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MAINTENANCE BOOK



AH 300

SUMMARY

1. Technical Specifications
2. Purpose of the machine
3. Working principle
4. Description of the machine
5. Installation
6. aspirator
7. Maintenance
8. Warnings

1. Technical Specifications

Overall height (LXWXH) 1000x500x650 40 cm vertical more for the fan

Weight 40 kg empty, 80 kg full

Material Stainless steel 316

Pump capacity 35 l / m

0:37 kw Power

Absorption 4.6A 230V

Fumes flow rate between 400 and 1800 m³ / h (aspirated)

Temp. Output about 50 degrees

2. Purpose of the machine

The machine 300 is built to eliminate black carbon (soot) and impurities of various kinds from the combustion gases, and is used where it is necessary to purify waste from non-toxic exhaust smoke before placing them in 'environment; is mainly used in gas treatment of small charcoal grills, wood stoves, pellet stoves, wood and biomass, and other combustors with soot and particulates. The model described has a system of double scrubbing. The wash water can be disposed of in the sewer system. It comes out from the machine air saturated with steam, at a temperature of about 50 degrees, devoid of carbon particulate and suspended impurities (95% reduction). Odors are killed by 60-70%.

CAUTION.

The machine is not designed to treat impurities or toxic fumes, corrosive or harmful to the environment.

The operating fluid must be water; It is not provided for the use of different substances and / or additives such as salt, antifreeze, alcohol, etc.

Installation requires ducts 316 stainless steel watertight, without covering elements (Chinese hats, etc.).

The filter is installed on a flat, non-slippery and can withstand the weight of the machine operation and operator / maintenance personnel involved. If the appliance is placed on a mezzanine, this must be fixed to the wall and / or chains from the ceiling, and the machine must be secured to the same loft;

The machine can be adapted, after consulting with the technicians of the manufacturer, to flues diameter different from that of input-output of the machine itself, or to operate with filters of post-treatment conditions such that steam and residual odors.

Not use, in the flue, curved sections in greater numbers than strictly necessary, and never with stretches down after the machine. Should it be necessary for the installation to add a number of curves greater than 3, or solutions that appear of some complexity, consult the manufacturer.

3. Working principle

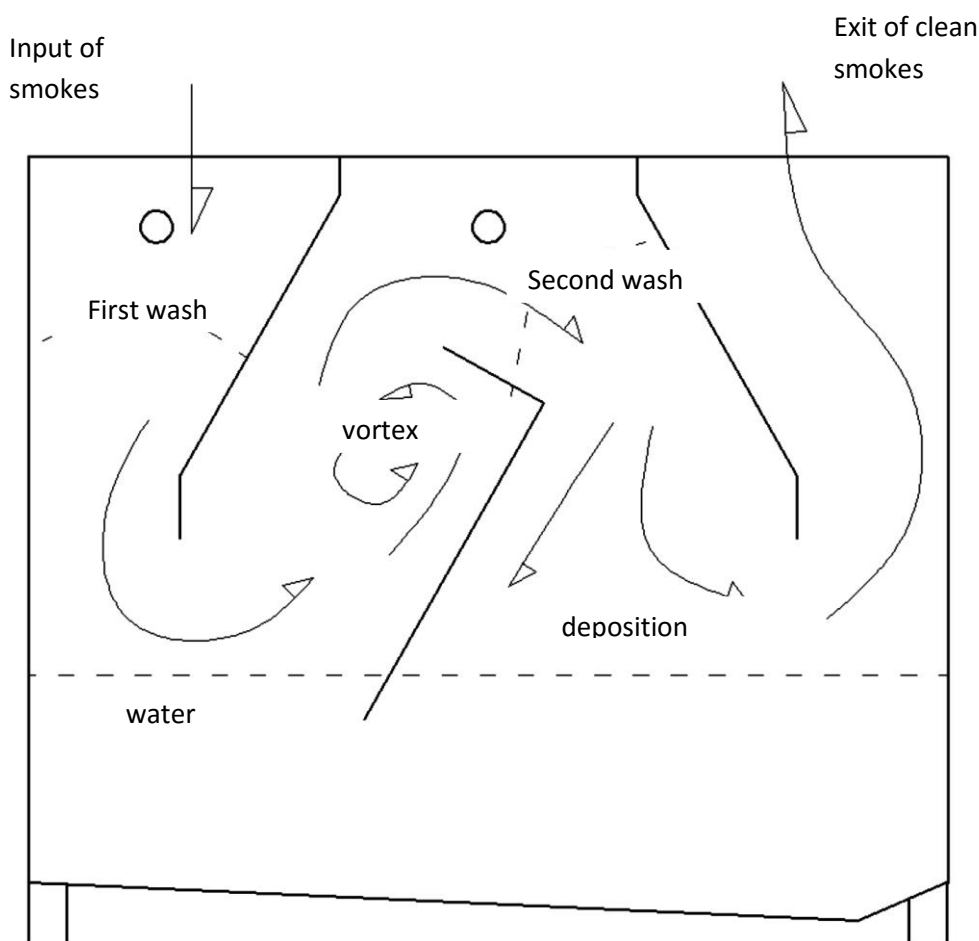
The smoke is passed through pipes, the combustion source to the machine. The gas velocity slows down owing to enlargement of the section, and the nebulized water present within the system incorporates the impurities and lowers down. Another factor cleaning is given by the surface tension of water present on the bottom, which attracts the lighter particles when the current of flue gas is forced to pass around. The position and the shape of the internal bulkheads are studied in order to create vortices that contribute to the trapping of particles and wet them conglomerate between them.

The sections of the machine through which the fumes are cleaned, are essentially two:

- .The inlet, fitted with two nozzles;
- .the machine center, where there is another triplet nozzles.

Thanks to the energy released in pumping water, the system relies on a self-draw up to 450 mc / h, on chimneys of suitable diameter and no tortuous or S.

Internal flows



4. Machine description

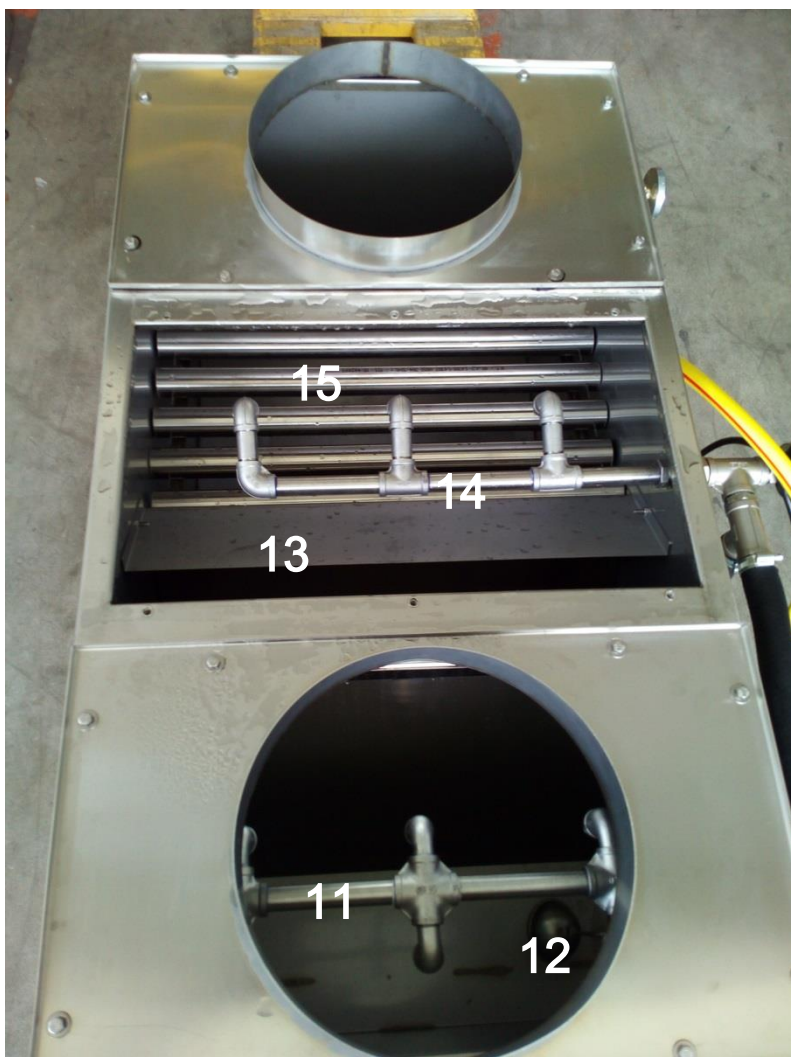
The plant consists of three main parts:

- .the carcass of stainless steel, closed by welding, which are fixed internally the inlet tube, the internal bulkheads and the flanges;
- .The Electric pump, the water dispensers, fitted with nozzles, and the hydraulic tuberie that connect the same to the pump;
- .The Floating system and solenoid valve that regulates the release of water from the mains. There are also:
 - .a exhaust pipe with the valve, which also includes the overflow; at the discretion of the customer, the valve can be manual or remote control;
 - .a pressure gauge for the water-input and one for control of the pressure generated by the pump;
 - .a brass bar as a function of the sacrificial anode, connected to earth ground.



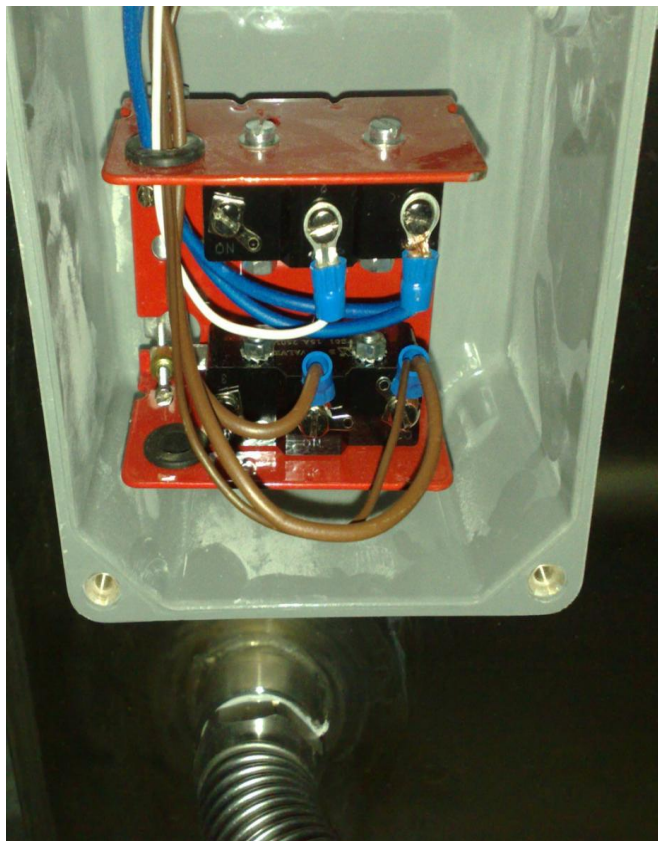
NOTE: the photo shows a right-inlet model.

- 1: Inlet plate (right-side inlet)
- 2: Inspection hatch
- 3: Output of smokes (right-side inlet)
- 4: Water pipe for the first water nozzles
- 5: Water pipe for the central water nozzles
- 6: Thermometer
- 7: Pump
- 8: Electrical box float
- 9: Solenoid load water
- 10: Overflow drain



- 11: first row of nozzles
- 12: Float ball
- 13: Middle bulkhead
- 14: second row of nozzles
- 15: tubes (removable)

NOTE: the five tubes present after the second wash can be removed if the draft is insufficient. Usually they are used to increase the treatment in installations with fan, which applications on charcoal grills, large boilers or combinations of furnaces, but their removal does not represent a substantial reduction of the treatment.



Wiring diagram of the float

White: neutral loading solenoid valve (5).

Blue, blue: neutral and pump power

Brown in the middle: stage pump

Brown on each side: phase power and solenoid valve.

The float determines the ignition of the pump once reached a minimum water level, and blocks the inflow of water from the network once the level reaches the maximum set. You can intervene on the setting of the float with the two screws on the side.

CAUTION

In models equipped with electric valve, keep in mind the form attached to the guidelines for the electrical connection of the control panel.

The calibration of the float is such as to optimize the operation of the machine, ensuring the sufficient water reserve. Do not intervene on the setting without consulting the manufacturer

Scheme of the picture control exhaust remote control

It shows the schematic of this circuit in the control box, for models with a drain solenoid to control remotely.

FUNCTION

Position I: drain solenoid valve closed, the machine is running.

Fume filters, green light.

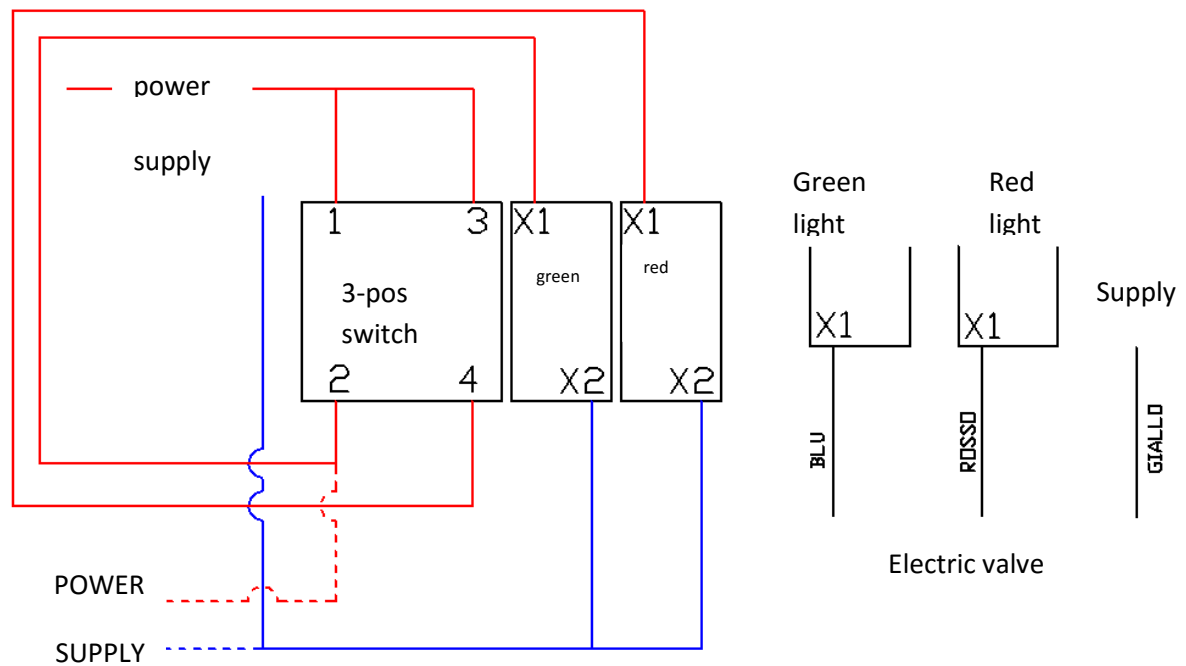
Position II: Electric Valve open, the machine is off. Drain water, red light.

CAUTION

To install and connect the facility, it must be used by qualified personnel. There is a danger of electrocution.

Observe the color scheme and the connections to the machine. The dotted lines indicate that the power of the picture to the machine.

If in doubt in the link, please contact the manufacturer.



NOTE: can be mounted other types of electrical panel, eg. fitted with timer for continuous replacement of the water, that ensure operability of the machine 24 h.

5. Installation

The machine should be installed in a location covered and protected from the weather: in the case of outdoor installation, is supplied by the manufacturer in a metal cover.

The environment in which the machine operates must remain between 5 and 50 degrees of temperature. They must be guaranteed conditions such that the water to freeze or exceed 80 degrees.

The location of the system should not take place in areas with presence of dust atmosphere, potentially harmful, toxic or explosive.

The installation of the machine requires:

- .a flat surface and not slippery, in degrees to bear the full weight of the machine and operator; for machines placed on soppalcatura, this must be fixed to the wall and the machine must be fixed to soppalcatura; each accommodation must be reached by the operators.
- .a electrical connection of 230 V;
- .a attack water network;
- .one drains.
- .l'allaccio pipe input (from the oven) and out (the chimney).

PLUMBING Connect with rigid pipe attack free at the point 10 (group input with solenoid valve) to the water supply. WARNING: We recommend using pipe fittings such as those represented in the images, and to do the job by a competent plumber.

Make sure that the system pressure does not exceed 8 bar.



SEWER CONNECTION Connect permanently and so the pond to the existing sewer system, using tube diameters between 40 and 68mm. The connection to the sewer must be made through a siphon, to avoid the release of fumes from the exhaust of the overflow.

WARNING If particular local laws require it, you may have to build a settling tank. Normally, you can download directly into the sewer, but you should inquire ASL of competence. It 'should be used in PVC plumbing pipes such as those shown in FIG.



ELECTRICITY:

Connect the machine to the power supply 230 V, and the ground, as CE regulations.

In the case of machine with exhaust solenoid valve, follow the following schematic diagram for the installation, taking into account the colors of the wires of the solenoid.

If the machine is fitted with a vacuum cleaner, it is planned a three-phase socket. Through the inverter supplied with the vacuum cleaner will ensure the control of the speed of the motor itself.

The inverter is supplied with the directions of the connections to be made to the engine, for a correct rotation. Follow the indications expressed by the color of the wires.

CAUTION:

There are residual risks involved in working with the electricity near water flow and heat sources. To avoid the possibility of leaks, use extreme care in the perfection of the connections, not to leave copper discovered and do not run cables next to sources of heat. should be installed to all units (inverter and automated valve) in locations not affected by heat, dirt and water. Use purpose electrical boxes closed.

it is necessary that the electrical motor, the inverter and the solenoid valve is carried out by a competent electrician.

CONNECTION TO THE CHIMNEY The connection must be made using stainless steel tubes and watertight; It is not allowed to use the machine on reeds unsealed or masonry, as the humidity output would corrupt the masonry itself. Below are shown the tubes suitable for the purpose.



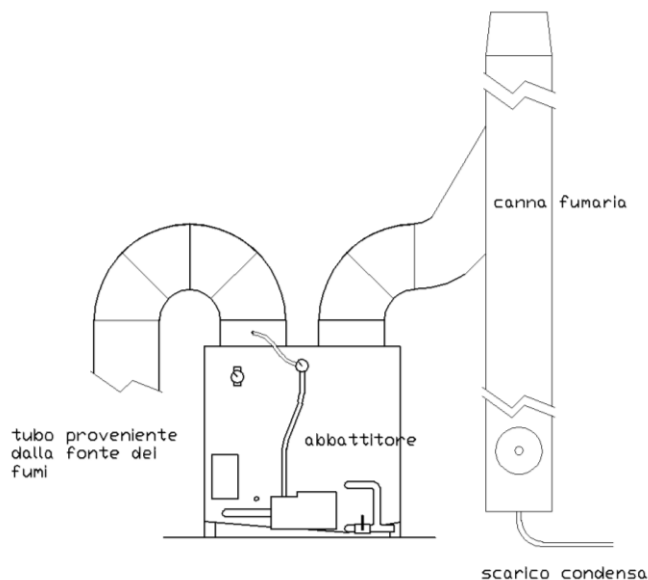
Downstream of the machine the pipes must be installed with the female side higher, in order to avoid condensate deposits in the joints.

It should be scrupulously avoided any sudden or descending curve that can trap moisture and should be kept a minimum upward angle of 5 degrees.

At the top of the chimney must not be put Chinese hats, hats wind or wind, to avoid creating barriers to the dispersal of the condensate. Allowed only conical terminal

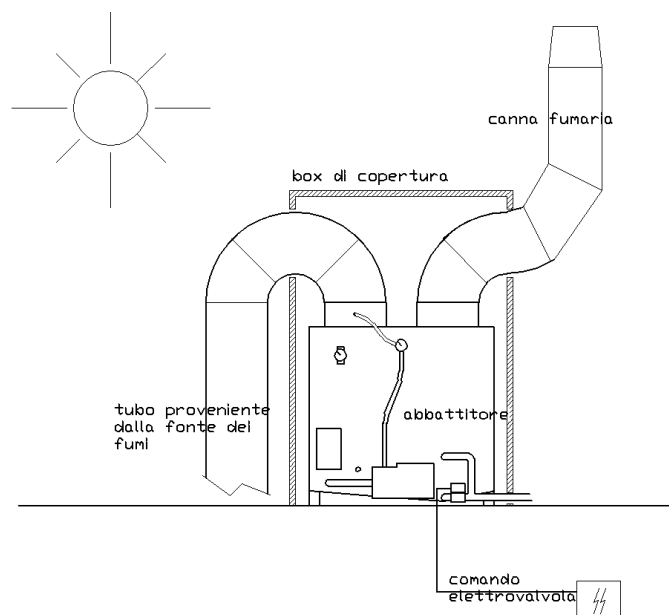
Examples of installation

It shows a possible installation, with filter connected with a connection to the chimney. In this case it is present as condensate; in the case of a direct connection, however, the condensate is discharged inside the filter.



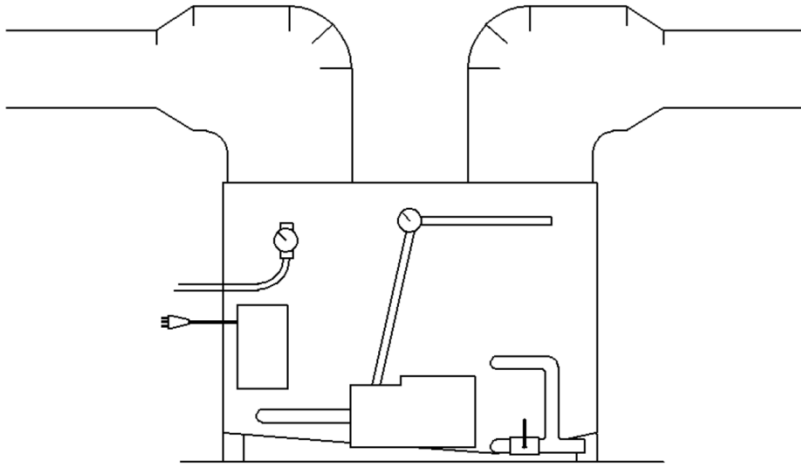
Usually, the connection to the barrel does not require that it is kept a drain condensate, as it can collect on the bottom of the filter. In addition, it is better that connection is made not with a T-fitting, but with a Y, to limit the resistance to the passage of fumes. In the following image, an installation similar but external location, with box cover and remote control of parts of water.

Usually this solution is not optimal, since it does not maintain clean the flue; the ideal placement of the machine is immediately after the combustor.

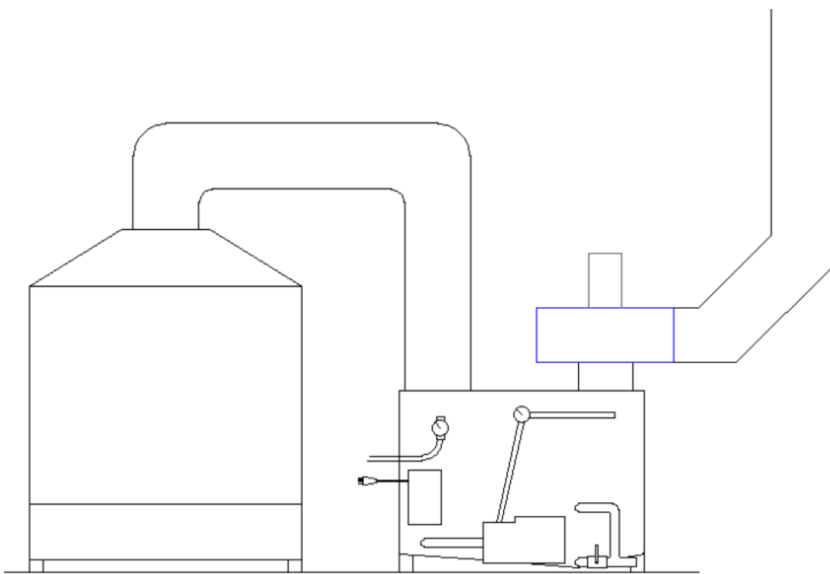


The downhill section of the chimney, you need to connect the entrance of the blast itself, must be as limited as possible in practice must be reduced to the single curve. You

should be using a structure to put the blast at the right height. In addition, in the case that the chimney is of a diameter less than that provided by the hook of the machine, use for connection curves of the diameter of the hook, and upstream of these appropriate reductions, as in the following figure.



Installations on large combustors or flue narrow require a vacuum. In this case it is not strictly necessary that there are descenders, but it is always desirable that they should not be exaggerated, and that there are no black spots S or particularly tortuous along the route of the pipeline.



In any case, to avoid loss of load, it is appropriate not to use too many bends in the construction of the plant. In any case, use curves by 90 degrees only where strictly necessary. If the installation should necessarily provide for the adoption of more than 3-4 curves, or the chimney is of limited diameter, contact the manufacturer.

The external setup, make sure that within the protective box temperatures drop below 5 degrees and not greater than 80. In the case, contact the manufacturer.

6. Fan

The machine DOES NOT HAVE ITS OWN SUCTION, but once in function does not obstruct the chimney draft. In particular cases (draw considerable smoke production, multiple users, many bends) the installation of a vacuum cleaner is recommended. The manufacturer provides the chiller if requested / needed even the vacuum cleaner, for which please refer to the instruction book of its own. By way of warning in case proceed independently, remember that:

- . The manufacturer uses centrifugal exhaust similar to that in the figure, in stainless steel, with an external motor and completely siliconized in the carcass and in the flanges, placing the same downstream of the machine, where they treat fumes purified.

- . Not operate in the case aspirators box body, or with the engine exposed to the flue gas flow at the input, or purified air, full of moisture, outgoing of the filter.

- .In The case of these machines, the suction unit is mounted above the exit of the purified air. In this configuration, the condensate is collected inside the chiller, and is not strictly necessary one condensate drain. In the case of vacuum in different position, consult the manufacturer of the blast before.

- .The fan Has its outlet, 230 or 380 V, and the relevant inverter for adjustment, independent from that of the machine.

- .The Choice of the fan drastically influence the qualities of the machine, it is recommended, even if the independent choice of the vacuum by the customer, by first consulting the manufacturer.



6b. post-filtration apparatus

In case you want to completely eliminate odors, or is to be attenuated, the vapor diffusion out of the car, or even in case of fumes which are required additional treatments, there is a post-processing apparatus which is headed by filter media of various types, applicable in output from the machine. This apparatus, for its strength, necessarily must be fitted to the fan.

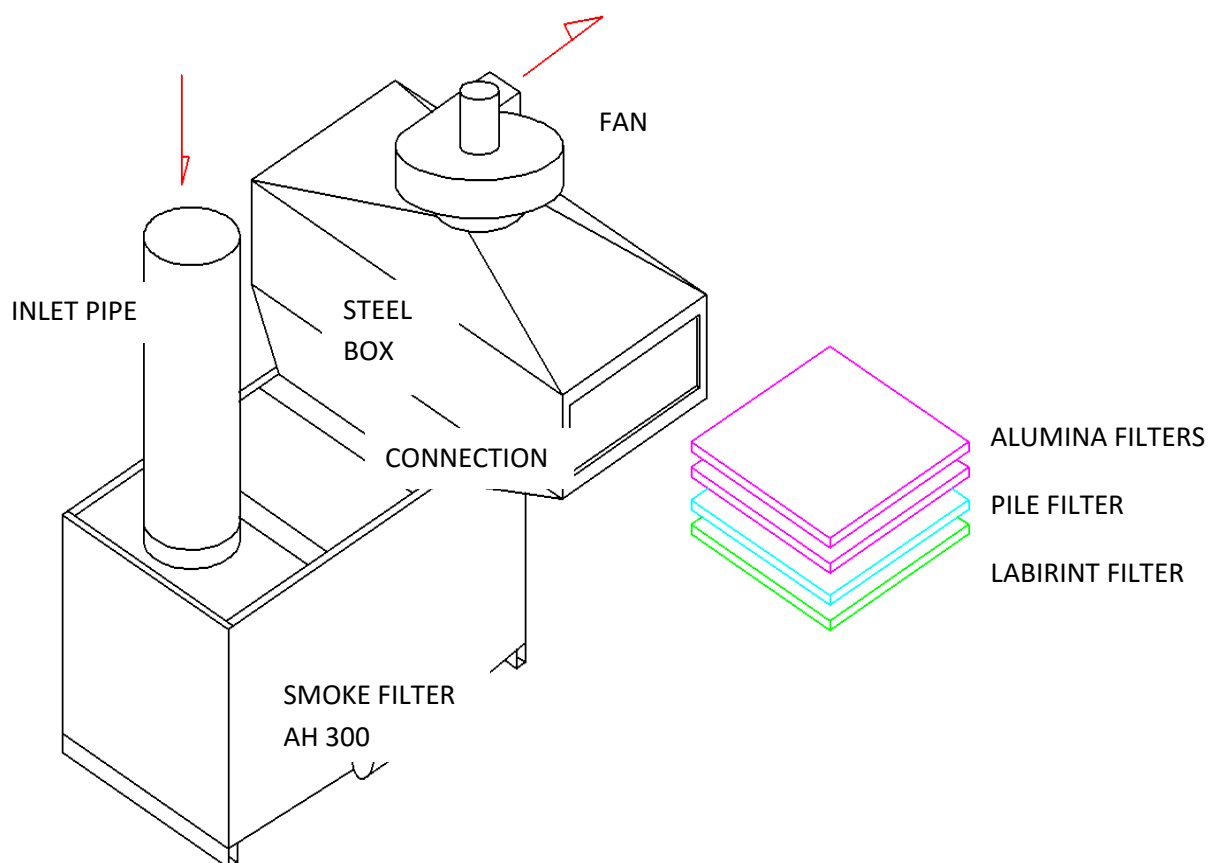
The FilterPack 1000 is a holder with 4 grooves for the support of the filters themselves. It can't lean directly on the machine, since the outlet of the machine itself and the size of the FilterPack are not the same. There is therefore a manifold, which is bound at the exit of the machine with an array of screws.

A second crown of vines bind the manifold to the airbox. The joints must be silicone.

Located above the airbox must be installed in a hopper (supplied), also bound by screws and silicone. Above of all, the fan must be fixed, via its interlocking d. 250 male / female.

It is advisable to constrain the fan to a fixed support (eg. With a suitable length of wall brackets) because it does not vibrate.

From the complex 'ah-300 FilterPack 1000', capable of treating air volumes of the order of 1500 cm³ / h, will be released at most one puff of steam, intended to dissolve at most within a few meters. The complex works best if placed in a cool place, where there is less water evaporation process.



7. Maintenance

PRE-MAINTENANCE

.Disconnect the blast from the power supply, ensuring that it is impossible for third parties to restore the connection without the knowledge of those who run the service.
.Shut off the fireplace and ensure that there are no residues in it that they continue to burn.

ORDINARY MAINTENANCE

- .Change every 1-2 days the water of the machine;
- .Clean every 15 days inside the waste deposited, with a jet of clean water, and check for the absence of foreign bodies;
- .Check every 15 days the cleaning of the part of the chimney from the combustion source to the machine;
- .Check weekly, the absence of dust residue in the motor of the pump, and that the same has possibility to cool down;
- .Check to view the integrity of the rubber hoses and the absence of leakages from plumbing fittings.
- .Check to see the state of the electric power cable, the earth and the monthly electrical connections in the box of the float.
- .Check to view the integrity of the tubes and the absence of losses from the flue.
- .Check monthly the zinc of the bar that serves as a sacrificial anode, the state of the float and the fact that it is free to move.
- .in The case of outdoor installation, check that the temperature never drops below zero and does not exceed 50 degrees; Furthermore, in case of rain, the chiller must not receive water. If the machine is equipped with vacuum:
- .Check to see the state of the nut, leakage and sealing the joints;
- .Check to see the state of the electrical connections and the power cables.

CAUTION

If even just one of the parties does not show integrates, worn or inefficient, contact the manufacturer for spare parts and technical assistance.

Internal cleaning of the machine is permitted only with water. Do not use or introduce different additives (detergent, soap, acid, ammonia, etc.)

NOTE TO USER:

the chiller MANUFACTURING COMPANY DISCLAIMS ANY LIABILITY 'RESULTING FROM AN INCORRECT, WANTED OR ROUGH MACHINE INSTALLATION OR USE FOR WATER CONNECTIONS / ELECTRICAL MATERIAL NOT SUITABLE OR LABOR NOT QUALIFIED. ALSO DECLINES 'ALL RESPONSIBILITY' IN THE FACE OF DAMAGES ARISING FROM FAILURE OR MALFUNCTION OR NEGLIGENCE OR manutenzione CLEANING OR ARBITRARY CHANGING THE MACHINE, THE SAME CONNECTION TO PLANTS NOT SUITABLE OR DAMAGED, OR USE OF THE SAME OUTSIDE THE PARAMETERS IN THIS EXPRESS INSTRUCTION BOOK. ANY WORK REQUIRED AND SHOULD NOT LEAD TO PAY FOR THE TRANSFER, LABOR AND MATERIALS EPR RESTORING THE MACHINE IN PROPER OPERATION suop. It is therefore recommended that, in the face of doubt, contact the manufacturer without hesitation.

8. Warnings

The pump has to work under a head, for not entering cavitation, so must remain below the level of the water contained in the machine. It is therefore appropriate that

.the machine is level;

.the Float is free to move.

For reasons related to the above, DO NOT tamper with the float.

The machine is guaranteed for the intended use indicated by the manufacturer, and for an installation compatible with its features. If the need arises to change anything in the installation or in the volume of gases to be treated, consult the manufacturer before acting.

The hydraulic plant engineering, electrical and electro is designed specifically for the intended use of the machine; any change would affect the performance, reliability and security that are guaranteed to deliver. In this case, the manufacturer accepts no responsibility for damage or malfunction.

The work of installation must be made by qualified and experienced personnel. Any doubts should be clarified with direct talks with the technicians of the manufacturer.

The machine reaches temperatures of 50-60 degrees once operational. Be careful not to burn yourself.

Below is an example of the identification label.



Appendix: list of hazard symbols on the machine



SHOCK HAZARD

Present on the electrical box, it indicates application of the mains voltage. Ensure that the parts are dry and clean; no action without first having disengaged stably current; treat periodically the status of contacts; in case of malfunction, to intervene specialized personnel.

The indication is valid for every part of the machine that is under tension (pump, vacuum cleaner, inverter, remote controls).



RELEASE OF EARTH

Present near the sacrificial anode, indicates the dispersion of the ground of the machine.

To install the ground by qualified personnel during the installation of the machinery; visually inspect the state of the cables: if oxidized or damaged, replace them.



BURN HAZARD

On the camera body, it indicates the possibility of burns due to the temperature (50-60 degrees) of the operational machine.

Do not place the machine in the location where you can accidentally come in contact.

There is also present on the flanges of the machine, at input and output directions of the fumes to be treated. These guidelines are strictly adhered to the proper functioning of the machine

Declaration of conformity with CE marking purposes

The machine built by ETC Group srl companies.

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Tel. +39 0541 955062

e-mail: ecologyandtechnologycompanies@gmail.com

generic function blast filter soot and fumes with plywood spray attachment.

Model Type 300 Ah

serial number (see machine nameplate)

It complies with the directives

Machinery Directive 2006/42, as amended

2004/108 Electromagnetic Compatibility Directive

The machine has been subjected to type examination at IMQ Via Quintilian 43 20138 Milano

Which it has issued an EC type certificate no.

IMQ 242

It is authorized to compile the technical file, who must be established in the Community

Place date stamp and signature

The legal representative Mr.

CERTIFICATO DI ESAME DI TIPO

TYPE EXAMINATION CERTIFICATE

No. IMQ 242

VISTO L'ESITO DELLE VERIFICHE CONDOTTE IN CONFORMITÀ AI REQUISITI ESSENZIALI,
DELLA DIRETTIVA 2006/42/CE,

SILICERAMA CHE I SEGUENTI PRODOTTI (MODELLO/TIPO):

*On the basis of our assessment carried out according to Essential Requirements of the Directive
2006/42/EC, we hereby certify that the following products (model/type):*

**Abbattitore di fuliggine e fumi con sistema
di nebulizzazione in multistrato**

Marca: Ecology and Technology Companies

**Modd.: Cilinear MINI 35 ; Cilinear 400 ; Cilinear 500 ; Cilinear 600 ;
Cilinear Blackout 200 ; Cilinear Blackout 250**

Confermato da:
Manufactured by:

**ECOLOGY AND TECHNOLOGY COMPANIES S.r.l.
VIA BELLUNO 25
47838 RICCIONE RN**

SODDISFANO LE DISPOSIZIONI DELLA DIRETTIVA SU MENZURA.
Meet the requirements of the official national legislation

2012/05/13

IMQ

P. Fumero

IMQ
Via Quintano 8 - 31040 UTANO

Data scadenza attestato
Certificato: 2017/05/13

Il presente CERTIFICATO ANNULLA E SOSTITUISCE IL PRECEDENTE DEL
This Certificate cancels and replaces the previous one of

II

A questo certificato è allegato alla richiesta di omologazione del IMQ (vedi prodotto per i contatti) il Documento di Verifica di Tipo in base alla Direttiva 2006/42/CE.
This Certificate is requested to be accompanied by the Type Examination Certificate (see product for the contact) Type Examination Certificate in base to the Directive 2006/42/EC.

WARRANTY



The guarantee of the blast MINI 250 is one year, as state law for machinery and equipment sold to entities with VAT;

The year begins on the date of DDT. Within one year from that date, the customer can make a warranty claim by calling the service center.

For the defective parts, the cost of shipment and installation will be charged to the customer. The members declared by the customer do not work will be invoiced if the same parts will not be sent to ETC GRUOP SRL within 15 days from the date the customer receives the pieces in place. Service is free only to manufacturing defects of the components that make up the blast.

The warranty does not cover however cases where the failure or malfunction of the blast is caused by wear and tear, installation and / or mishandling, not follow instructions, or accidents, mistreatment, blows, breakage, improper disassembly of machinery, accidents or damage produced by any cause not attributable to manufacturing, misuse of equipment, failure or improper maintenance (maintenance should be performed every 30 days by qualified personnel). It also states that the frequency of maintenance depends on the type of use and therefore is almost 'impossible to establish the exact timing. The service engineer's visit ETC GRUOP SRL and 'sole jurisdiction to determine which pieces need to be replaced. Defective parts replaced during the warranty period will remain the property of the ETC GRUOP SRL

In the event that a faulty product by the customer had not really such a fault or defect was caused by improper installation, location or conjugation wrong product, the service center will charge all costs of repair, verification and transportation to the customer. The customer must specify in detail by fax, the problems related to equipment not working. All components under warranty will be paid by the customer prior to shipment only after the assessment of the service center of the ETC GRUOP SRL of the existence of the manufacturing defect the customer will be refunded.

IN WITNESS WHEREOF

Artur Cokaj