULC-S650, *Standard for the Installation and Performance of Ventilation and Fire Suppression Systems for Commercial and Institutional Cooking Equipment*.

01 – SYMBOLS USED IN THE MANUAL

The following symbols are used in this Use and Maintenance manual:



Interventions and / or materials for which particular attention is needed due to the risk of environmental pollution



CAUTION!!!!!! – General risk
Read the instructions before using the equipment



CAUTION!!!!!! – High voltage
Danger of electric shock, high-voltage machine



CAUTION!!!!!! – High temperatures
Do not exceed the minimum and maximum working temperature.



CAUTION!!!!!! – Very heavy object
L

PERSONAL PROTECTIVE CLOTHING TO BE WORN



FOOTWEAR



GLOVES



GOGGLES



For a proper switching on and off of the machine strictly follow the indications



Must be grounded!



Lift the packing as shown by the arrows.

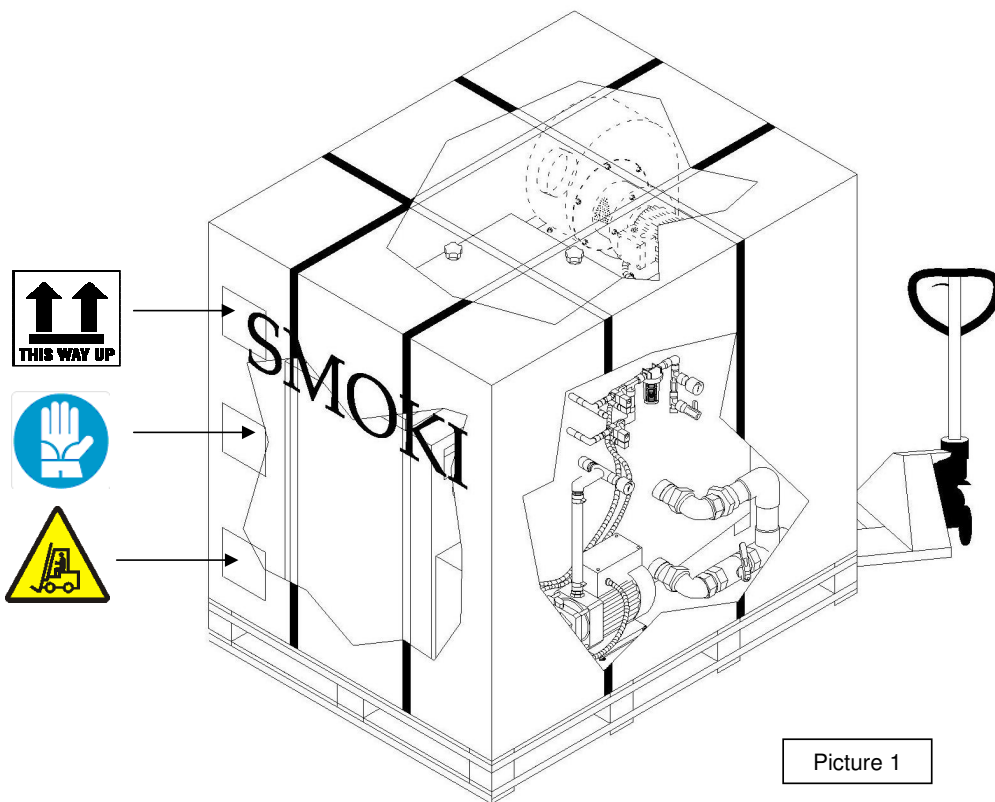
02 – MACHINE PACKING

For shipments by air the **Smoke Zapper** is delivered in a cardboard carton suitable for equipments of this type, on a wood pallet not suitable for stacking, fastened to the pallet with straps. For shipments by sea, the unit can be delivered in wooden crate packing. Both packages include the use and maintenance manual.



IMPORTANT!

We recommend standing the package upright and level (with the pallet underneath and the carton on top).



Picture 1



All packing parts must be disposed of in accordance with the laws in force in the country of destination!



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

03 – INTRODUCTION

3.1- FOREWORD

SMOKI s.r.l. provides this use and maintenance manual with detailed technical information for a correct use of the unit and indication of any possible risks.

This manual considers the most general cases. For specific information and better understanding of the directives here described , you can contact our technical department.

The manual contains a complete description of the unit main parts, explaining their function by means of 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 maximum tranquillity.

3.2 - DESCRIPTION

Every **MACHINE** delivered to our **CUSTOMERS** includes this **USE AND MAINTENANCE MANUAL**, in order to provide the operator with the necessary instructions regarding routine and special maintenance of the system, checks and adjustments.

For a perfect performance of the machine, we suggest to follow our instructions and recommendations very carefully.

All systems are factory tested according to the strictest standards and are delivered to the customers with the controlling parts suitably calibrated. It is strictly forbidden to tamper with the calibrations on pain of immediate and automatic loss of the benefits of warranty.

In order to ensure the most efficient use of its equipment, our Company stays at Customers disposal for any kind of information and suggestion.

In order to obtain the best results and preserve the original technical and construction features, we recommend the use of original replacement parts. Non-observance of this recommendation causes immediate loss of the benefits of warranty.

Illustrations and descriptions in this publication are not binding. The manufacturer has the right to make changes at any time as deemed necessary without updating this manual, although the main characteristics of the equipment will be preserved.

3.3 - TERMS OF THE WARRANTY

1) – The manufacturer guarantees its equipments for a period of 12 (twelve) months from invoice purchase date as required by law .

2) – The warranty covers all parts of the machine except 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 any parts that should exhibit malfunctions due to flaws in the original materials or assembly free of charge. For repairs on place, the user shall pay a service charge at the current rates. In case the unit or part of it is repaired in the manufacturer's workshop, shipping costs will be at user's charge. Repairs occurring during the warranty period do not extend the same.

4) – In order to be entitled for repairs under warranty, the user must show the invoice with purchase date 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 properties by defective operation of the system or its parts caused after the expiration of warranty.

6) - The manufacturer recognizes only the terms of warranty mentioned in this certificate. No one is authorized to modify or release others, whether written or verbal.

04 – MACHINE IDENTIFICATION

4.1 - IDENTIFICATION DATA

The identification plate placed in front of the machine includes all the technical data , namely:

- **Patent no.**
- **Machine model**
- **Serial no.**
- **Aspirator data (Kw, A, V, Hz, Air flow) only if the aspirator is required (optional)**
- **Smoke washing data (Kw, A, V, Hz, Air flow)**
- **Weight of the machine (empty, without water) with and w/out aspirator**
- **Water content of the machine (liters).**

NOTE: model and serial number engraved on the plate must be mentioned every time , for information and replacement parts.

On request, the machine / equipment is provided with an aspirator that can be also installed later. Features of aspirator and pump are shown in the diagram below.

MODEL	SUCTION MOTOR	PUMP	SERIAL NUMBER	MANUFACTURE DATE
	V = 208 A = 2,8 KW = 0,37 Hz=60	V = 110 A = 14,0 KW = 1,10 Hz=60		

On specific request of the customer, it is possible to supply the motor with a different voltage (V) from the standard one.

05 – TECHNICAL FEATURES

5.1- DIMENSIONS, WEIGHT AND FEATURES

Dimensions with air extractor

WEIGHT (version with Ø 200 mm)	195 lbs = 113,550 kg (empty)
WEIGHT (version with Ø 250 mm)	210 lbs = 120,650 kg (empty)
HEIGHT(version with Ø 200 mm) (a)	47" = 1.175 mm
HEIGHT (version with Ø 250 mm) (a)	52" = 1.290 mm
WIDTH (b)	40" = 980 mm
TOTAL DEPTH (c)	25" = 690 mm
CASE DEPTH (c1)	18" = 450 mm

Data without aspirator

WEIGHT	160 lbs = 90,250 kg (empty)
HEIGHT	28" = 770 mm
WIDTH (b)	38,5" = 980 mm
TOTAL DEPTH (c)	25" = 690 mm
CASE DEPTH (c1)	18" = 450 mm

SMOKE WASHING VOLTAGE POWER

110 V Single-phase 60 Hz

AIR EXTRACTOR VOLTAGE POWER

208 V 3 Phase 60 Hz
(*upon request single-phase 110V)

SMOKE WASHING POWER

1,10 KW

ASPIRATOR POWER

0,37 KW

WATER TANK CAPACITY

74 quarts = 70 liters

WATER CONSUMPTION

40 quarts/h = 40 liters/h (2 bar)

WATER PRESSURE

$1,5 \times 10^5 \div 3 \times 10^5$ Pa
(1,3 ÷ 3 bar)

AIR FLOW (version with Ø 200 mm)

250/300 mc/h

AIR FLOW (version with Ø 250 mm)

450/500 mc/h

NOISE EMISSION

69,00 dB(A)

SMOKE ENTRY (version with Ø 200 mm)

Ø 8" = 200 mm

SMOKE EXIT (version with Ø 200 mm)

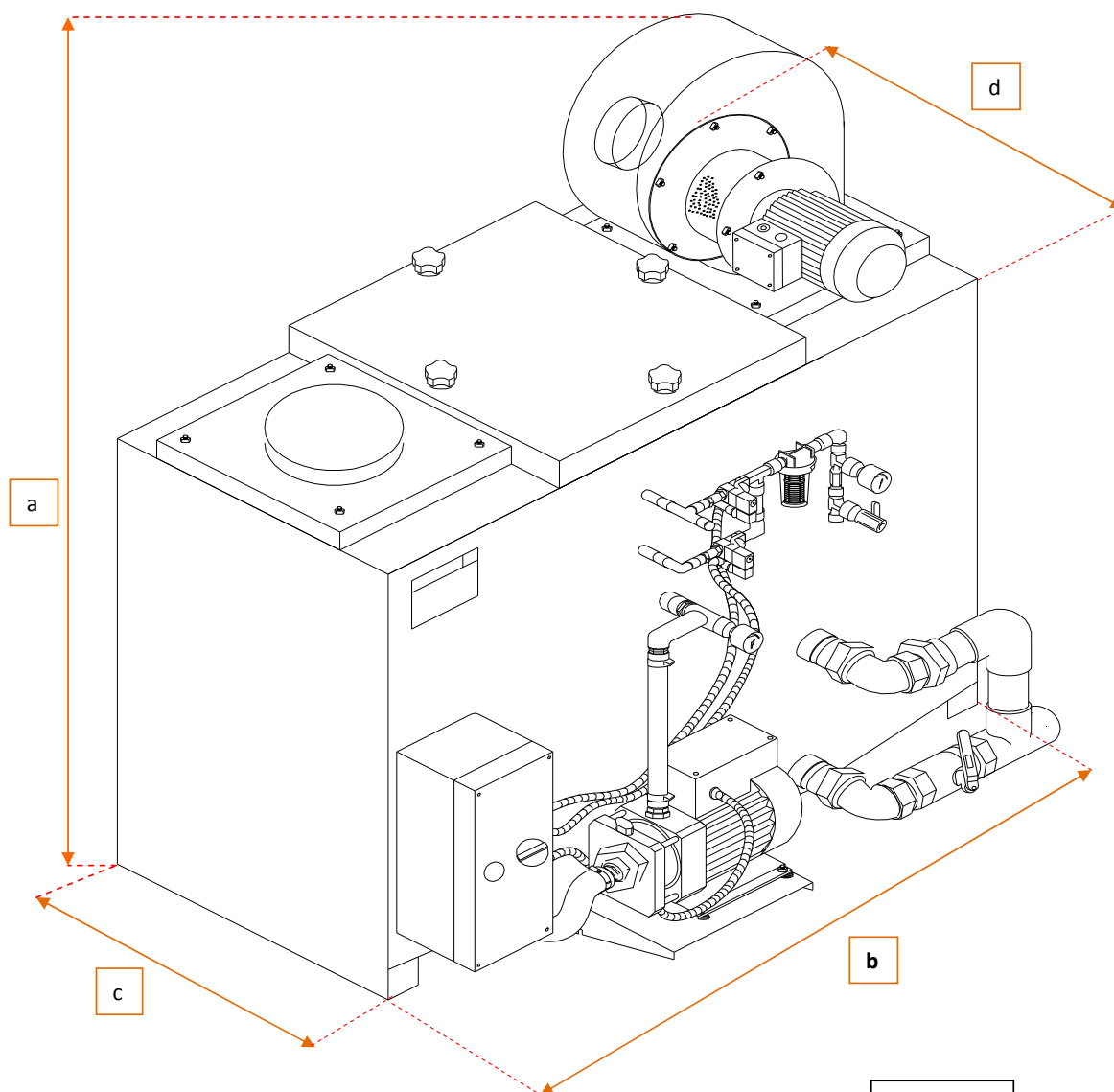
Ø 8" = 200 mm

SMOKE ENTRY (version with Ø 250 mm)

Ø 10" = 250 mm

SMOKE EXIT (version with Ø 250 mm)

Ø 10" = 250 mm



Picture 2

NOTE: FOR OUTDOOR INSTALLATIONS A PROTECTIVE PANEL IS NEEDED

06 – MAIN TECHNICAL DATA

MAIN TECHNICAL DATA	
WORKING TEMPERATURE 	From 14° F to 122° F (From -10 °C to +50 °C)
APPLICATION	The machine is designed for installation either inside closed places or outside, connected in both cases to a fume discharge system (smokestack). Installation in cold, damp places is possible.
BAD WEATHER	The machine is protected from bad weather (rain, snow, hail etc) by an insulated protective housing. However, an extreme reduction of the atmospheric temperature (below 14° F = - 10 °C) or ice may damage the machine and interfere with a proper operation. <u>For lower temperatures the use of an additional equipment for heating /maintain a temperature $\geq 14^{\circ}$ F is advisable . When the unit is not in use for more than 3 days during freezing temperatures we advise to empty and drain it to protect the unit from water freezing up inside the unit that can cause damage to parts.</u>
OPERATION	Continuous as needed.
SAFETY PROTECTION	Electrical and mechanical parts comply with the current safety regulations.
NOISE	The equivalent continuous sound pressure level weighted A of the machine is <i>less than 70dB(A)</i>. <u>After placing the machine in the productive structure, however, it is task of the installer, to maintain or upgrade the phonometric investigation as required by current safety standards.</u>

07 – IMPORTANT SAFETY INSTRUCTIONS

Before performing any kind of operations on the unit, we recommend a careful reading of the instructions enclosed in this manual.



IMPORTANT!!!!

Please pay full attention to the following recommendations and ask your Staff to do the same. Warnings alone do not eliminate danger! Instructions or warnings are not meant as a substitute of safety and accident prevention rules, but as an additional reminder in order for you and your staff to comply with them. Non – observance of safety recommendations or improper use of the machine will harm you and others.



CAUTION!!!!

In order to prevent electrocution and injuries to hands or fingers while using this equipment, the following safety warnings must be followed very strictly.



WARNING!!!!

Before working on the equipment, always make sure you are wearing the necessary safety gear such as gloves, goggles and footwear.

Read and follow these instructions before using the system, and keep them for future reference!

Make sure that non-authorized or untrained personnel, especially children, do not touch or start the equipment.

Serious danger of injury may occur to the personnel assigned to the use of the system if safety devices are removed, tampered with or bypassed.

this appliance is not intended for use by persons (included children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



The system must be exclusively grounded by a specialized installer who should first check, using suitable instruments, the effectiveness of the grounding system to which the machine **must** be **imperatively** connected.

He should also check the effectiveness of the machine grounding and then connect it to the mains power by following current technical regulations in compliance with EN-60204-1 standard and / or electrical standards in force in the country of destination.

NOTE: QUALIFIED PERSONNEL: this is what we call somebody who has taken specializing and training courses and is able to install, do the start up and maintenance of the system. Qualified personnel must also have basic notions of first aid and know what to do if an accident occurs.

Keep the workplace tidy.

Disorder in the workplace may cause accidents.

During use, wear suitable protection gear in accordance with the rules established by the safety authorities and company management where the machine is used.

Before approaching the system wear appropriate clothing:

- Do not wear loose clothes, scarves, ties, jewelry; keep your hair gathered in a cap or other suitable accessories. Hair could be caught by moving parts.
- Fasten sleeves at the wrists with buttons or other fasteners.
- Use suitable footwear for your workplace according to the accident prevention rules of your country.

Avoid insecure positions:

- Make sure you are always in a secure position and can keep your balance.
- Always be careful.
- Observe your workplace. Be reasonable, do not use devices which can distract you and do not work under the influence of alcohol, drugs or medicines.



IMPORTANT!!!!

For your own safety, use only tools or accessories advised in the instructions. Use of different accessories or not recommended consumables may cause injuries.

Intact equipment:

- Before using the unit, make sure it is intact and working perfectly. Check the safety devices and verify there are no damaged parts. It is important that the moving parts can move freely and there are no breaks. Also, make sure everything in the machine has been correctly assembled and verify whatever could interfere with the normal operation of the equipment – such as capacity and drainage of water – and fume intake and exhaust .

Unless stated otherwise in the instructions, safety devices or damaged parts must be replaced or repaired in a workmanlike way by a Customer Service Center and/or authorized Distributor.

When damaged, switches, solenoids, pump, exhaust motor, level gauge, and power cord must be replaced by a Customer Service Center .

- Do not use the system if the switch cannot be turned ON and OFF.
- Before cleaning or performing maintenance on the machine, disconnect the power by turning the switch to the OFF position
- The sheathing on the power cord must be intact, so check it periodically and verify there are no abrasions, cracks or swellings, and it is not twisted. If you notice any alterations, replace it immediately.



- Do not use the installation if not properly grounded!

MAINTENANCE AND MACHINE CLEANING

Perform biweekly, routine and special maintenance as recommended in the present manual.

Failure of maintenance may cause in time damages to the machine parts and bad performance of the same.



IMPORTANT!

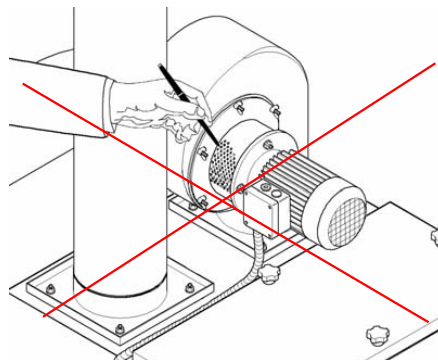
Failure of biweekly, routine and special maintenance operations reduces the machine anti- pollution efficiency .



CAUTION!!!!

Never put objects in the holes of the protective grating

Picture 3

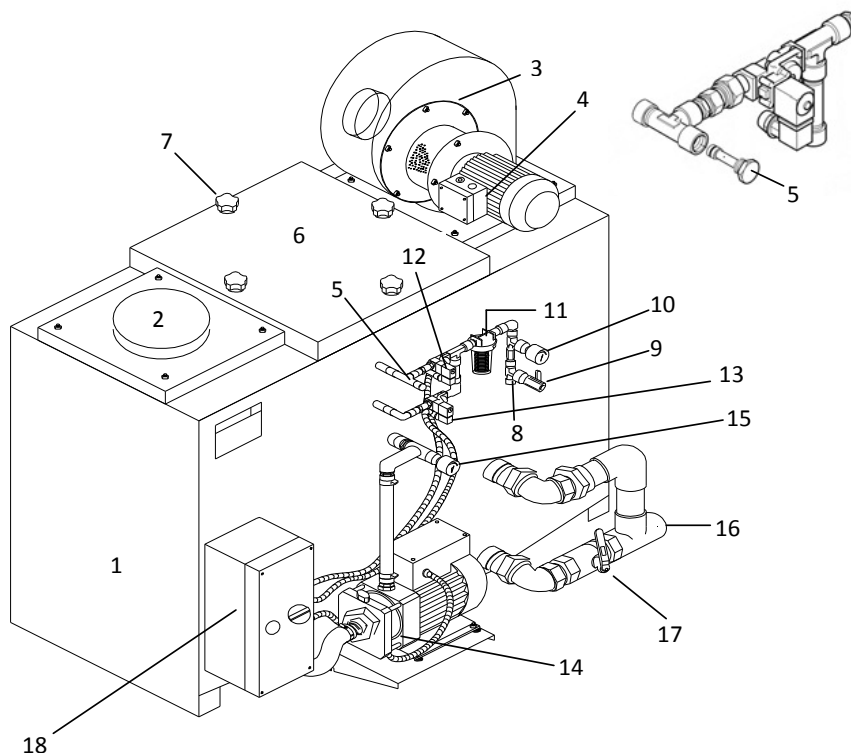


Note: SAVE THESE INSTRUCTIONS

08 – MAIN EXTERNAL PARTS

DETAIL OF PARTS:

- 1) - MACHINE BODY
- 2) - CONNECTION TO SMOKESTACK (ENTRANCE and EXIT * see arrow direction on the machine)
- 3) - SCROLL
- 4) - EXHAUST UNIT
- 5) - GIGLER
- 6) - MACHINE COVER
- 7) - COVER FASTENING KNOBS
- 8) - TAP "A" FOR PERMANENT CONNECTION TO WATER SUPPLY
- 9) - AUXILIARY TAP "B"
- 10) - WATER PRESSURE GAUGE
- 11) - WATER SUPPLY CONNECTION FILTER
- 12) - LEVEL MAINTENANCE SOLENOID
- 13) - RAPID FILLING SOLENOID
- 14) - PUMP
- 15) - PUMP PRESSURE GAUGE
- 16) - DISCHARGE TO SEWER
- 17) - WATER DRAIN GATE CONTROL LEVER
- 18) - ELECTRICAL SWITCH WITH MAXIMUM LEVEL INDICATOR AND STATE LEVEL

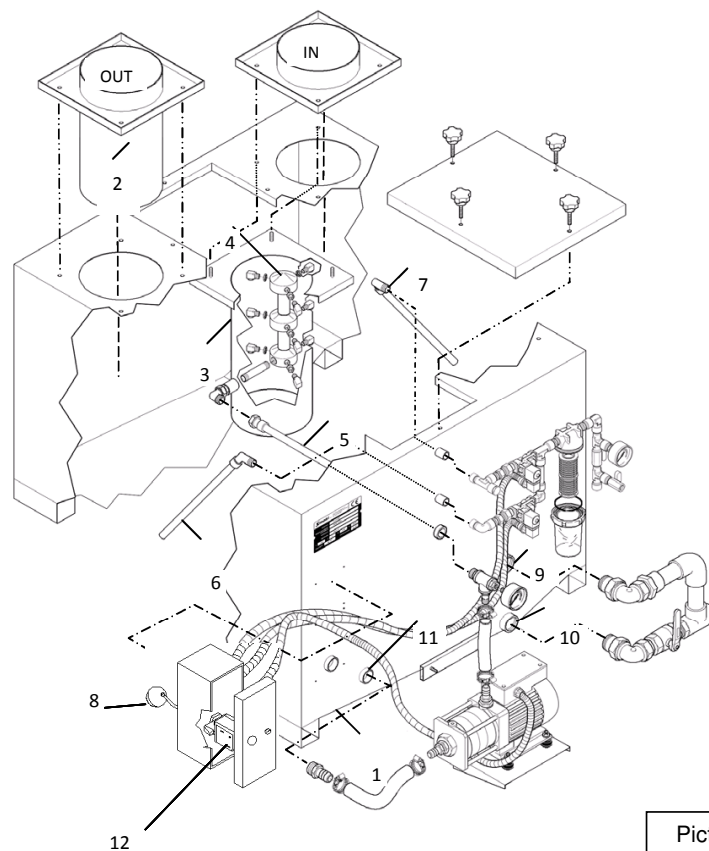


Picture 4

08 – MAIN INTERNAL PARTS

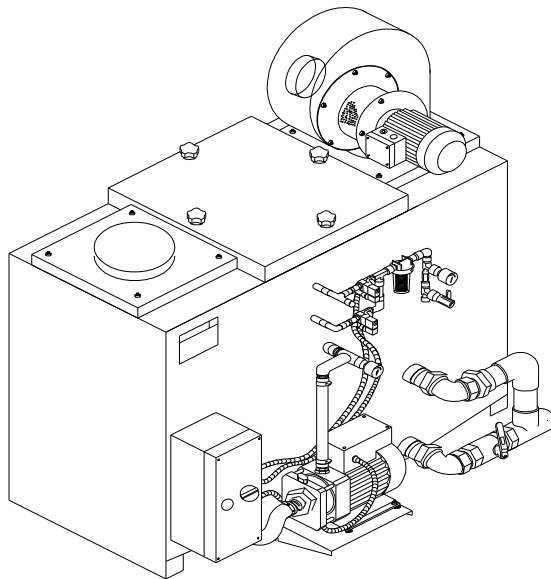
DETAIL OF PARTS:

- 1) - BASE TILT
- 2) - EXHAUST FUME “OUT” CYLINDER
- 3) - INTAKE FUME “IN” CYLINDER
- 4) - CONICAL SPRAY NOZZLE UNIT
- 5) - COUPLING FROM PUMP TO SPRAY UNIT
- 6) - COUPLING FOR WATER CAPACITY MAINTENANCE
- 7) - SOLENOID (RAPID FILLING) COUPLING
- 8) - FLOAT
- 9) - WATER EXPULSION AT LEVEL TO SEWER
- 10) - WATER DRAIN GATE
- 11) - SUCTION PUMP
- 12) - LEVEL GAUGE



Picture 5

09 – GENERAL DESCRIPTION OF THE SYSTEM



Picture 6

Our **“SMOKE ZAPPER”** is an appliance that thoroughly eliminates all smut particles discharged through the Pizzerias oven flues, thus preventing atmospheric pollution and contrasting any risk of fire.

The filtering method is based on the simplest and most efficient element found in nature: water! Soot abatement is achieved by washing the smoke inside the machine. Smoke passes through a veil of water generated by a spray unit with 9 conical nozzles. These spray the water and filter the smoke as it passes through. The filtered particles fall then into the recycle tank and are discharged with the drain water. Exhaust fumes, purified and cooled can be finally sent into the atmosphere.

The filtration process achieves a 95% abatement level of the soot and approximately 40-50% of the smell.

Water consumption is very limited: indeed the system provides to recycle normal mains water that then filtrates and clears all fumes and smut particles produced during combustion.

The “SMOKE ZAPPER”, can be connected to the flue of a wood oven at any point, and is designed and made using selected materials to ensure long life.

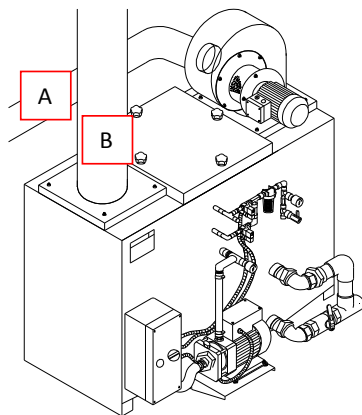
The system can be provided with an aspirator (upon request), that user will turn on and off independently from the machine itself, in order to increase the suction power of under-sized flues or to be used on some special kinds of ovens, such as rotating ovens, that require a major air circulation. Flues' natural draught is however guaranteed, because our system does not narrow the exhaustion canal in no way, as it contains no inner filters nor the suction unit features any bottleneck.

The electric starter consists of an automatic switch with a proper amperage placed near the oven or on the power panel. The unit is equipped with a circuit breaker (ON/OFF switch) and a maximum level indicator inside the electric box.

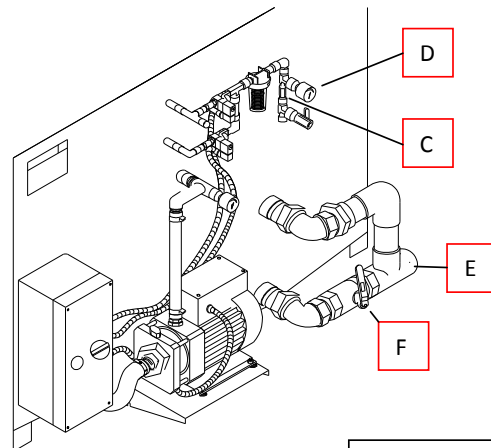
In Italy, our unit meets the requirements of the National Health Service and is acknowledged as eco friendly.

Please note: any use of the unit not recommended in the present manual is strictly prohibited.

10 – SYSTEM OPERATION



Picture 7



Picture 8

10.1 – POSITIONING

The machine must be placed on a flat surface, not –slippery or flaky and far away enough from any obstacle. Positioning and the subsequent installation must be performed by qualified personnel.

It is essential that the flooring is suitable for securing the positioning, stability and leveling of the machine considering that the same has a total weight of 150 kg. The floor must be suitable for placement of the machine, without holes and yielding shares and solid enough to support the weight of the unit and accessories considering an adequate safety factor. In case the placement must be executed on intermediate floors, upper floors or raised areas, it is necessary to make sure that the maximum capacity of the floor or pavement is greater than the weight of the machine plus accessories considering an adequate safety factor.

Note: Do not install the unit on unstable or non-compact surfaces (**gravel or crushed stone, sand, etc.**).

While installing the machinery / equipment it is essential to leave the necessary space needed for a safe cleaning and maintenance of the same.

If the machine is installed on a shelf, raised floors or similar, it must be fixed with screws placed in the holes already prepared on the base.

Minimum space required for maintenance of the appliance. The parts possibly subject to maintenance are only placed in front, inside and on top of the unit. There is nothing on both sides and on the back of the device. Minimum dimensions required for a proper and secure maintenance of the appliance:

- upper part: a + 60 cm;
- Front : c + 80 cm;
- Side : 60 cm.
- Back: according on installation needs

The room where the unit is installed must be sufficiently ventilated so as to avoid overheating of the appliance. Temperature must be < 50 ° C. It is strictly prohibited to place flammable material, packaging or else near the pump and aspirator (if needed).

In case the unit is positioned outside, the same must be protected by means of a special insulated cover.

10 – SYSTEM OPERATION

10.2 – ELECTRIC 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, including compulsory grounding, must be **performed by a certified electrician**. The electrical system to which the “**SMOKE ZAPPER**” is connected must be controlled upstream by a differential magneto-thermal switch.

Before being placed on the market, the machine is subject to a functional electrical testing.

The machine is supplied with an electrical extension cord 3P + N + T to be connected to the electrical area.

Instructions for the field wiring – (this is a stationary permanently connected appliance) in the case if the provided wire whip will not be long enough to reach the power supply.

The power line of the machine must be fitted with residual current protection in accordance with security regulations.

After making the electrical connections and before starting the equipment, perform all tests according to electrical safety standards.

Pay attention to the passage of power wires to the machine so that the same do not create obstacles to normal use and cleaning of the unit.

The draught forcing device (suction unit) comes with no additional electrical connections on the machine panel. The installer must, therefore, provide the electrical connection of the same and a switch for the extractor near the oven, kitchen, etc.. (remote switch) and switch near the machine for the safe maintenance.

The installation must be undertaken in full compliance with current regulations.

Nota the appliance is provided with one only electrical switch that turns the whole unit ON and OFF. There are no partial power switches.

10.3 – CONNECTION TO THE FLUE

Make sure the system is correctly connected to the flue so that the smoke enters through opening “A” and exits through opening “B”, using a suitable pipeline (pipes and elbows) in AISI 316 stainless steel Ø 8” or 10” smooth, not corrugated, and **watertight** (against condensation).

For recommended brands please contact us.

10.4 – WATER CONNECTION

Permanently connect the system to the existing water supply with the water tap “C” shown in picture 8.

Make sure it is connected to the water supply by reading water pressure on the pressure gauge (**ideal water pressure is $1,5 \div 3 \text{ bar} = 1,5 \times 10^5 \div 3 \times 10^5 \text{ Pa}$**); if pressure is higher, install a pressure reducer which, among other things, allows the reduction of water consumption. Make sure that the auxiliary valve “D” is closed (“OFF” position indicated by the arrow on the lever).

Note: Water hardness. For a proper functioning of the machine, water hardness should be $\leq 20/25 \text{ }^\circ\text{F}$.

For values $\geq 20/25 \text{ }^\circ\text{F}$ the installation of a water softener is recommended

Note: for water cleaning of the tank **use only** the rubber hose provided with the appliance (see point 12.06).
Never utilize used rubber sets.

10.5 – CONNECTION TO THE SEWER SYSTEM

Permanently connect the unit to the existing sewer system through drain “E” shown in picture 8 paying particular attention that the water drain gate “F” is closed (vertical position).

The installation of **a trap** in the immediate vicinity of the system **is essential!**

10 – SYSTEM OPERATION

10.6 – STARTUP OF THE SYSTEM

Before starting the system absolutely verify that:

- the rotation direction of the aspirator (3-phase) is correct;
- all operations and mechanical fastening of the machine have been implemented correctly.

To start the installation, after making all connections (see above), make sure that the switch of the electrical panel is set to "ON", and then act on the following circuit breaker of the power line:

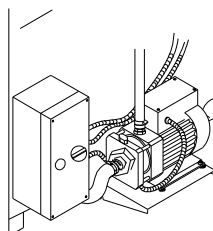
- Power switch ("ON") (The switch is usually located in the kitchen cabinet or in the immediate vicinity of the oven).

For a further operator safety, SMOKI s.r.l. considers essential that the electrical system to which the "SMOKE ZAPPER" is connected, complies with the standards of current regulations and is equipped with a differential magneto - thermal switch.

10.7 – SWITCHING OFF THE SYSTEM

To switch OFF the system ,use the electric line switch:

- Machine switch "OFF". This is usually located on the power panel or in the immediate vicinity of the oven.



Picture 9

IMPORTANT!!!!!!

The circuit breaker on the machine, should always be in the "OFF" position when you do any kind of work on the machine directly. It is convenient to install a circuit breaker separate in the vicinity of the machine also for the aspiration.

CAUTION!!!!!!

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



CAUTION!!!!

Do not use the machinery / equipment without the safety guard.
Do not tamper with the guard

11 – MAINTENANCE

Maintenance procedures indicated below cover the entire maintenance process (biweekly, routine and special). The operator will have to perform them in chronological order.
Once made the first maintenance, if necessary, the user can perform the operations more frequently.

Maintenance operations :

- a. **biweekly** every 15 days,
- b. **routine** every 60 days
- c. **special** every 6 months

11.1 Biweekly maintenance

BIWEEKLY maintenance must be carried out at regular intervals every **15(fifteen)** days.

It consists in:

- **cleaning the water filter** if necessary;
- **changing the recycle water**, so as to improve smoke washing and reduce atmospheric pollution.

11.2 Routine maintenance

ROUTINE maintenance must be carried out at regular intervals every **60(sixty)** days.

It consists in:

- **biweekly maintenance** plus **cleaning the recycle tank**, paying particular attention to the **drains** and **float arm**.

11.3 Special maintenance

SPECIAL maintenance must be carried out at regular intervals every **6 (six)** months.

It consists in:

- **biweekly and routine maintenance**, plus **cleaning the gigler and suction unit blades**

Special maintenance procedures are all indicated in the following pages.

12 – MAINTENANCE PROCEDURES

Before proceeding with maintenance operations, always comply with the following warnings:



CAUTION!!!!

Do not touch electrical parts with wet hands. **RISK OF ELECTRIC SHOCK!**



CAUTION!!!!

Do not perform outdoor maintenance when it is raining. **RISK OF SHOCK, SHORT CIRCUIT AND LIGHTNING!**



IMPORTANT!!!!

Before performing any repair or maintenance, disconnect the power line circuit breaker, the switch in the machine electrical panel and equip yourself with adequate safety protection such as gloves, goggles and footwear.



IMPORTANT!!!!

The machine cleaning requires compressed air
When using compressed air wear protective glasses and/or other equipment indicated by safety regulations;



IMPORTANT!!!!!!!

Maintenance must be carried out by qualified personnel only at regular intervals as Indicated in the present manual. Failure of maintenance interventions will cause Immediate loss of the machine warranty.



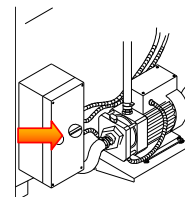
CAUTION!!!

Use of flammable liquids in the cleaning of electrical components is strictly prohibited.

12.1 Switch turn off

Turn off the switch on the machine electrical panel as shown in the picture.

If any additional intake system, switch off plant itself acting on its switch.



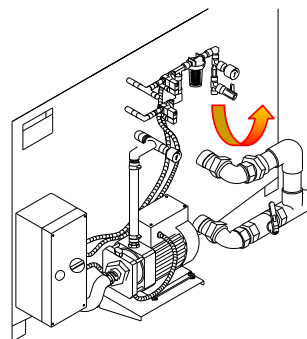
12.02 Water tap closure

Turn the tap lever upward to the horizontal "OFF" position as shown in the picture.

Repeat for additional intake system.



With the tap closed, water pressure gauge should gradually fall to 0 bar.



12.03 Water supply filter cleaning

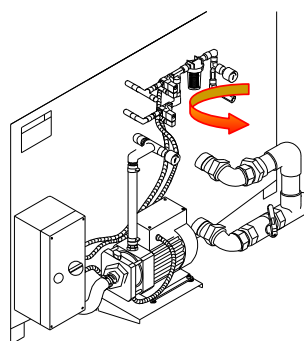
Turn the glass ring of the water filter anticlockwise and empty it into a bucket.

Remove the filtering cartridge and clean by washing it in clean water (see picture).



Filter reassembling :

- position the filtering cartridge in its housing
- position the gasket on the edge of the glass
- screw the ring on the glass clockwise



12.04 Cover opening

Unscrew the 4 (four) fastening knobs on the cover clockwise and remove them.

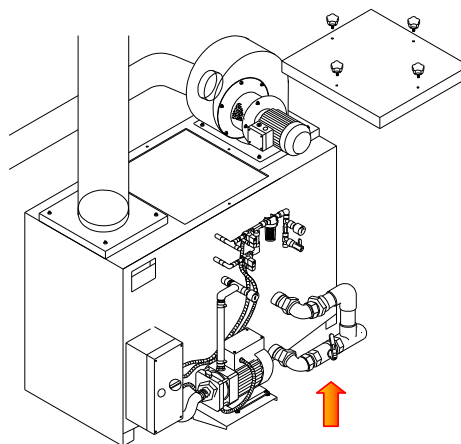
Now carefully remove the cover from the machine body



12.05 Water drain gate opening

Turn in horizontal position the control lever on the gate as shown in the picture.

Water level in the machine will start to lower



12.06 Water tank cleaning

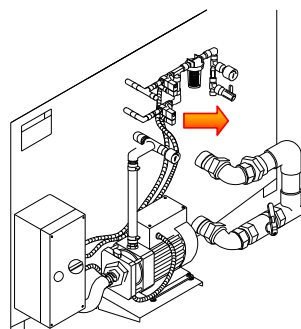
How to clean the tank: open the auxiliary tap indicated by the arrow , connect it to the hose and clean the tank with a jet of water.

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

- 1) the drain lever is open (horizontal position),
 - 2) Water drain inside the tank is not clogged with muddy waste.
- In such case remove the waste manually,

- 3) clean the float arm inside the tank carefully .

After cleaning the water tank close the auxiliary tap indicated by the arrow.

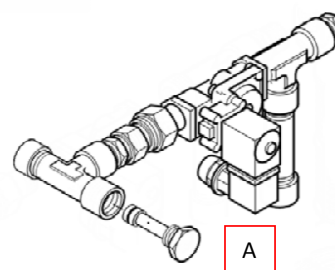


12.07 Gigler cleaning

The gigler shown in picture "A" must be loosened by means of a 26 mm wrench, unscrewed and cleaned with water or compressed air.

Gigler reassembling:

- re-position the part in its housing
- tighten it by means of a 26 mm wrench.

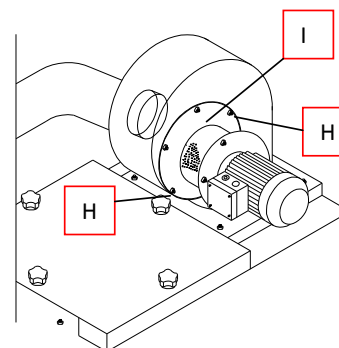


12.08 Suction unit dismantling:

Dismantle the suction unit by removing the six wing screws "H" on the scroll.

While removing the last octagonal fastening nut "I", prevent the suction unit from falling by gripping it firmly.

Carefully remove the suction unit from its housing, taking special care not to damage the blades.



CAUTION!!!!

Given the considerable weight of the unit, the same could cause injury in case of accidental fall on the operator! Use of personal protective equipment (gloves and safety shoes) is therefore very important.

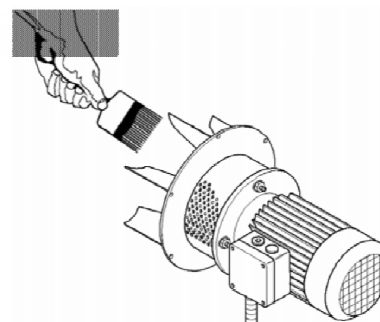
12.09 Suction unit blades cleaning

Position the suction unit on a solid surface, on the work table and clean the blades, using a brush or cloth..



CAUTION!!!!!!

Blades edges are sharp and might cause injuries to the fingers. Work carefully and always wear safety gloves.



12.10 Suction unit reassembly

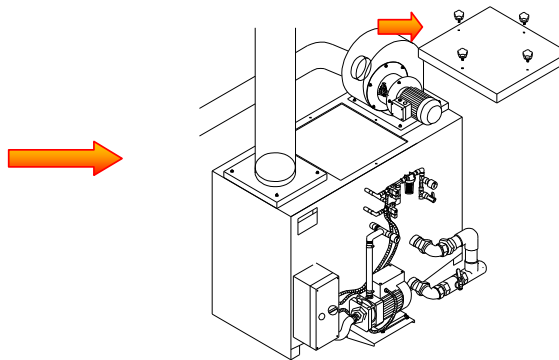
Carefully reposition the suction unit in its housing taking special care not to damage the blades and inserting the 6 (six) bolts that fasten the suction unit to its housing in the scroll.

Ensure the suction unit in its original position by fixing the first wing nut indicated by "I" . This will avoid an accidental fall of the part out of its housing. Now fasten the remaining wing nuts indicated by "H" and tighten them in pairs, one opposite the other.

12.11 Cover reassembly

Position the machine cover on the inspection window, taking care of the gasket while laying it.

Now place the 4 (four) fastening knobs on the cover and screw them clockwise.

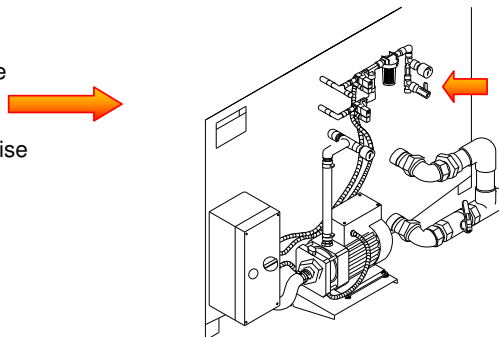


12.12 Water tap opening

Turn the tap lever to the vertical position as shown in the picture.

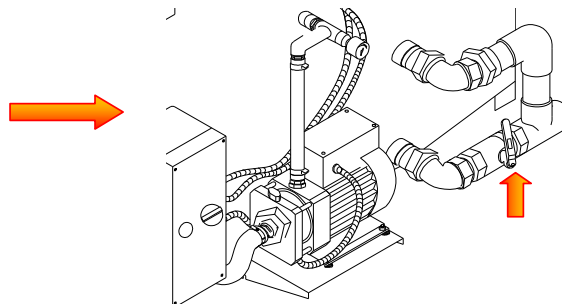
With the tap open, water pressure on the gauge should rise gradually to reach a value of 1.5 - 3 bars.

The water tap must be left open!

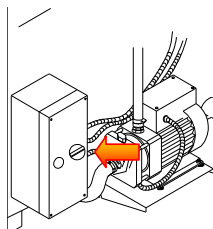


12.13 Water drain gate closing.

Turn the gate lever anticlockwise to the vertical position as shown in the picture by the small arrow.



12.14 Switch turn on



Turn on the switch on the machine electrical panel as shown in the picture



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 reaches a value of 1.5 - 3 bar!**

12.15 Stainless steel cleaning

To ensure preservation of the equipment, clean the machine taking care not to damage the cables and electrical connections.

Stainless steel appliances must be cleaned observing following precautions:

- Do not use preparations containing salt or sulfuric acid to eliminate limestone. Suitable products can be easily found, but a diluted solution of acetic acid can be successfully used for this purpose.
- Stainless steel appliances must be cleaned with specific detergents for this material;
- Avoid using cleaners containing bleach or abrasive powders of any kind;
- Do not use sharp objects that can affect and deteriorate stainless steel parts.

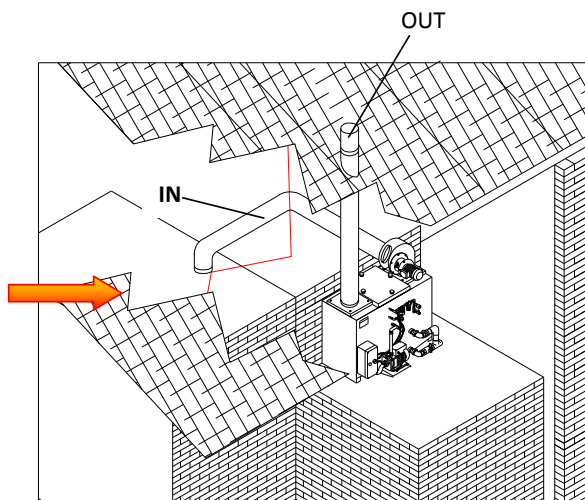
13 – INSTALLATION OPTIONS

13.1 – Indoor installation (option “A”)

The picture shows one of the possible installations inside the building.

- The oven pipe is directly connected to the machine smoke entry marked by “IN” .
- The machine smoke exit marked by “OUT”
- is directly connected to the flue that goes out through the roof

The smoke intake through the oven-machine pipe connection must have a minimum 5° ascending angle in order to prevent load losses or air pockets where the oven is the lowest point and the “IN” entry to the machine is the highest point. Keep the same angle for the outgoing flue.



In the drawing it is clearly indicated that the SMOKE ZAPPER (depth 450 mm x width 980 mm) must be placed on a brick made standing base or support able to carry the weight.

13.2 - Indoor installation (option “B”)

Second option as shown in the picture

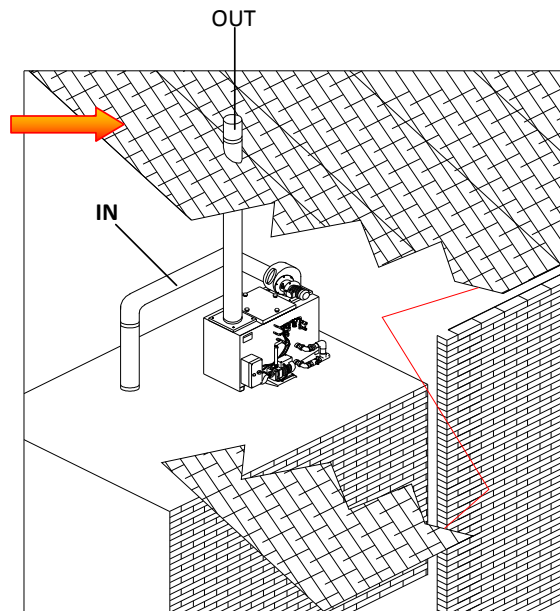
the machine is directly installed over the oven, inside the building.

- The oven flue is directly connected to the machine smoke entry marked by “IN” ;
- The machine smoke exit marked by “OUT” , is directly connected to the pipe that goes out through the roof.

The smoke intake through the oven-machine pipe connection must have a minimum 5° ascending angle in order to prevent load losses or air pockets where the oven is the lowest point and the “IN” entry to the machine is the highest point.

In the drawing it is clearly indicated that the SMOKE ZAPPER (depth 450 mm x width 980 mm) is placed on the oven brick made standing base, able to carry the weight.

The machine must be secured to the base by means of the holes already prepared by the manufacturer.



13.3 – Indoor Installation (option “C”)

Third option, as shown in the picture. 

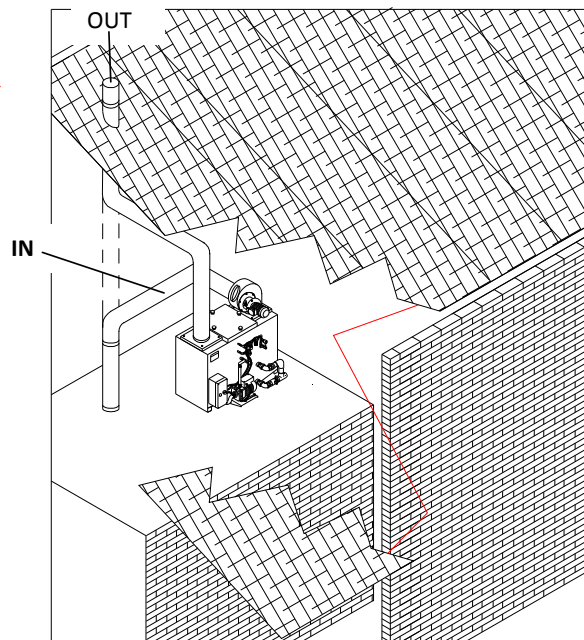
the SMOKI system is directly installed over the oven, inside the building.

- The existing smokestack indicated in dotted lines is interrupted, deviating it directly towards the machine smoke entry marked by “IN” .
- The return connection to the interrupted outgoing flue departs from the machine and then goes through the roof as before.

The smoke intake through the pipe connection to the machine must have a minimum 5° ascending angle in order to prevent load losses or air pockets. Keep the same angle for the outgoing flue.

In the drawing it is clearly indicated that the SMOKE ZAPPER (depth 450 mm x width 980 mm) is placed on the oven brick made standing base, able to carry the weight.

The machine must be secured to the base by means of the holes already prepared by the manufacturer.



13.4 - Outdoor installation

As shown in the picture. 

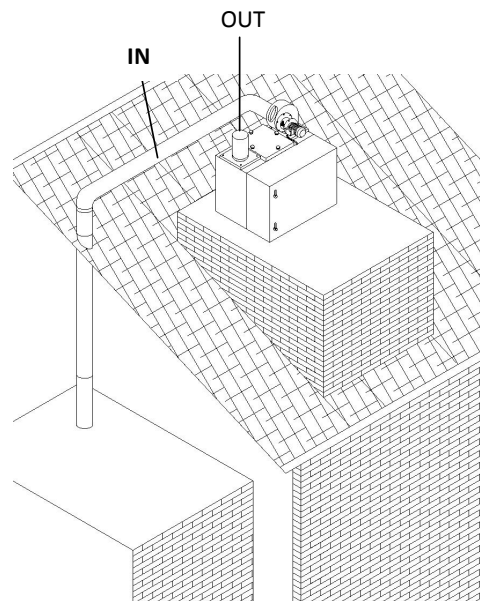
the unit can be installed directly on the roof of the building.

- The existing flue (particularly the part that goes through the roof) is directly connected to the machine smoke entry marked by “IN” .
- The outgoing terminal departs from the machine smoke exit marked by “OUT”

The smoke intake through the pipe connection to the machine must have a minimum 5° ascending angle in order to prevent load losses or air pockets.

In the drawing it is clearly indicated that the SMOKE ZAPPER (depth 450 mm x width 980 mm) placed on the roof is provided with a brick made support able to carry the weight.

The machine must be secured to the base by means of the holes already prepared by the manufacturer.



When the SMOKE ZAPPER is installed outside, it must be equipped with a special insulated cover for outdoor installation in order to protect the machine from bad weather.

A severe temperature drop (below 14° F = - 10° C) could cause unsafe conditions. When the SMOKE ZAPPER is not being used for more than 3 days in freezing weather conditions you must empty/drain the tank so that the unit can't get damaged by freezing up inside.

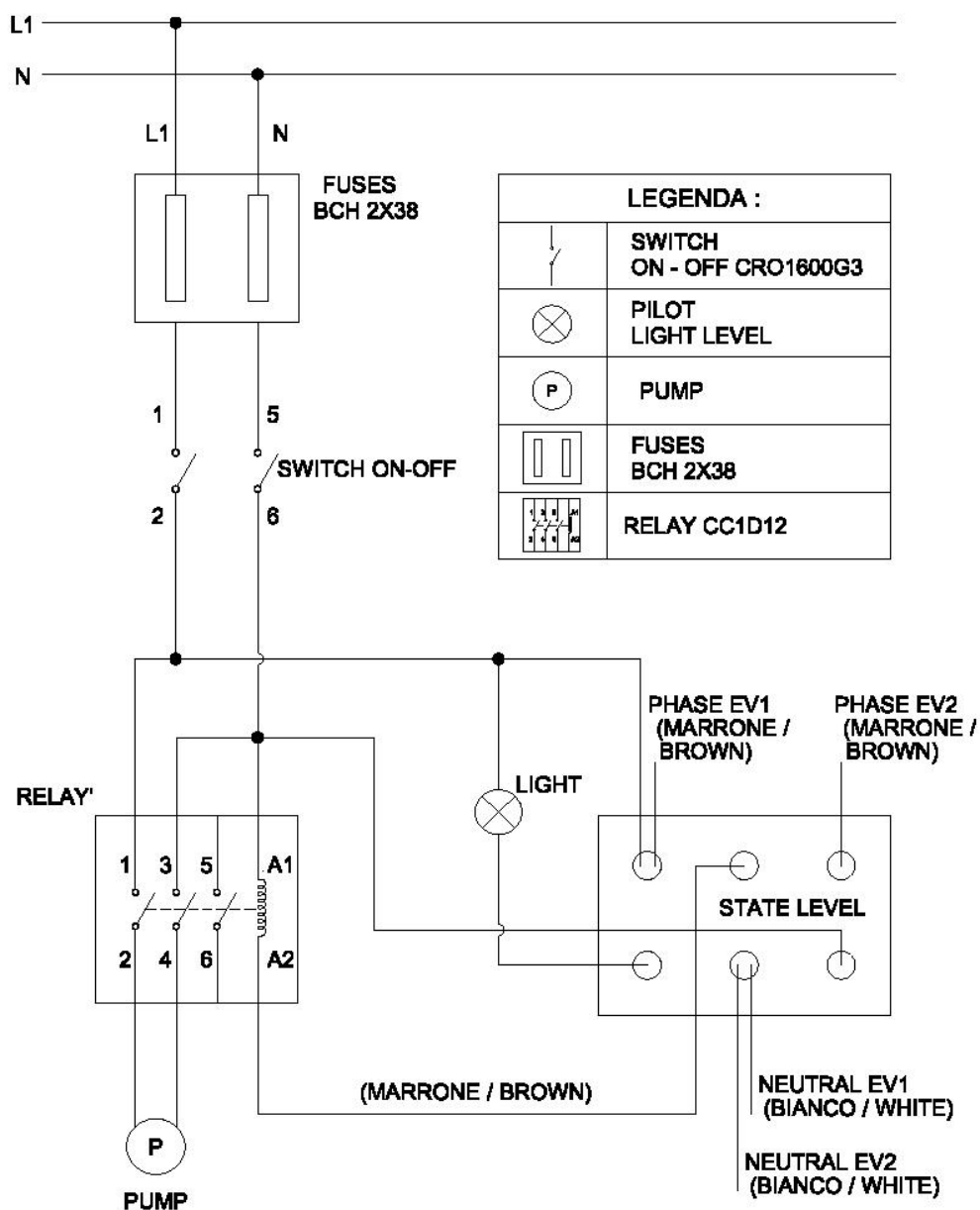
14 – TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
The SMOKE ZAPPER system does not start	• No electric connection • Automatic "main switch" OFF • Circuit breaker "OFF" • No water in the tank	- Have the system connected by qualified personnel as instructed in the present user manual. - Turn the automatic "main switch" to "ON". - Turn the switch to "ON" . - Make sure the intake tap is open - Check water pressure on the gauge - Wait about 10 minutes until the tank is filled to the set level.
WATER PRESSURE gauge remains at 0 bar	• No water connection • Permanent water tap closed - Broken pessure gauge	- Permanently connected the water tap - Open the permanent water tap by turning it to "ON" - Replace pressure gauge
The PUMP does not start	• No electric connection • Automatic line switch "OFF" • Machine circuit breaker "OFF" • Insufficient water level	- Have the system connected by qualified personnel only as indicated in the present use and maintenance manual . - Turn the automatic "main switch" to "ON" - Turn the circuit breaker to "ON" - Check the permanent water pressure on the gauge - Wait about 10 minutes until the tank refills to the set level. - In these 10 minutes, the rapid filling solenoid has to start and draw water through the coupling .

	Blocked or faulty level switch	- Clean the float arm inside the tank thoroughly - Replace the faulty level switch .
The pump pressure gauge remains at 0 bar	- The pump does not rotate or is dirty/clogged - Insufficient water level (tank partially empty) - Faulty pressure gauge - Blocked or faulty level switch	- Replace the pump or clean the rotors - Check permanent water pressure on the gauge - Wait about 10 minutes until the tank refills to the set level - In these 10 minutes, the rapid filling solenoid has to start and draw water through the coupling (see item 6). - Replace pressure gauge - Clean the float arm inside the tank thoroughly . - Replace the faulty level switch .
MAXIMUM LEVEL indicator light on	- Water level above maximum setting - Faulty rapid filling solenoid - Drain at level clogged by muddy waste - Blocked or faulty level switch	- Check function of the permanent sewer connection . - Open the water drain gate . - Replace or clean the solenoid - Manually remove waste - Clean the float arm inside the tank thoroughly. - Replace the faulty level switch
The CIRCUIT BREAKER does not plug or unplug	Faulty circuit breaker	Replace circuit breaker
The AUTOMATIC SWITCH does not plug or unplug	Faulty automatic switch	Replace automatic switch.
Blocked LEVEL SWITCH	Insufficient cleaning	- Perform biweekly, routine and special maintenance as indicated in the present use and maintenance manual 12) - Thoroughly clean the float arm in the tank .

PUMP goes on and off after long intervals	• Clogged gigler • Faulty level maintenance solenoid	- Clean the gigler as explained in the special maintenance precedures . - Replace or clean the solenoid.
Water pressure gauge shows a reading below 2.0 bar	• Worn nozzles • Worn pump	- Replace the worn nozzles . - Overhaul the pump and replace if necessary.

15 – PUMP WIRING



16 – ACCESSORIES - OPTIONAL

16.1 Insulation for outdoor installation

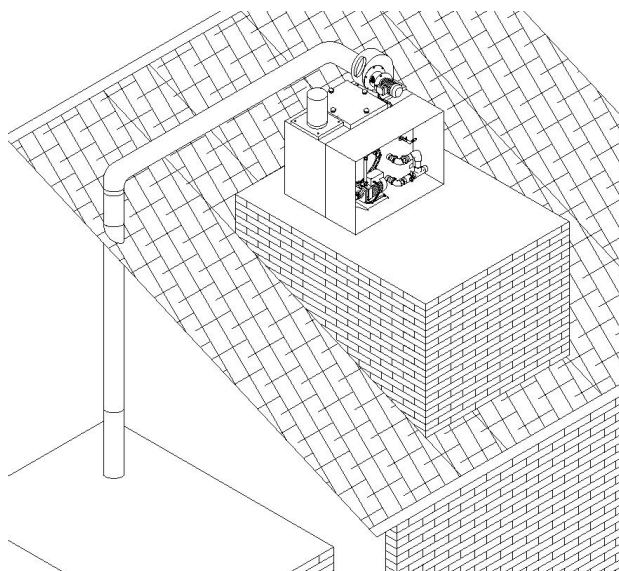
When the unit is installed in the open, the special insulation provides additional protection against bad weather (snow, ice, rain and so on).

The protective panel is an excellent protection against ice and snow given the difficulties of providing maintenance outside with these specific weather conditions.

In countries where winter temperatures are rather low the panel reduces damages that could be caused by very cold weathers.

16.2 - Opening of the inspection panel for outdoor insulation

The insulation is provided with an inspection panel which can be removed by turning the closing tabs.



17 – UNUSED MACHINE

In case the machine is not used for a long time, disconnect electricity and water supply and protect it with cellophane tape or similar products against dust and pollutants in general.

18 – DEMOLITION AND DISPOSAL OF UNIT

In case of demolition or replacement of the equipment and parts of it, the disassembled parts must be treated and disposed of in accordance with the laws in force in the country of destination. Demolition, therefore, must be performed by authorized personnel for the recovery and disposal of machinery equipment and similar .



When dismantling machinery equipment of any kind, always comply with the antipollution laws in force in the country of use.

The machine must be delivered to authorized personnel for the recovery and disposal of parts of the same.