



THERMOROSSI

***USE AND MAINTENANCE GUIDE FOR
WOOD-FIRED HEATERS SERIES 800 820 860 700***

www.thermorossi.com

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"EC" DECLARATION OF CONFORMITY

In accordance with the following directives:
European Directive

73/23/EEC and its amending directive
89/336/EEC and its amending directives

93/68
93/68/EEC
92/31/EEC
93/97/EEC
EN 13240 :2001

Thermorossi S.p.A., Via Grumolo 4 - ARSIERO (VI), declares that the heaters of the **700-800-820-860** 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.

1 INTRODUCTION

1.1 GENERAL GUIDELINES

•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. At the time of installation of the appliance all local regulations, including those that refer to national and European regulations, must be observed. 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 (if fitted with AIRBOX system) 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 rights 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.

INFORMATION



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.

1.3 STANDARDS AND RECOMMENDATIONS

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, if fitted with AIRBOX system, 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.

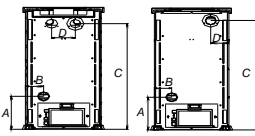

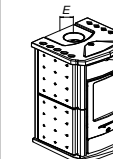
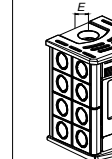
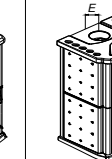
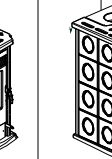
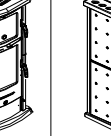
•Transport and handling

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

							
Rated thermal power EN 1340 :2001 (kW)	10,9	10,9	10,9	10,9	11,2	11,2	7,5
Depth (mm)	567	567	567	567	567	567	522
Length (mm)	616	616	616	616	616	616	455
Height (mm)	1193	1193	1193	1193	1382	1382	990
φ Smoke exhaust pipe (mm)	154	154	154	154	154	154	154
φ Combustion air pipe (mm)	80	80	80	80	80	80	80
Min. draught (Pa)	12	12	12	12	12	12	12
Weight (Kg)	218	218 - 186	230	230 - 198	271	271 - 239	138
A (mm)	320	320	320	320	320	320	/
B (mm)	131	135	131	135	131	135	/
C (mm)	1070	1070	1032	1032	1260	1260	867
D (mm)	136	140	177	177	136	140	105
E (mm)	155	155	155	155	155	155	90
η %	70%	70%	70%	70%	71,6%	71,6%	70%
Nominal Load (Kg)	2,64	2,64	2,64	2,64	2,94	2,94	1,98
Fuel feed frequency (min)	45	45	45	45	50	50	45
Average smoke temperature (°C)	380	380	380	380	365	365	-
Smoke temperature (°C)	420	420	420	420	400	400	-
Maximum smoke flow rate (g/s)	10,40	10,40	10,40	10,40	10,63	10,63	-
CO Emissions at 13%O ₂	1330	1330	1330	1330	1380	1380	-

All the data indicated in the table were obtained using pieces of firewood, the tests were carried out with the combustion of 4 billets; the thermal value of the firewood was 19100 kJ/kg. with a moisture content of 16.5%.

If the heater is fitted with the AIRBOX (optional) the electrical energy consumption is maximum 85 Watt. The Airbox operates at 220 - 240 V 50 Hz.

3 GENERAL DESCRIPTION

3.1 OPERATING PRINCIPLE

•Your heater has been built to fully satisfy all heating and practical requirements. The AIRBOX system (optional) 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, 1 Kg of beech equals 1.15 Kg 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.



The use of fuel that does not conform to the specifications set out above immediately invalidates the warranty on the heater. Do not use the appliance as an incinerator.

4 INSTALLATION

4.1 HEATER LOCATION

Follow the general guidelines set out in paragraph 1.1 to the letter.

A vital aspect to consider is that the flooring of the room in which the heater is installed must be capable of bearing the weight of the heater. CAUTION: The heater must be installed in a room with adequate ventilation (minimum air intake of 80 cm²). The appliance must be positioned at a minimum safe distance from walls and furnishings. This distance will have to be increased considerably if the objects surrounding the appliance are inflammable (matchboarding, furniture, curtains, picture frames, sofas, etc...). The recommended minimum distances are illustrated in the drawing below on the right. Installation in the vicinity of heat-sensitive materials is only permitted if suitable insulating protection is placed between them and the heater. (ref.Uni 10683)



LEGENDA

per 860: 800 mm se soffitto / parete posteriore in materiale sensibile al calore

800 mm se parete laterale in materiale sensibile al calore

per 800: 750 mm se soffitto / parete posteriore in materiale sensibile al calore

In caso di pavimento ligneo mettere il salvapavimento

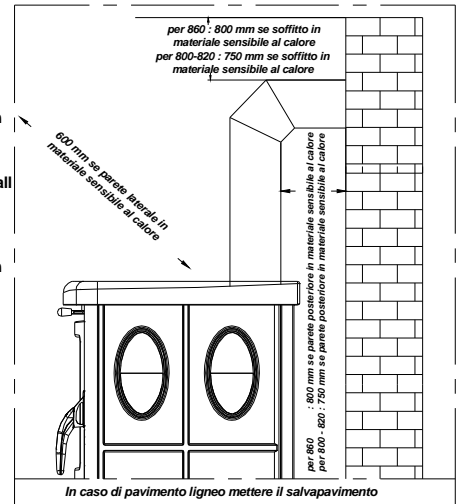
KEY

860: 800 mm for ceiling / rear wall in heat sensitive material

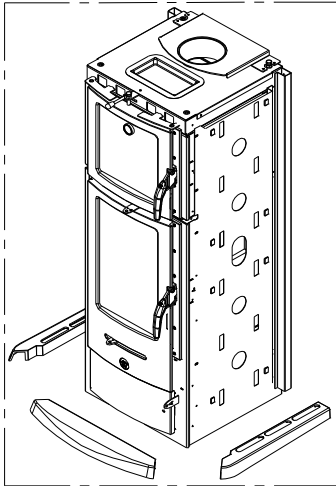
800 mm for side wall in heat sensitive material

800: 750 mm for ceiling / rear wall in heat sensitive material

In case of timber flooring place a floor protection



4.2.1 ASSEMBLY OF CASING FOR HEATERS SERIES 800-820-860.

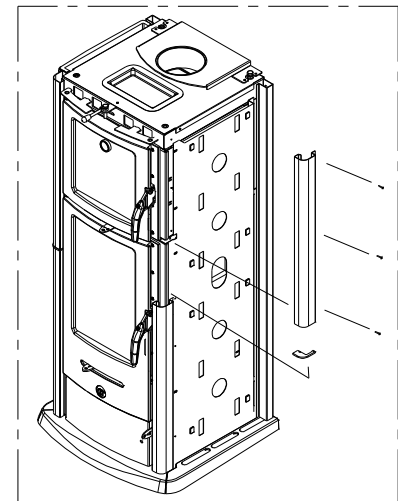
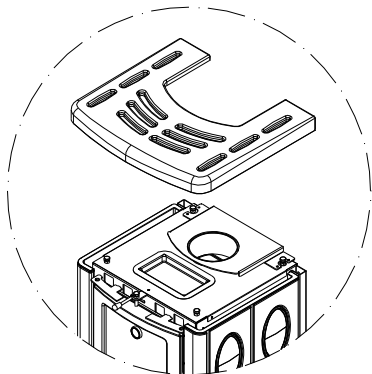
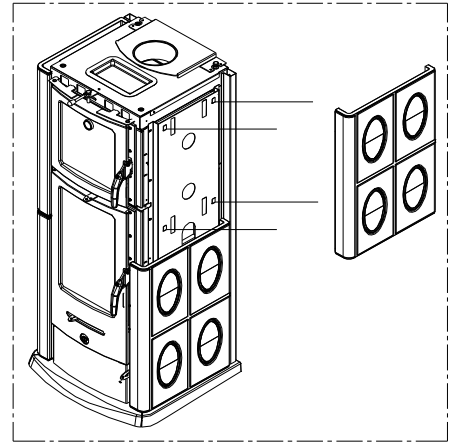


Once the heater has been positioned proceed to assemble the kickplates (see figure on left). Next proceed to mount the ceramics on the side. These ceramics are a premium quality product, and even though they are produced industrially they still maintain the secrets of the handcraft tradition. Even if 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 earth-water-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 diagram, above right, and begin by mounting the lower ceramics. The last phase involves mounting the top cover and adjusting it using the M10 screws and nuts present in the heater body.



For heaters with dimpled ceramics only, the steel uprights must be fixed to the body before mounting all the ceramics. Fix the bottom profile with 3 screws, position the support then mount the top profile (see figure on right).

4.2.2 ASSEMBLY OF EASY CASING FOR HEATERS SERIES 800-820-860.

The heaters series 800 easy - 820 easy - 860 easy are supplied with the casing already in place.

4.2.2 ASSEMBLY OF SIDE PANELS AND TOP CERAMIC FOR HEATER SERIES 700.



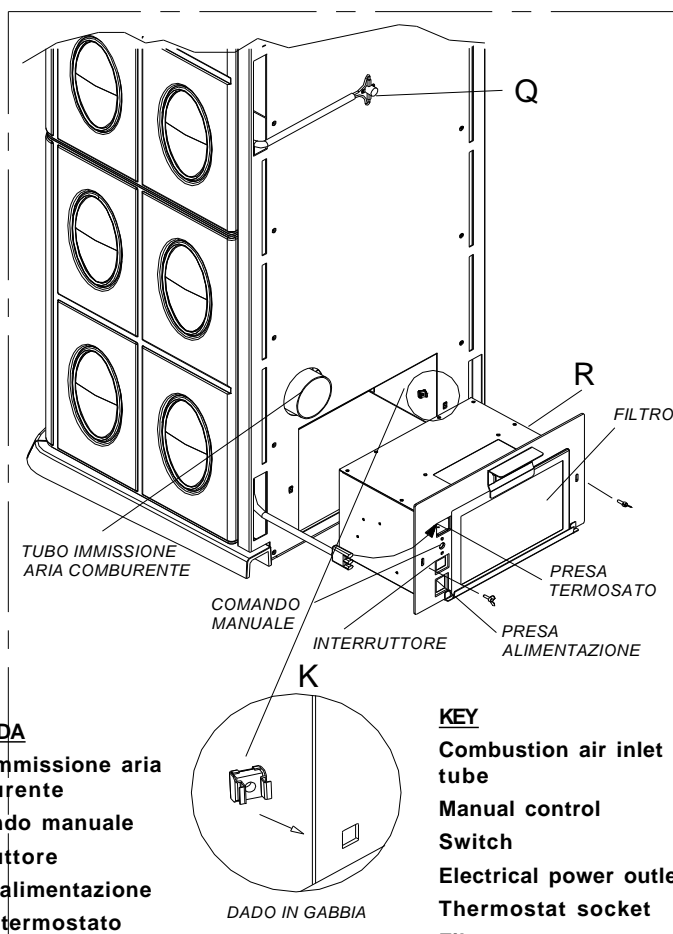
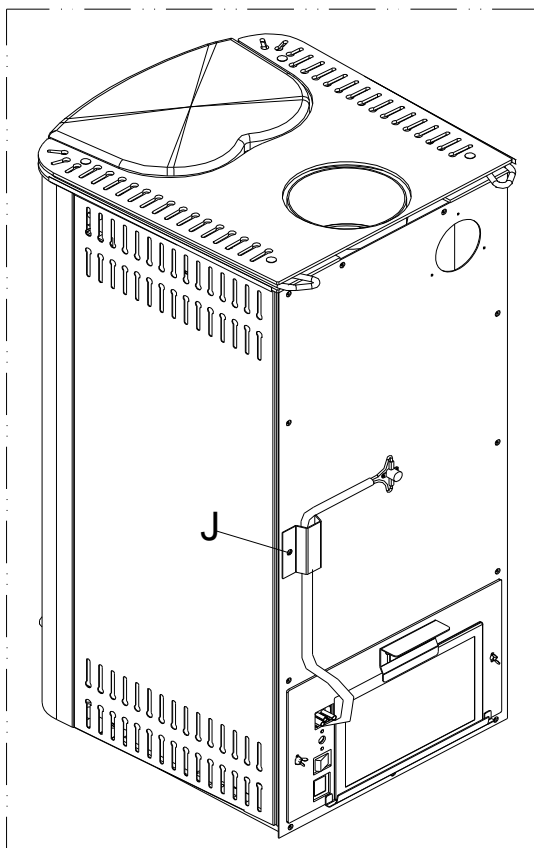
After positioning the heater proceed to mount the side panels as illustrated in the photo on the left. Follow these steps:

- Remove the top cover.
 - Mount the side panel by firstly inserting the bottom folds on the holes of the base then fasten the 2 top screws.
- Then mount the top cover and the ceramic panel.

4.3 ASSEMBLY OF AIRBOX (OPTIONAL)



If you wish to enhance the heater's thermal performance and/or channel the air to other rooms simply install the AIRBOX system. See the figures below. Firstly fix the 2 cage nuts, then mount the AIRBOX (R) on the back of the heater with the 2 M4 wing nuts supplied. Next check that the filter is positioned correctly; next fix the room temperature thermostat (Q) to the back of the heater using the 2 3.9x9.5 self-tapping screws provided and thread the thermostat cable through the hole as shown in the figure below on the left (for 800-820-860). For heater series 700 fasten the cable in bracket J as indicated in the figure below on the right. Check that the room temperature thermostat Q mount sits perfectly flat on the back. Then connect the thermostat plug to the thermostat outlet on the AIRBOX. Next connect the supplied cable to the domestic power supply.



LEGENDA

- tubo immissione aria comburente
- Comando manuale
- Interruttore
- Presa alimentazione
- Presa termostato
- Filtro
- Dado in gabbia

KEY

- Combustion air inlet tube
- Manual control
- Switch
- Electrical power outlet
- Thermostat socket
- Filter
- Cage nut

5 OPERATION

5.1.1 LIGHTING AND START UP OF HEATERS SERIES 800-820-860



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 (only for heaters with AIRBOX system and only after having installed it, see par 4.4) the heater to an electric power outlet using 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 open off the primary air, push it forward to close 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 and tertiary air flow (pull outwards to increase the primary and tertiary air, push inwards to reduce it).

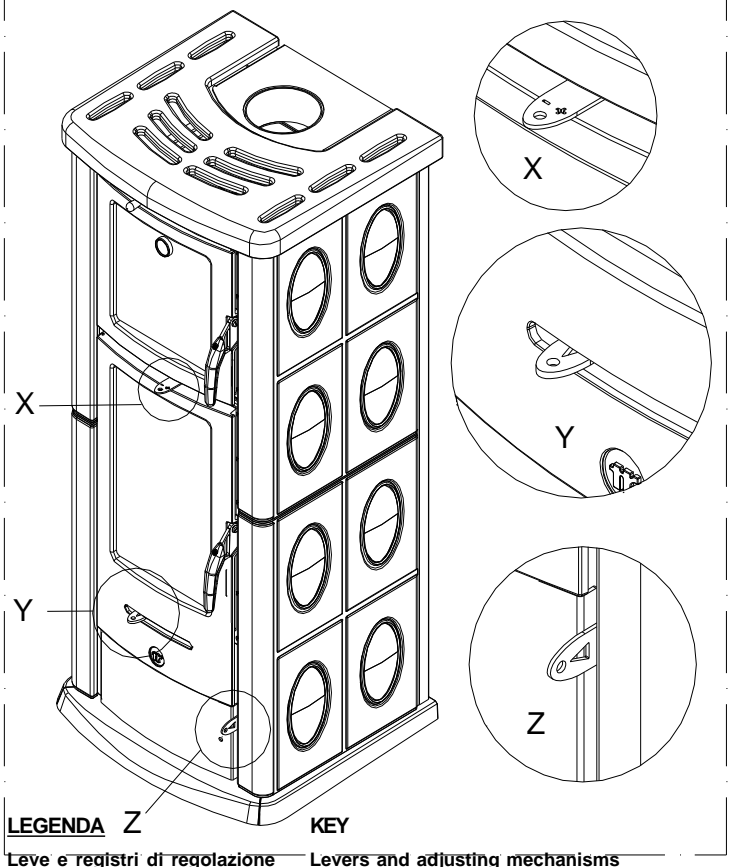
To start the heater check that the riddling grate lever (Y) and the primary and tertiary air lever (Z) are in the open position. The secondary air lever (X) must be closed. Light a small flame using paper or cardboard with wood chips or kindling.

As the fire takes hold add larger pieces of wood and in the meantime also open the secondary air (X). The initial start up must in fact be obtained with a considerable amount of fuel in order to heat the flue outlet quickly and to achieve virtually maximum output.

Once you have achieved full combustion inside the firebox close the riddling grate lever (Y) and close the primary and tertiary air flow adjusting lever (Z) by 50% to ensure that the combustion is fuelled by the secondary and tertiary 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 and tertiary 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 800-820-860 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.

Leve e registri di regolazione



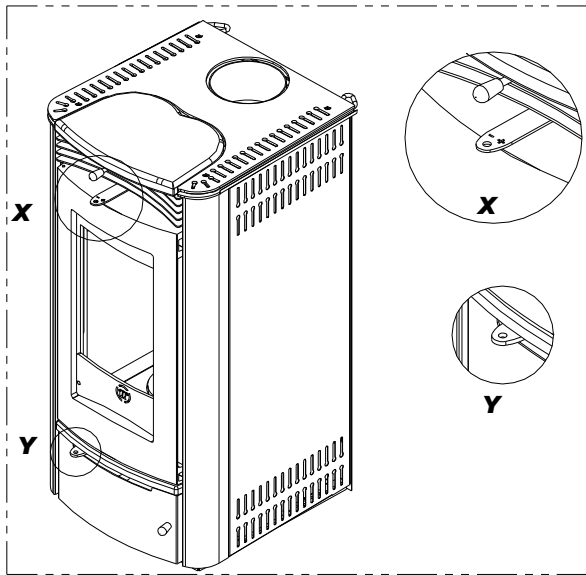
CAUTION: the heater must always operate with the firebox door securely closed..
CAUTION: do not use the heater in strong wind conditions.

5.1.2 LIGHTING AND START UP OF HEATERS SERIES 700

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 (only for heaters with AIRBOX system and only after having installed it, see par 4.4) the heater to an electric power outlet using 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 open off the primary air, push it forward to close 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).

To start the heater check that the riddling grate lever (Y) is 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). The initial start up must in fact be obtained with a considerable amount of fuel in order to heat the flue outlet quickly and to achieve virtually maximum output. Once full combustion has been achieved inside the firebox close the riddling grate lever (Y) to ensure that the combustion is fed with both the secondary and tertiary 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 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 700 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..
CAUTION: do not use the heater in strong wind conditions.

5.2 AIRBOX (OPTIONAL)

5.2.1 AIRBOX OPERATION

The AIRBOX module 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 4-speed electronic command with radio control. An air purification filter is installed as a standard feature.

The power supply line must have a section which is suitable for the power of the equipment. The AIRBOX 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 to connect it to the domestic electrical mains. (see drwg. para 4.4).
- Moreover check that the thermostat outlet and the thermostat are connected correctly (see drwg. para. 4.4).
- Switch the selector to Pos.1.

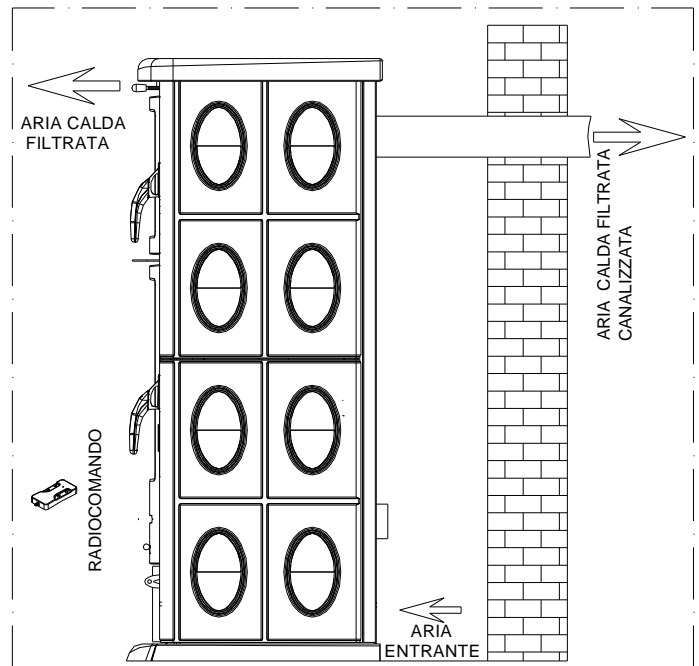
Now the heater is ready to be lit; When the firebox is heated sufficiently the fan will start up at the first speed. If you wish to start the fan first or if you want to select one of the other 3 speeds simply act on the radio control or on the manual control (see drwg. para. 4.4).

To stop the fan hold down the button (D) for 3 seconds then release it (only if the heater is not hot, that is, if the temperature detected by the thermostat installed on the back is less than 42°C, to cool the electrical parts of the heater).

The operating status of the fan is indicated by a buzzer:

- 1 acoustic signal = 1st speed
- 2 acoustic signals = 2nd speed
- 3 acoustic signals = 3rd speed
- 4 acoustic signals = 4th speeds max.

To switch it off : hold down button 4 for a few seconds.

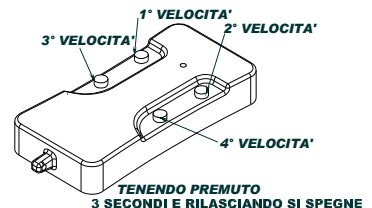


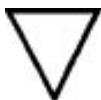
LEGENDA

Aria calda filtrata (canalizzata)
 Radiocomando
 Aria entrante
 Velocità
 Tenendo premuto 3 secondi e rilasciando si spegne

KEY

Filtered hot air (channelled)
 Radio control
 Inflowing air
 Speed
 Hold down for 3 seconds then release to switch off





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.

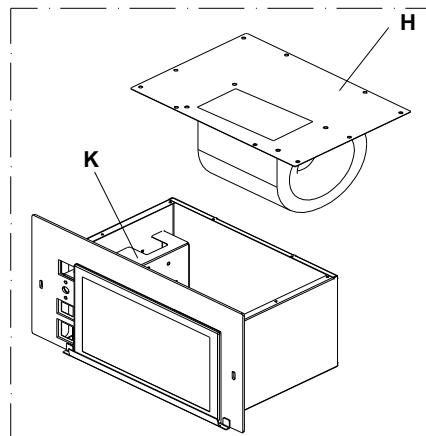
In Summer or when the heater is switched off, it can be used as a room fan by using the fan as described above. When not in use for long periods it is advisable to disconnect the power supply to the AIRBOX system.

5.2.2 RADIO CONTROL

Press the button for the corresponding acoustic signal indicating the fan speed: press button 4 and 4 acoustic signals will sound, press button 3 and 3 acoustic signals will sound , etc... as indicated in paragraph 5.2.1.

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 AIRBOX and inside the radio control. To access it follow the instructions given below:

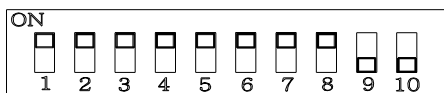
- disconnect the thermostat plug and the power plug (drwg.para. 4.4)
- undo the 2 m4 wing nuts (drwg. para. 4.4)
- undo all the screws except the 4 screws around the rectangular hole to remove the cover H
- undo the screws to remove the board cover K.



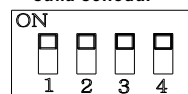
CAUTION : Before carrying out this operation disconnect the heater from the electrical power supply.

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 (microinteruttori) sul telecomando.



Dip-switch (microinteruttori) sulla scheda.



LEGENDA

Dip Switch (microinteruttori) sul telecomando / sulla scheda

Aria dietro / davanti

KEY

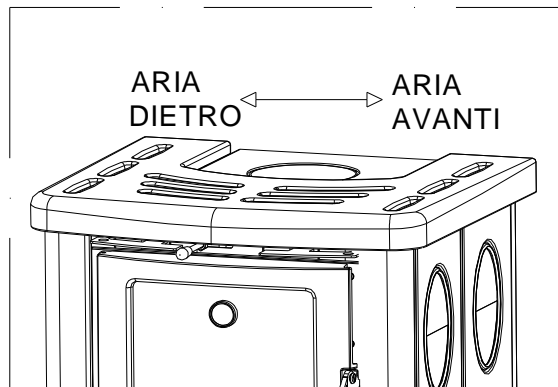
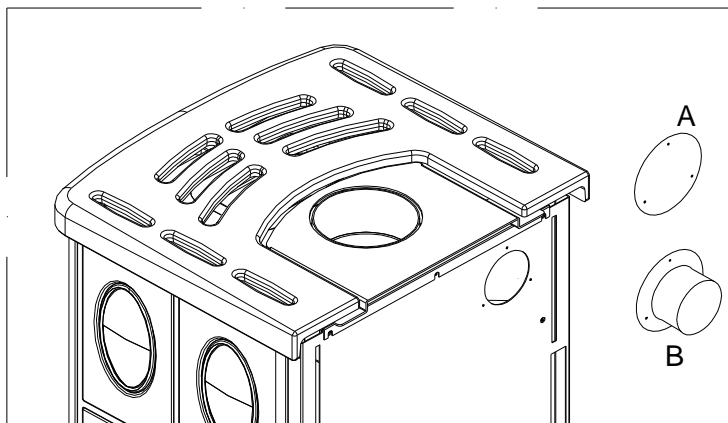
Dip Switches (microswitches) on the remote control/on the board

Air behind / forward

5.2.3 CHANNELLING WITH AIRBOX FOR 800 820 860 700

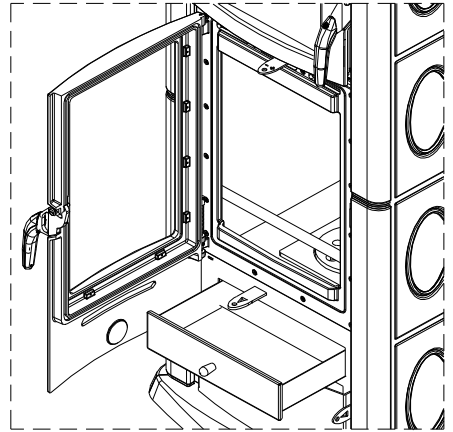


To execute the channelling system firstly remove the cover A fixed to the back of the heater then mount the collar B (see figure below). This will give you the possibility of channelling the hot air to other rooms. The maximum flow rate for channelling is obtained by shifting the knob to the left as indicated in the figure below on the right. We strongly recommend taking particular care to insulate the tubing in order to obtain the best possible channelling. (only heater 820 can be channelled with 2 outlets)



6 CLEANING AND MAINTENANCE

6.1 GENERAL CLEANING



Before beginning any action on the heater disconnect it from the electrical power outlet if fitted with an Airbox. Your 800, 820, 860, 700 series heater do 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.

In detail:

-Every time you stoke the fire use the riddling tool to move the grate. To do so act on the rod Y indicated in para. 5.1.1 and para. 5.1.2 positioned under the firebox door. The air passage through the firebox grate must always be unobstructed.

EVERY DAY clean the glass to remove combustion residues (the heater must be cold for cleaning purposes):

EVERY 2 DAYS of operation empty the ash pan.

EVERY 5 DAYS clean the room fan grill located at the back of the heater as indicated in the figure below (if fitted with an AIRBOX).

AT THE END OF THE WINTER SEASON OR WHENEVER NECESSARY we recommend thoroughly cleaning the heater firebox, using brushes and vacuum cleaner.

TWICE A YEAR clean the smoke exhaust, including the flue outlet.



A vacuum device simplifies the cleaning procedure. Use a damp cloth or a scrunched up piece of newspaper, dampened and rolled in the ash, to wipe the glass until it is perfectly clean. Do not clean the glass while the heater is operating. The insert must be completely cooled down before the side panel can be cleaned with a soft cloth and water.

6.2 ASH

The 800 series heaters have a large ash pan situated under the firebox base. To access it firstly you must completely open the door of your heater as illustrated in the drawing . To collect the ash simply shift the grate riddling handle (Y) (see drwg para 5.1). The ash pan should be emptied with the frequency indicated above to avoid it filling up completely; The excessive accumulation of ash under the grate can cause it to overheat and limit the intake to the primary air combustion.

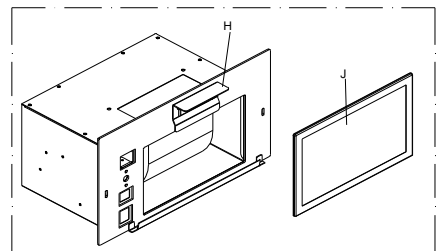
6.3 REPLACING THE RADIO CONTROL BATTERY

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 CLEANING THE FILTER (ONLY FOR AIRBOX)

If your heater is fitted with the AIRBOX system then the filter should be cleaned every 5 days or whenever necessary. As illustrated in the drawing on the right, lift up handle H and remove the filter J.

Then wash the filter under running water, dry it and remount it. The electrical power must be disconnected from the AIRBOX before beginning any of these actions.



6.5 RECOMMENDATIONS

-Every time you stoke the fire use the riddling tool to move the grate. Allo scopo agire sull'asta Y indicata nel par. 5.1.1 e 5.1.2 situata sotto la porta del focolare. The air passage through the firebox grate must always be unobstructed.

-Every 2 days 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. Kg 2,5/hour for 700 model, max. Kg 4/hour for 800-820-860 models. Stoke the heater with loads for a maximum of approx. one hour of operation.

-Thoroughly clean the heater and smoke evacuation pipes at least twice each season.

When the appliance is operating it is extremely hot to the touch, particularly the outer surfaces, so care must be taken.



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

7 SMOKE EXHAUST PIPE

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 must be installed in compliance with UNI 7129/92, UNI 10683 and EN 14785 and must respect the following reference values:

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.

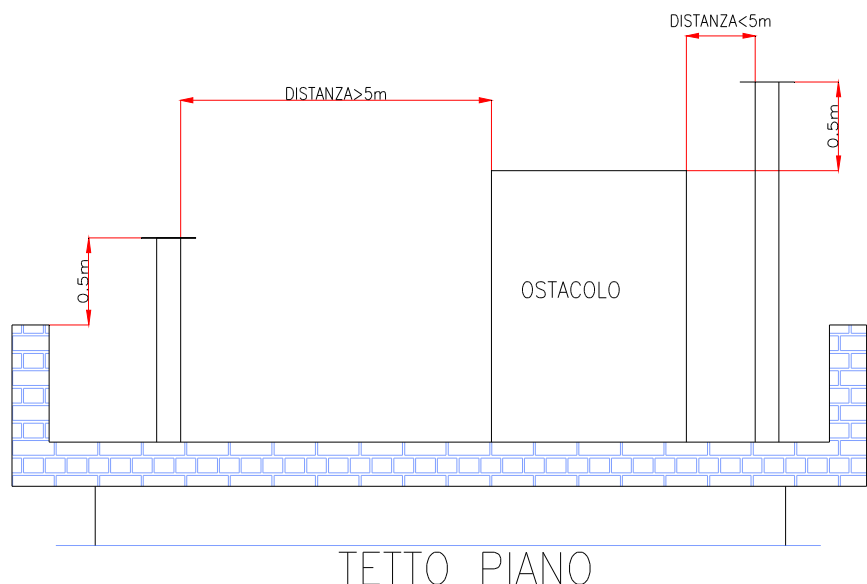
- be at least 4m from the floor on which the appliance is installed;
- be fitted at the top with a cap that fulfils definite requirements;
- must not be installed in inhabited locations as the flue outlet is always slightly more pressurised than its surroundings.

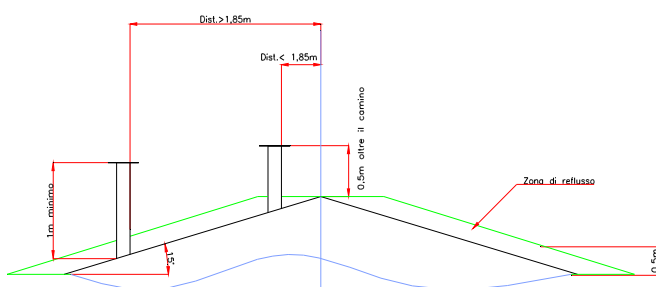
If you use a large pre-existing chimney, you can adapt it by installing a stainless steel chimney liner, then filling in the spaces between the liner and the chimney with insulating material.

The flue outlet used for discharging the combustion smoke from the heater cannot be used for exhausting smoke from other appliances.

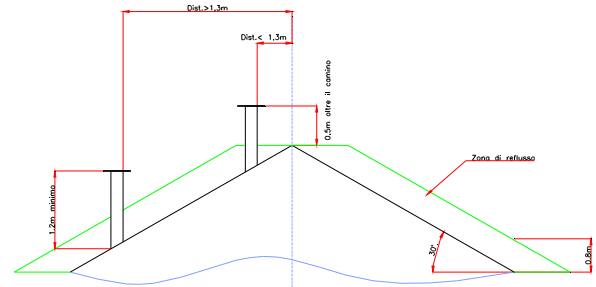
7.2 ESSENTIAL REQUIREMENTS FOR THE CHIMNEY CAP

<u>LEGENDA</u>	<u>KEY</u>
Tetto piano	Flat roof
Ostacolo	Obstacle
Distanza	Distanza

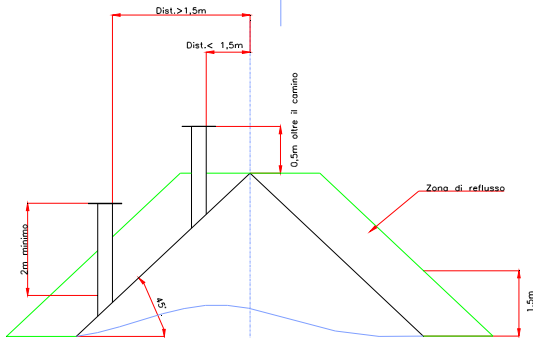




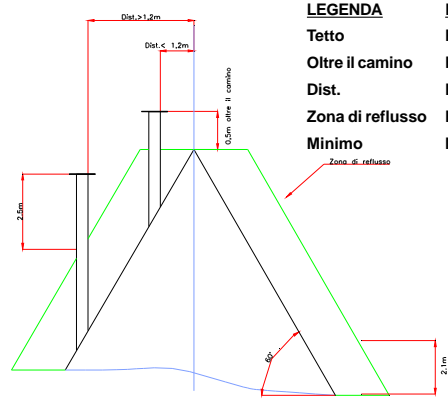
TETTO 15°



TETTO 30°



TETTO 45°



TETTO 60°

LEGENDA		KEY
Tetto		Roof
Oltre il camino		Beyond the chimney
Dist.		Dist.
Zona di reflusso		Flow-back zone
Minimo		Minimum

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.



If the flue outlet should catch on fire contact the fire brigade immediately.

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 to avoid reducing the above mentioned section (Caution: the grills must be positioned in such a way that they cannot be obstructed);
- 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.



Caution: the extraction fans (e.g. cooker exhaust hoods), if operating in the same room and/or area in which the appliance is connected, can cause problems.

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 by testing with a vacuumeter: the optimal minimum value must be 12 Pa.

It is a good rule to have the smoke outlet inspected by an expert at least once a year. Poor draft can cause bad combustion and a drop in output, as well as be 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;

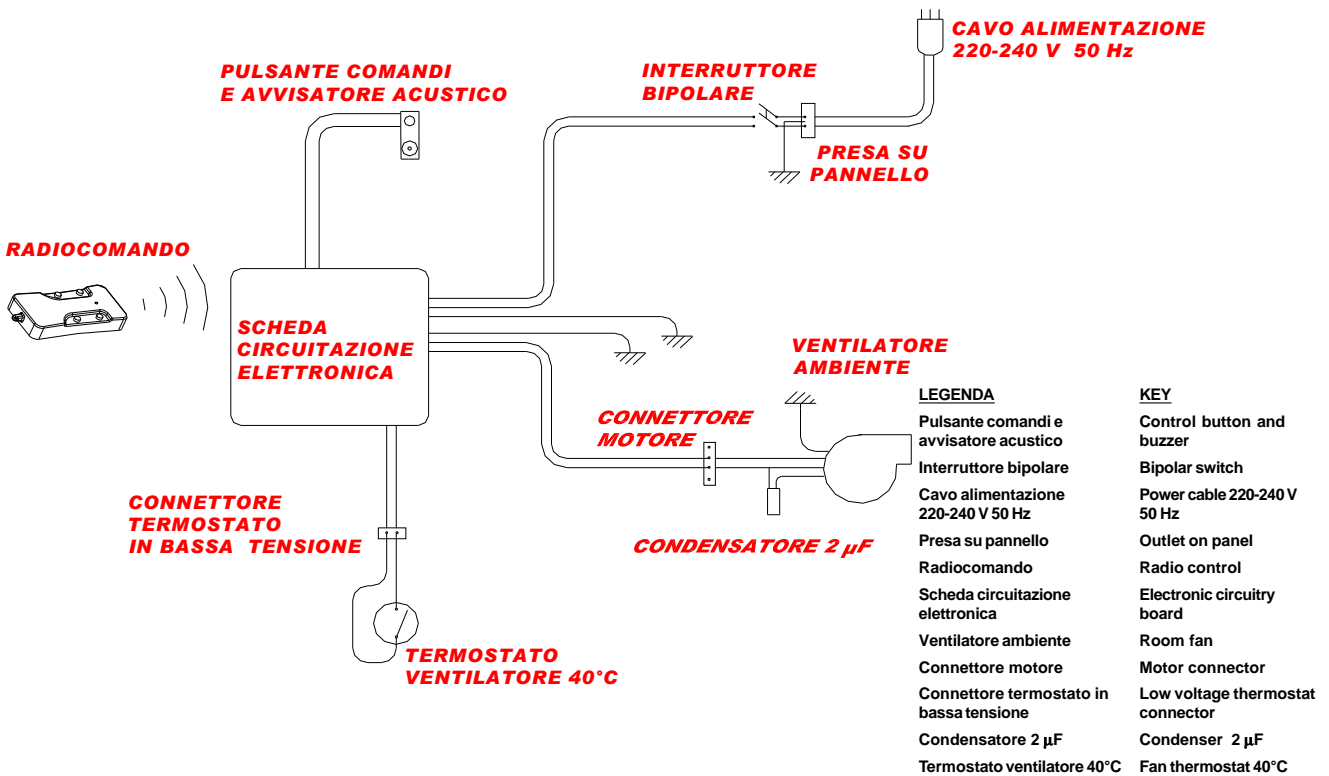
have, along its entire length, a section which is equal to or greater than that of the appliance's exhaust tube fitting;

have no shut off devices (damper): if devices such as these are already installed they must be eliminated.

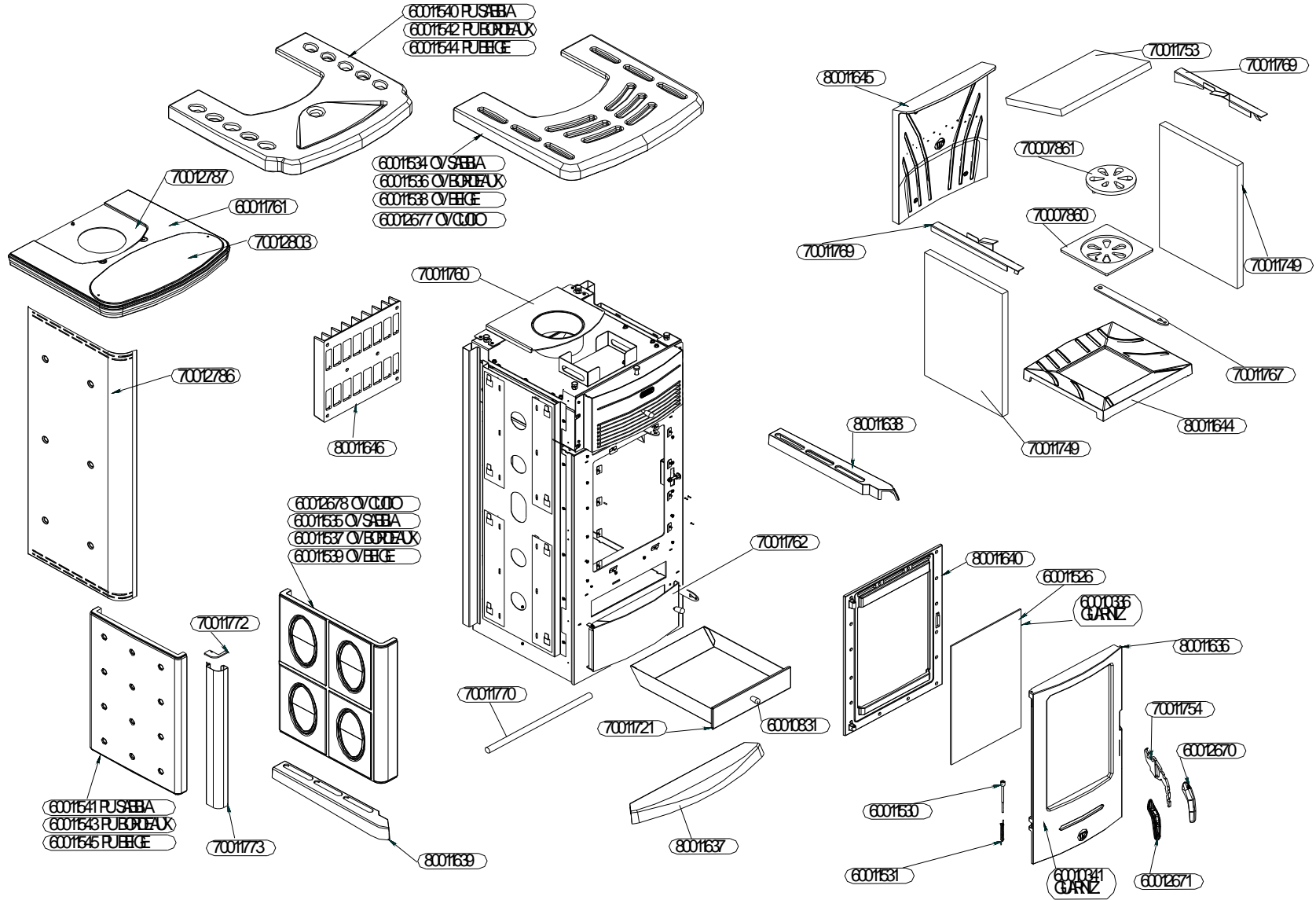


This chapter is not intended to replace UNI 7129/92, UNI 10683 and EN 14785 standards to which it refers. The qualified installer must in any case be fully aware of this standard and its amending versions.

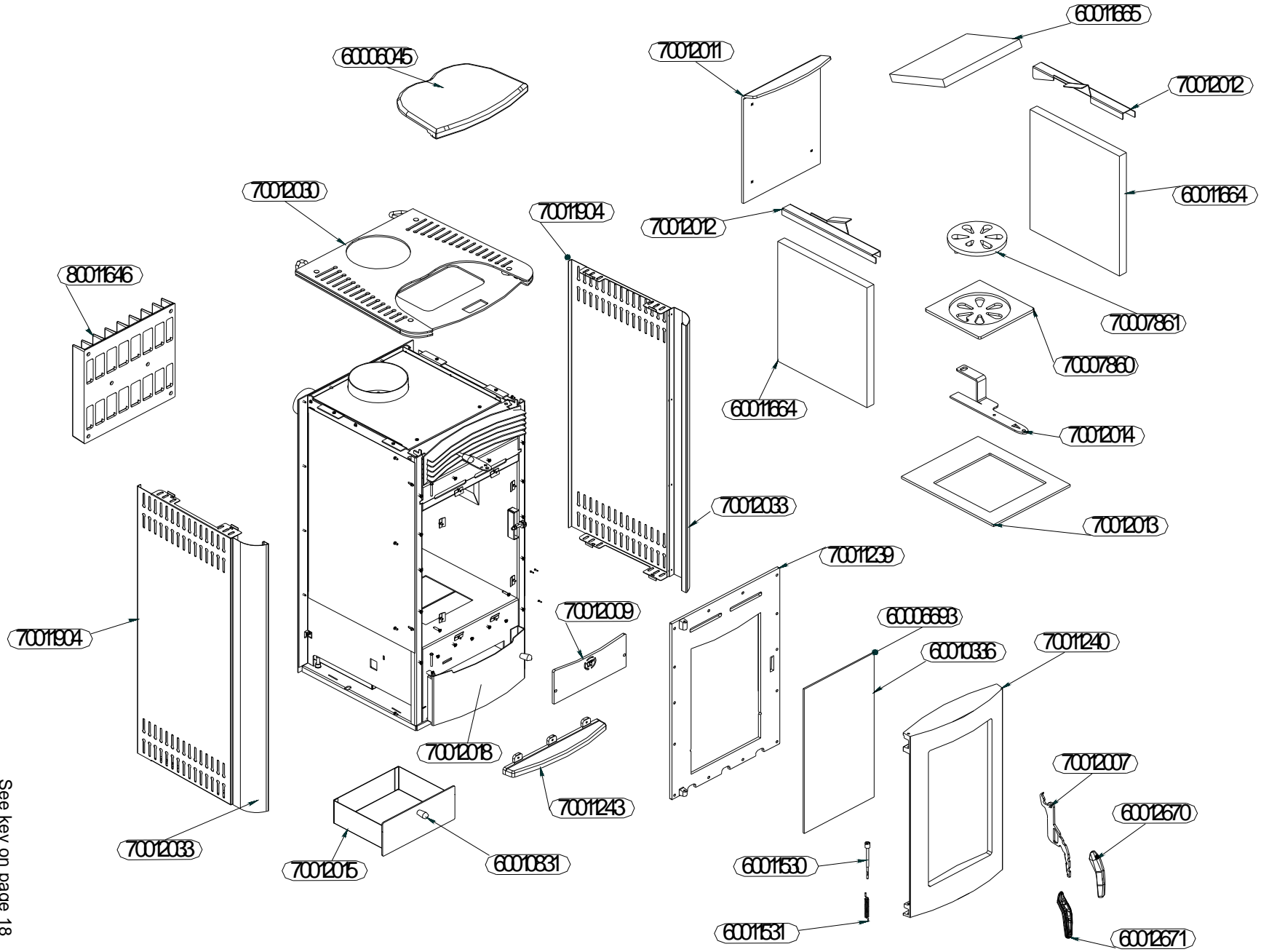
8 ELECTRICAL WIRING



See key on page 18



See key on page 18



LEGENDA

Pu Sabbia

Pu Cuoio

Pu Beige

Pu Bordeaux

Ov Sabbia

Ov Cuoio

Ov Beige

OV Bordeaux

Guarniz.

Attenzione: nel caso di richiesta cod 60012670 e cod 60012671 relativa a una porta e' necessario sostituire i paricodici anche sull'altra porta

KEY

Pu Sand

Pu Leather

Pu Beige

Pu Burgundy

Ov Sand

Ov Leather

Ov Beige

OV Burgundy

Gasket

Caution: if replacing code no. 60012670 or code no. 60012671 for a door , the same code numbers for the other door must also be replaced