

USE AND MAINTENANCE GUIDE FOR CLASS VISION WOOD-FIRED HEATERS

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"EC" DECLARATION OF CONFORMITY

In accordance with the following directives:

European Directive 73/23/EEC and its amending directive 93/68

89/336/EEC and its amending directives

93/68/EEC 92/31/EEC 93/97/EEC

Thermorossi S.p.A., Via Grumolo 4 - ARSIERO (VI), declares that the heaters of the Class Vision series have been designed and manufactured in compliance with the safety requirements of the standards for EC marking. This declaration refers to the entire range of the specified series. ARSIERO,

THERMOROSSI S.p.A. Jun Bow



INTRODUCTION

GENERAL GUIDELINES 1.1

• This installation, use and maintenance guide is an integral and essential part of the product and must be kept by the user.Before commencing with the installation, use and maintenance of the product, carefully read all the instructions contained in this booklet. This appliance must only be used as intended by the manufacturer. Any other use is considered incorrect and therefore hazardous; consequently, the user shall be totally liable for the product if used improperly.

Installation, maintenance and repairs must be carried out by personnel with professional qualifications and in compliance with current regulatory standards and in accordance with the instructions of the manufacturer of the appliance. Use only original spare parts. Incorrect installation or poor maintenance could injure or damage people, animals or things; in this case the manufacturer shall be relieved of all responsibility. Before commencing any cleaning or maintenance operation ensure that the appliance has been disconnected from the mains power supply by means of the main system switch or some other disconnecting device installed upstream from the appliance. The product must be installed in locations suitable for fire-fighting and furnished with all the services (power and outlets) which the appliance requires for a correct and safe operation. If the appliance is sold or transferred to another user ensure that the guide is handed over with it.

Thermorossi S.p.A. maintains the author's riahts on these service instructions. The information in this booklet may not be reproduced or given to third parties or used for competitive purposes without the appropriate authorization.

1.2 SAFETY GUIDELINES

PERSONAL INJURY

This safety symbol identifies important messages throughout the manual. When you come across this symbol, read the following message carefully. Users of the heater must adhere strictly to the instructions to avoid serious injury.

DAMAGE TO PROPERTY

This safety symbol identifies messages or instructions that are fundamental for the heater and system to function well. To avoid serious damage to the heater adhere strictly to these instructions.



This symbol indicates important instructions for good functioning of the heater. If this information is not correctly observed, the performance of the heater and/or system will not be satisfactory.



STANDARDS AND RECOMMENDATIONS 1.3

RECOMMENDATIONS

Before using the appliance, carefully read every section of this instruction manual as knowledge of the information and the regulations contained in it are essential for a correct use of the appliance.

GENERAL WARNINGS

Caution: the appliance must be connected to a system provided with a PE conductor (in compliance with the specifications of 73/23/EEC, 93/ 98/EEC, concerning low voltage equipment).

Before installing the appliance check the efficiency of the earth circuit of the power supply system.

Caution: the power supply line must have a section which is suitable for the power of the equipment. The appliance must be powered with a voltage of 220/240 V and 50 Hz. Voltage variations which exceed 10% of the nominal value can cause poor functioning or damage the electrical device. Position the appliance so that the electric power plug is easily accessible.

Caution! Warning for Swiss users Refer to the local cantonal regulations imposed by the Fire Department (Mandatory signalling and safety distances) and the Note concerning installation of heaters issued by the Association of Cantonal Fire Agencies (VKF - AEAI).

1.3 TRANSPORT AND STORAGE

Packaging

The heater body is packed separately from the casing in order to avoid accidental breakages of either. The casing is packed in a separate box.

•Transport and handling

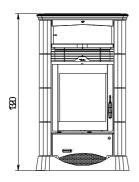
The heater body must always be kept in a vertical position when being moved and always on trolleys; take particular care not to damage the glass components.

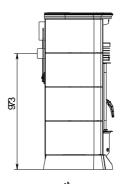
Storage

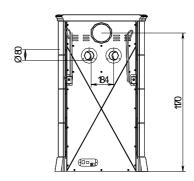
Both the heater body and the casing must be stored in a humidity-free environment and sheltered from the weather; the manufacturer recommends against storing the heater body directly on the ground.

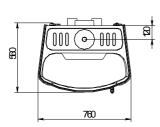


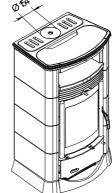
2 **TECHNICAL CHARACTERISTICS**











Rtenza 12 Kw 20 mtter Tiraggio ninino Temperatura funi a regime 280c Reso ceramica/inox Kg298/Kg272

KEY LEGENDA Power Potenza

Tiraggio minimo Minimum draft

Smoke temperature at Temperatura fumi a regime full power

Ceramic / stainless Peso ceramica / inox

steel weight

3 **GENERAL DESCRIPTION**

3.1 OPERATING PRINCIPLE

•Your heater has been built to fully satisfy all heating and practical requirements. The centrifugal fan will allow you to take even more advantage of the heat produced by the combustion and heat other areas by channelling the hot air.

3.2 THE FUEL

The fuel to use is common wood having 10-20% humidity and a Thermal Value of 2500-3500 Kcal/Kg. Obviously if using a better or drier wood the thermal value (and consequently the heat produced by the heater) will increase. Knowing which fuel to use and actually using the right fuel is one of the most important aspects to observe in order to ensure that your heater and flue outlet are not damaged.

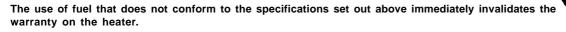
All types of solid fuel are suitable but we recommend using only hard and well-seasoned wood.

We advise against using wet wood or wood that has been seasoned for less than 18/20 months, as it can cause malfunctions and the formation of tarry deposits, as well as not giving the correct thermal performance.

All woods have different heat outputs: for example, 1Kg of beech equals 1.15Kg of birch, 1.6 Kg of fir, 0.5 Kg of briquettes... The heat outputs can also vary considerably depending on the type of fuel used.

Do not burn generic waste or plastics but above all never used petrol or inflammable liquids.

If using briquettes you must halve the fuel consumption.







ASSEMBLY

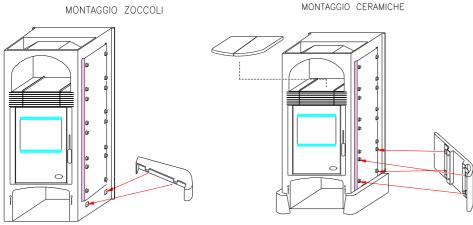
4.1 HEATER LOCATION

A vital aspect to consider is that the flooring of the room in wh

CAUTION: The room in which the heater is installed must be a gap between the central heating cooker and walls and furnish objects surrounding the appliance are inflammable (matchboa

recommended minimum distances are illustrated in the drawing below. As there are no specific regulations concerning this matter, these instructi manufacturer.

ASSEMBLY OF THE VISION HEATER CASING. 4.2



LEGENDA Montaggio zoccoli

Montaggio ceramiche Montaggio cornice superiore e ceramica

450 mm se il soffitto è in legno 250 mm se il soffitto è in muratura 250 mm for a masonery celing

450 mm se la parete è in legno 250 mm se la parete è in muratura 250 mm for a masonery wall

In caso di pavimento ligneo mettere il salvapavimento

KEY

Assembling the kickplates Assembling the ceramics

Assembling the upper frame and

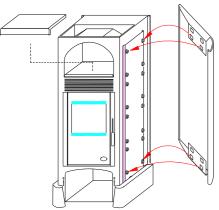
450 mm for a timber celing

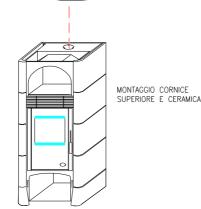
450 mm for a timber wall

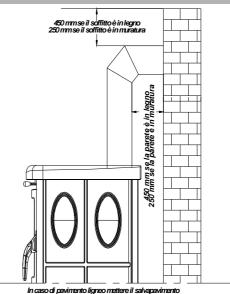
In case of timber flooring place

/p

a floor protection







Once the heater has been positioned proceed to assemble the kickplates (see figure top left). Next proceed to mount the ceramics on the side and the food warmer ceramics (see figure on the left).

These ceramics are a premium quality product, and even though they are produced industrially they still maintain the secrets of the handcraft tradition. Even if the moulds are developed using the most advanced CAD systems and the production and baking management systems are fully computerized, the artistic origins of our ceramics have in no way been affected negatively, on the contrary, they have been enhanced.

In fact, it is the perfect balance between earthwater-fire (in proportions dosed out by the expert hand of those who have been passing on this art for centuries) that creates an object that is unique and different to every other piece produced. This, therefore, is why due to the high temperatures that at over 1000 degrees transform the finest powders into enamelled ceramics, it is possible to find slight differences in the shape and colours of the finished product

These differences, together with slight cracks in the moulds, do not affect the quality of the ceramics in any way whatsoever, but rather they exalt their uniqueness. The ceramic casing is packed separately to avoid accidental breakages .

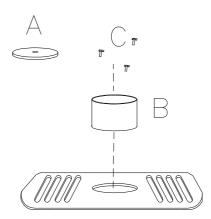
The heater must be assembled by qualified personnel.

The ceramics are supplied with brackets for anchoring to the heater body; follow the assembly drawings on the left.

The figure below on the left refers to the assembly of the stainless steel casing. Next mount the upper cast iron frames and corresponding ceramics (follow the drawing on the left).

Once the heater has been positioned and the casing has been mounted proceed to fasten the flue collar as illustrated on the right.

If using the rear smoke outlet you must firstly remove the perforated cover from the back of the heater, at the top, then fasten the collar at the back and cover the top hole with the cover fastened to the rear smoke outlet.

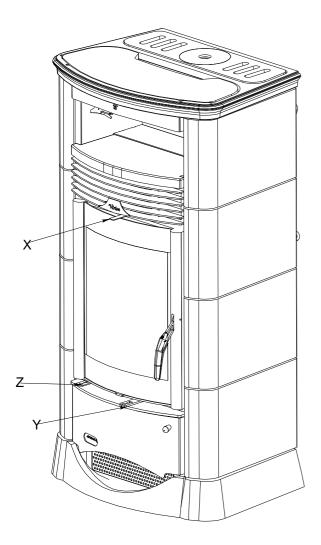


5 OPERATION

5.1.1 LIGHTING AND STARTING UP THE VISION HEATER

Before using the heater check that all the mobile parts are in place (check that the ash pan is positioned correctly; also remove any labels and stickers from the glass to avoid having permanent traces remain on the surfaces).

Connect the heater to a suitable power outlet with the supplied cable. Check that the voltage of the appliance corresponds to the voltage of the supply mains. Switch the selector switch on the back of the appliance to position "1"(=ON).



- Y- Lever for the vent of the ash pan riddling grate that also acts on the inflow of the primary combustion air. (pull the riddling tool to close off the primary air , push it forward to open the primary air).
- X- Damper for regulating the secondary air flow which also has the secondary function of keeping the glass clean. (push to the right to increase the air flow , push to the left to reduce the air flow).
- Z- Adjusting lever for regulating the primary air flow (pull outwards to increase the primary air , push inwards to reduce it).

To start the heater check that the riddling grate lever (Y) and the primary air lever (Z) are in the open position. The secondary air lever (X) must be closed.

Light a small flame using paper or cardboard with wood chips or kindling.

As the fire takes hold add larger pieces of wood and in the meantime also open the secondary air (X). In fact, the initial start up requires a considerable amount of fuel

to obtain fast heating of the flue outlet and virtually the maximum output.

Once you have achieved full combustion inside the firebox open the riddling grate lever (Y) and close the primary air flow adjusting lever (Z) to ensure that the combustion is fuelled by the secondary air. For optimal combustion it is advisable to open the secondary air lever X by 50%. If the flue outlet draft is not satisfactory and the flame tends to die out, you can partially open the primary air adjusting lever (Z) and open the riddling grate lever (Y).

During the first few hours of operation it is completely normal for the heater to give off some paint odours, but this phenomenon will disappear quickly. The Vision series heater is painted with special finishes that are oven baked at high temperatures to reduce this problem to just a few hours after the first lighting.

CAUTION: the heater must always operate with the firebox door securely closed.





When the firebox is heated sufficiently the fan will start up at the first speed. If you wish to start the fan first or if you want to select one of the other speeds simply act on the radio control or on the manual control installed on the front of the heater.

The green LEDs indicate the operating status of the fan:

1 LED on = 1st speed

2 LEDs on = 2nd speed

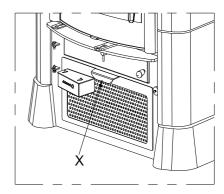
3 LEDs on = 3rd speed

5.1.2 RADIO CONTROL

For the radio control to work the "code selection system" of the radio control and its receiver must be set with the same combination. The receiver's "code selection system" is located (see drawing on right) both inside the ventilation drawer and inside the radio control. To access it follow the instructions:

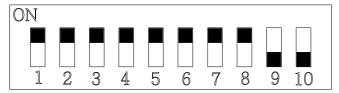
- disconnect the thermostat plug and the power plug
- pull out the ventilation drawer
- remove the covers by undoing all the screws except for the 4 screws around the rectangular hole
- remove the board cover.

CAUTION: Before carrying out this operation disconnect the heater from the electrical power supply.

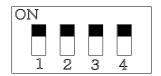


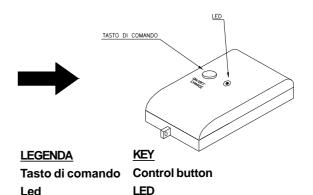
A standard code is preset in our products: if you wish to vary the transmission code act on the radio control and board selector switches by modifying dip-switches 5,6,7,8, on the radio control, and dip-switches 1,2,3,4 on the board. The set up of the two codes must correspond.

Dip-switch(microswitches) on the remote control.



Dip-switch(microswitches) on the board.





5.2 CHANNELING WITH VISION

The Vision heater you have purchased is fitted with a centrifugal fan that enhances the thermal performance of your heater . The ventilation can be used to heat the room in which the heater is situated or an adjacent room using special insulated tubing that is readily available on the market. The blower is regulated by a 3-speed electronic command with radio control.

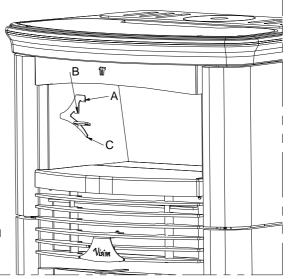
The power supply line must have a section which is suitable for the power of the equipment. The electrical part requires powering with a voltage of 220-240 V and 50 Hz.

Voltage variations greater than 10% of the nominal value can cause irregular operation or damage the electrical device. Position the appliance so that the electric power plug is easily accessible.

Lighting and the fan control must be carried out in line with the following instructions:

- Insert the supplied cable in the ELECTRICAL POWER OUTLET installed on the back of the heater to connect it to the domestic electrical mains.
- Switch the selector to Pos.1

Now the heater is ready to be lit; When the firebox is heated sufficiently the fan will start up at the first speed. If you wish to start the fan first or if you want to select one of the other speeds simply act on the radio control or on the manual control installed on the front of the heater.





The green LEDs indicate the operating status of the fan:

1 LED on = 1st speed

2 LEDs on = 2nd speed

3 LEDs on = 3rd speed

The air can be channelled by acting on the channelling lever located inside the food warmer (see drwg. above right).

With the lever positioned on C the air is all channelled to the back .

With the lever positioned on B the air is partialled channelled to the back .

With the lever positioned on A the air is not channelled to the back .

The manufacturer highly recommends insulating the pipes in order to obtain optimal channelling.

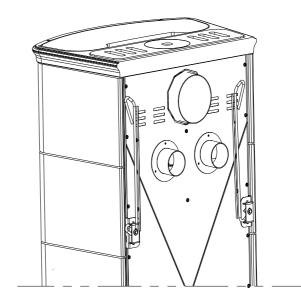
CAUTION!!! DO NOT LIGHT THE HEATER IF THE FAN IS NOT POWERED. IF USING WITHOUT ELECTRICAL POWER REMOVE THE DRAWER TO PREVENT DAMAGING THE ELECTRICAL PARTS CONTAINED IN IT.

In Summer or when the heater is switched off, it can be used as a room fan by using the fan as described above, during long periods of downtime When not in use for long periods of time it is advisable to disconnect the power supply to the heater.



5.3 FOLD-AWAY HANGER

The heater is fitted with two practical fold-away hangers installed on the back of the heater. To use them simply pull them out to the side of the heater.



6 CLEANING AND MAINTENANCE

6.1 GENERAL CLEANING

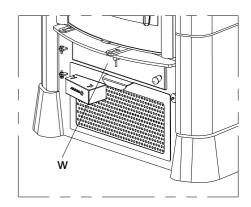
Always disconnect the electrical power supply before beginning any work on the heater. Your heater does not require any particular maintenance; simply adhere to the simple and basic but regular controls and general cleaning. This will guarantee regular operation and optimal output at all times. As for all machines that run on solid fuel, the main enemy is undoubtedly the dirt generated by ash, condensation, poor fuels; consequently it is important to clean the heater once a year.

It is advisable to regularly run the heater for several moments with the air intakes completely open: this creates a kind of internal self-cleaning action of the heater which transforms the unburned substances into ash. The air inlets can be cleaned with an ordinary vacuum cleaner. Given the quality and the thickness of the material of the smoke pipes that we produce, soot scale is not a problem. A few passes with a traditional tube brush is sufficient to clean it.



Caution: The ceramics and the glass must only be cleaned when the heater is cold.

However, we recommend having the flue outlet cleaned by a professional chimney sweep.





6.2 ASH

The Vision heaters have a large ash pan situated under the firebox base (W). To access it firstly you must completely open the lower door of your heater as illustrated in the drawing. To collect the ash simply shift the riddling grate handle (Y). We recommend emptying the ash pan regularly before it fills up completely; The excessive accumulation of ash under the grate can cause it to overheat and limit the intake to the primary air combustion.

6.3 REPLACING THE BATTERY IN THE REMOTE CONTROL

The battery needs to be replaced when the remote control no longer transmits the transmission signal (red LED on).

Using a suitable Phillips screwdriver, undo the only screw on the cover, pull the top and bottom covers apart and replace the battery mod.

23A 12V. Take care with the polarity of the battery.

The dead battery must be disposed of safely.

6.4 RECOMMENDATIONS

- **-Every time** you stoke the fire use the riddling tool to move the grate. Act on rod Y situated under the firebox door. The air passage through the firebox grate must always be unobstructed.
- -Every 20 hours of operation clean the ash pan to ensure that the combustion air passage is not obstructed.
- -Always ensure that the fuel fed into the firebox catches fire normally. Always ensure that this occurs to prevent dangerous explosions in the firebox caused by the accumulation of unburnt gases. If these explosions prove to be rather violent the manufacturer declines all responsibility for the mechanical resistance of the glass and heater parts.
- **-Do not overload** the heater with excessive quantities of fuel. Do not exceed the declared consumption: max.4 kg/hour. Stoke the heater with loads for a maximum of one hour of operation.
- Thoroughly clean the heater and smoke evacuation pipes at least twice each season .

THERMOROSSI SPA DECLINES ALL RESPONSIBILITY FOR DAMAGES TO THINGS AND/OR PERSONS CAUSED BY THE FAILURE TO OBSERVE THESE INSTRUCTIONS.

7 SMOKE EXHAUST TUBE

Due to the frequent accidents caused by poor functioning of flue outlets installed in private dwellings, we have prepared the following paragraph to assist the installer in his inspection of the parts concerned with eliminating the gases produced by combustion. The smoke exhaust pipe must be installed according to UNI7129/92.

7.1 GENERAL.

A flue outlet for the evacuation of combustion products into the atmosphere must satisfy the following requirements:

- -be sealed against the penetration of combustion products, watertight and thermally insulated:
- -be made from materials capable of resisting normal mechanical stress, heat and the action of the combustion products and condensate produced by them over long periods of time;
- -have vertical runs and be completely free of any narrow sections along its entire length;
- -be kept clean at all times as soot or unburnt oil deposits reduce its section and could, if the deposits are large, catch fire inside the flue outlet; be suitably insulated to avoid phenomena of condensate or cooling of tubes, particularly if located on the external wall of a building;
- -be at a suitable distance from combustible or easily inflammable materials separated by means of an air gap or insulation;
- -have a clean out chamber for the collection of solid materials and condensate below the first smoke pipe. Access to this chamber must be possible by means of an opening fitted with an airtight metal door.
- -have a circular, square or rectangular internal section: in the latter two the corners must be rounded with a radius measuring a minimum of 20mm;
- -have an internal section that is slightly larger than the section of the appliance exhaust pipe; in any case, have the following minimum sections:

for a height of up to 5m 600cm² for a height between 5 and 7m 400cm² for a height between 7 and 9m 300cm² for a height greater than 9m 250cm²

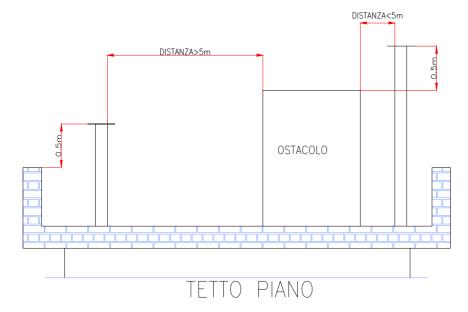
If the section is too small it reduces the flue outlet draft. If the section is too big it can cause inadequate draft if the section is not insulated. Whereas if it is well-insulated it can increase the draft.

- -be at least 4m from the floor on which the appliance is installed;
- -be fitted at the top with a cap that fulfils definite requirements;
- -must not be installed in inhabited locations as the flue outlet is always slightly more pressurised that its surroundings.

If you use a large pre-existing chimney, you can adapt it by installing a stainless steel chimney liner, then filling in the spaces between the liner and the chimney with insulating material.



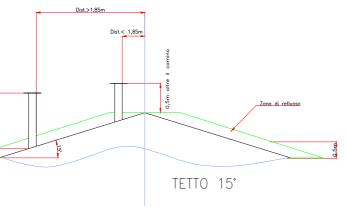
7.2 ESSENTIAL REQUIREMENTS FOR THE CHIMNEY CAP

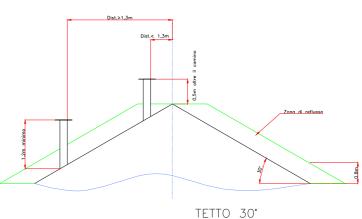


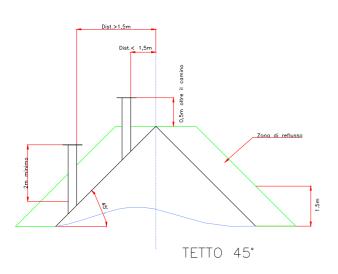
LEGENDA KEY
Distanza Distance
Ostacolo Obstacle
Tetto Roof
Tetto piano Flat roof
Minimo Minimum
Dist. Dist.

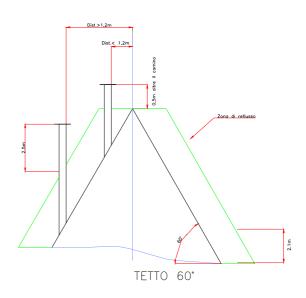
Oltre il camino Beyond the chimney

Zona di reflusso Flow-back zone









A chimney cap is a device that is normally placed on top of a flue outlet for the purpose of facilitating dispersion of the combustion products; it must satisfy the following requirements;

- -have a useful exhaust section that is at least double the section of the flue outlet on which it is inserted;
- -have a shape that prevents the entry of snow or rain into the flue outlet;
- -be built in such a way that venting of the combustion products is guaranteed regardless of wind direction. The diagrams show how the chimney should be constructed.

7.3 VENTILATION OF THE ROOMS

It is essential for the room in which the appliance is installed to be well-ventilated, also to guarantee secondary air for combustion in the heater. The natural air flow occurs directly through permanent apertures to the outside made in the walls of the room, or by means of single or multiple ventilation ducting.

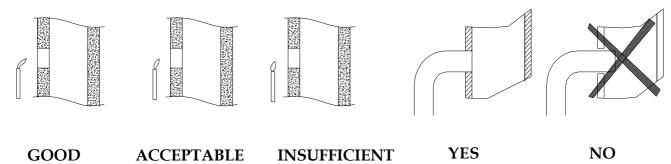
The ventilating air must come from outside and if possible, away from sources of pollution. Indirect ventilation is also allowed by taking in air from rooms adjacent the one where the insert eater is installed taking into account all the warnings and limitations specified below.

- •The apertures in the walls must comply with the following requirements:
- -have an unobstructed section of at least 6cm² for each Kw of installed thermal power, with a minimum limit of 100cm²;
- be made in such a way that the vent openings, both on the inside and outside of the wall, cannot be obstructed;
- be protected with grills or similar systems in order not to reduce the section described above;
- be situated at floor-level.

The air flow can also be obtained from an adjacent room as long as:

- the adjacent room is equipped with direct ventilation in compliance with the points described above;
- in the room to be ventilated the installed appliances are only connected to one flue outlet;
- the adjacent room is not used as a bedroom or a common area of the building;
- the adjacent room is not a room with a fire hazard, such as storage sheds, garages, combustible material store rooms, etc...;
- the adjacent room does not become a vacuum compared to the room to be ventilated due to an opposite draught effect;
- the air flow from the adjacent room to the room to be ventilated is unobstructed through the permanent apertures having an overall net section of no less than that indicated above. These apertures can be obtained by enlarging the space between the door and the floor.

7.4 CONNECTION TO THE FLUE OUTLET



Before connecting the heater to the flue outlet it is advisable to check the flue outlet draft. This operation can be carried out in accordance with the illustration. It is a good rule to have an expert technician check the flue outlet at least once a year. Poor draft can cause inadequate combustion, which leads to a drop in output and becomes a health hazard.

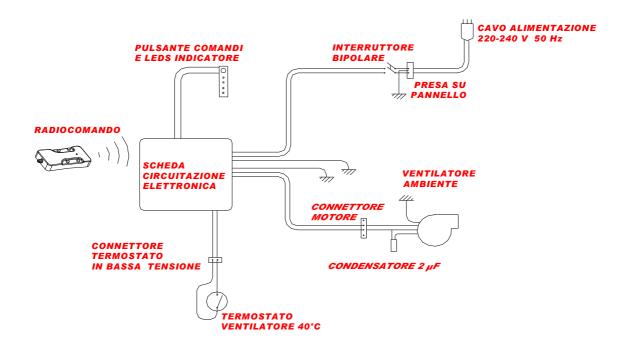
It is important to be aware of the fact that in terms of correct functioning and safe usage the flue outlet is just as important as the heater. The smoke pipes must be connected to the flue outlet in the same room in which the heater is installed or in an adjacent room and must satisfy the following requirements:

- be airtight and be capable of resisting normal mechanical stress, heat and the action of the combustion products and condensate over long periods of time. The temperature of the gases, at any point in the channel, must be above dew point;
- the joints must be sealed tight; if materials are used for this purpose they must be capable of resisting high temperatures;
- be in full view, easily accessed for removal and installed in such a way as to be capable of resisting normal thermal expansion;
- be installed in such a way that end of the tube with the smaller diameter faces the smoke vent and the end with the larger diameter faces the flue outlet
- have a horizontal run with a minimum upward slope of 3-5% (3-5 cm for each metre of tube). The horizontal-sloped part must not be longer than 1/4 of the height of the flue outlet, and in any case must have a maximum length of 2.5m;
- have no more than 3 changes of direction, including the flue outlet connector, and with internal corners that are a minimum of 90°. The changes of direction must only be made with curved elements;
- have (as described in the figure below) the axis of the female end perpendicular to the opposite wall of the flue outlet, without protruding into the pipe:
- Have, along its entire length, a section which is equal to or greater than that of the appliance's exhaust tube fitting;
- Have no shut off devices (damper): if devices such as these are already installed they must be eliminated.

The previous chapter does not replace UNI 7129/92 to which it makes reference. The qualified installer must in any case be fully aware of this standard and its amending versions.



8 ELECTRICAL WIRING



<u>LEGENDA</u> KEY

Pulsante comandi e leds indicatore Control buttons and indicator LEDs

Interruttore bipolare Bipolar switch

Cavo alimentazione 220-240 V 50 Hz Power cable 220-240 V 50 Hz

Presa su pannello Outlet on panel Radiocomando Radio control

Scheda circuitazione elettronica Electronic circuitry board

Ventilatore ambiente Room fan

Connettore motore Motor connector

Connettore termostato in bassa tensione Low voltage thermostat connector

 $\begin{tabular}{lll} Condensatore 2 μF & Condenser 2 μF \\ Termostato ventilatore 40 °C & Fan thermostat 40 °C \\ \end{tabular}$

