KLOVER
THE EVOLUTION OF FIRE

Wood-burning inserts

STARBOX 650
STARBOX 750

INSTALLATION, USE AND MAINTENANCE INSTRUCTIONS

Translation of the original instructions

CS.STB.IST-1_Rev.1.0_12-24 ENG

CONTENTS

1 GENERAL PREAMBLE

1.1 SYMBOLS USED

The following symbols are used throughout this manual, each of which has a precise meaning.

Indicates particularly important and delicate operations that, if not carried out correctly, could damage the appliance and/or the materials.

Indicates operations that, if not carried out correctly, can lead to general injuries and cause malfunctions or damages to the appliance and/or to the materials it uses.

Refers to operations that must NOT be carried out.

1.2 INFORMATION ON THE INSTRUCTION MANUAL

1.2.1 SCOPE AND CONTENTS OF THE MANUAL

The aim of the manual is to provide fundamental information for the installation, use and maintenance of the appliance.
Observing the information given in this manual guarantees a high degree of safety and performance from the appliance.
Although the indications provided in this manual must be regarded as a general rule, all provisions of the local, national and European laws in force in the country where the appliance is installed must nonetheless be observed.

1.2.2 UPDATING OF THE MANUAL

This manual contains information relative to the appliance at the time of its introduction onto the market.
The manufacturer reserves the right to update the manual and implement the relevant changes without notifying the customer.

2 SAFETY

2.1 GENERAL SAFETY WARNINGS

This manual is the property of the appliance's manufacturer; it is forbidden to reproduce or transfer to third parties the contents of this document. All rights reserved. The manual is an integral part of the product; make sure that it always accompanies the appliance, even when the latter is sold/transferred to another owner, so that it can be consulted by the user or by personnel authorised to perform maintenance and repairs. The pictures and drawings are purely for example purposes; the manufacturer, in the ongoing effort to develop and upgrade the product, may make changes to the product without prior notice.

- **Carefully read this manual before use to ensure that the appliance works safely.**
- **The manufacturer declines all liability for accidents deriving from failure to observe the specifications contained in this manual.**
- **Moreover, the manufacturer declines any liability arising from improper use of the product by the user, unauthorised modifications and/or repairs, as well as the use of non-original spare parts or parts not suitable for this type of product.**
- **To ensure the validity of the warranty, the user must comply with the instructions contained in this manual and, in particular, must:**
  - **use the appliance within its operating limits;**
  - **regularly perform all maintenance activities;**
  - **authorise expert and competent people to use the appliance.**
- **Failure to comply with the instructions contained in this manual shall automatically void the warranty.**

⚠ The installation, commissioning and maintenance of the appliance must be carried out by specialised personnel in accordance with the local, national and European regulations; moreover, said personnel shall be responsible for the correct installation and efficient operation of the appliance. The manufacture declines all liability if these indications are not observed.

⚠ Only use original spare parts or parts approved by the manufacturer, so as to avoid any damages to the product.

⚠ The appliance may be used by children no younger than 8 years of age and by people with reduced physical, sensory or mental capabilities, or who lack experience or knowledge of the appliance, as long as they are supervised or have been instructed on how to use the appliance safely and understand the hazards inherent to the appliance.

- Children must not be allowed to play with the appliance. User maintenance and cleaning operations must not be carried out by children.

⚠ Keep children away from the appliance when it is running since they could get burned by touching its hot components.

2.2 PROHIBITIONS

⛔ Do not make any unauthorised modifications to the appliance.

⛔ Do not touch any hot parts of the appliance (glass-ceramic panel, flue, outer frame, etc.) during operation.

- NEVER open the appliance door during normal operation, except when wood is being loaded.

⛔ During cooking and, in general, while using the appliance, do not wear clothing that can easily catch fire.

⛔ It is forbidden to use any fuel other than wood.

⛔ Do not perform cleaning with unsuitable detergents. Strictly avoid using cleaning products that are corrosive and flammable or contain substances hazardous to human health. Do not use substances used for cleaning and polishing silver, brass or other non-approved products.

⛔ Do not leave flammable containers and substances in the room where the appliance is installed.

⛔ Do not disperse packaging material in the environment or leave it within reach of children or unassisted people with reduced capabilities, as the packaging may be dangerous. It must therefore be disposed of according to the current legislation.

⛔ Do not use fuels other than those for which the appliance was designed. Do not use liquid fuels.

- Do not use the appliance as an incinerator or for any use other than that for which it was designed.
- Do not use the appliance in ways other than those indicated in this user manual.

⛔ Do not leave the appliance exposed to the elements.

3 PRESENTATION OF THE APPLIANCE

3.1 IDENTIFICATION

KLOVER products are identified by:
- **PRODUCT DATA PLATE** which shows the model (A), serial number (B) and performances of the product

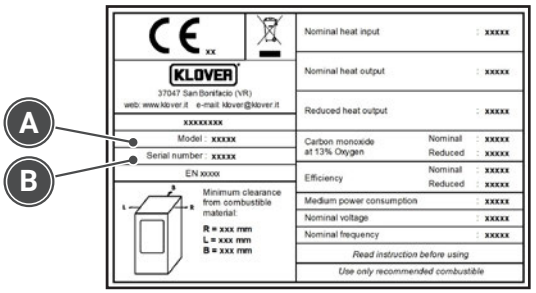


Fig. 1

The rating plate is positioned as shown below.

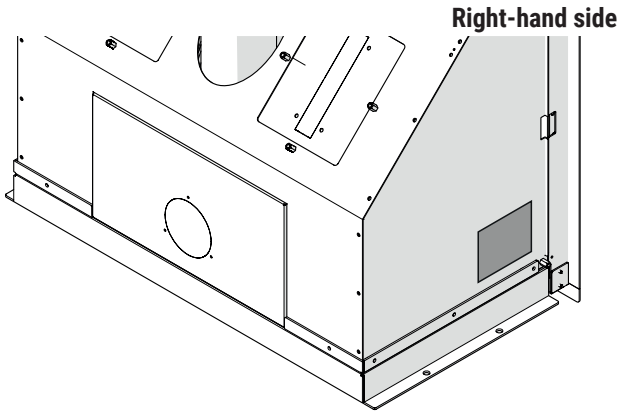


Fig. 2

If technical assistance and/or spare parts must be requested, always communicate this data to your trusted dealer or to an authorised technical assistance centre. KLOVER.

3.2 INTENDED USE

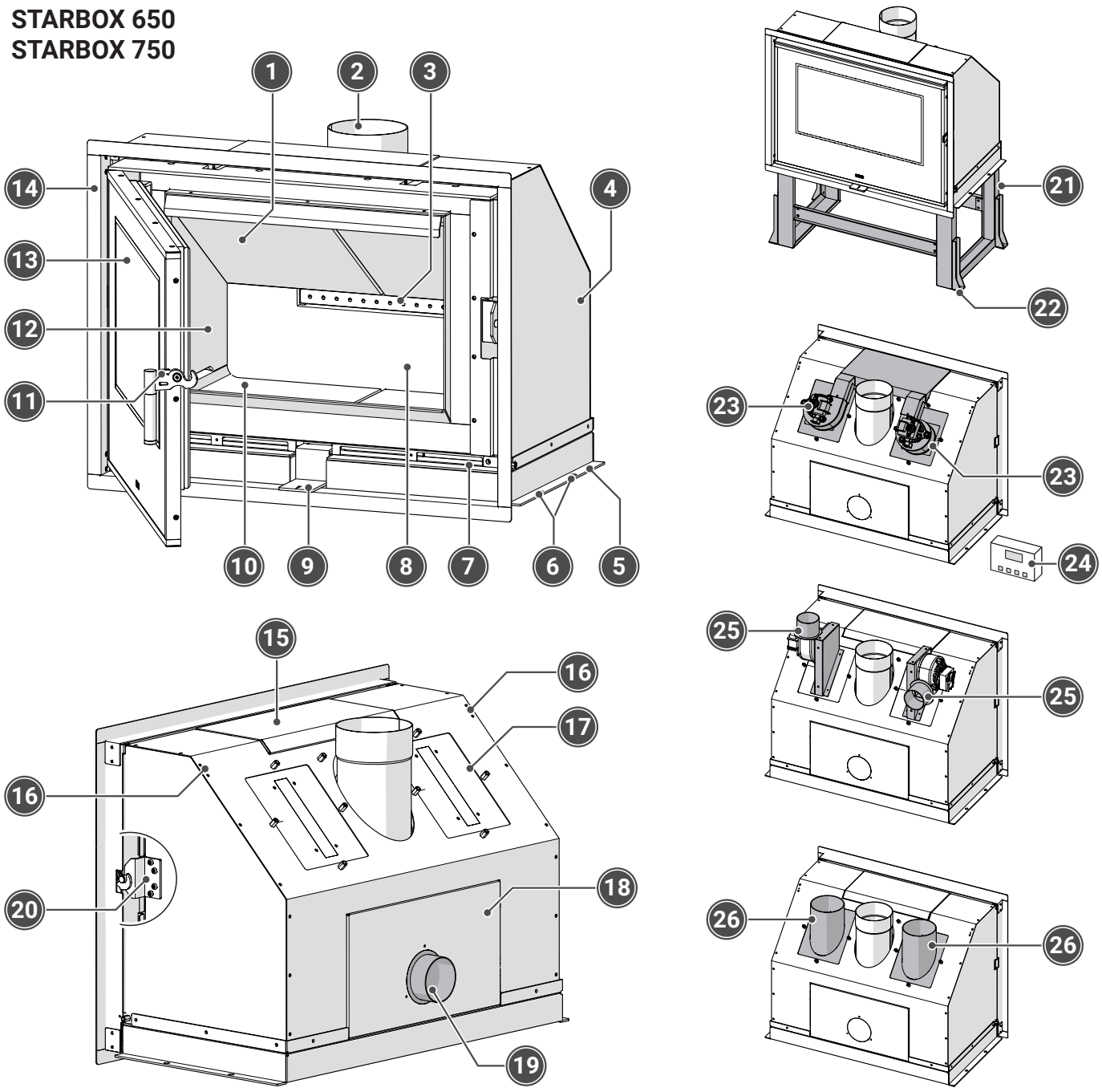
This product:
- works exclusively with wood and with the door closed
- must be installed and used solely in indoor environments
- is intended solely for the expressly specified use, and any other use is regarded as improper and thus dangerous.

3.3 GENERAL DESCRIPTION

STARBOX wood-burning inserts are designed and manufactured with high-performance design solutions that reflect simplicity of use, safety and environmental protection in an innovative way. The use of wood, a fuel that is easy to find, use and store, makes the product even more practical to use.
The materials used, the high thicknesses, the hermetic seal on the insert's openable parts and the centralised oxygenation determine extremely high performances in terms of yield and emissions, as well as reduced energy wastage.
Special care was devoted to the safety of people who use our products; as a result, each product is subjected to rigorous suitability and tightness checks.

3.4 MAIN COMPONENTS

STARBOX 650
STARBOX 750



1 Upper fire brick
2 Fume adapter
3 Secondary combustion air inlet
4 Outer shell
5 Plate for fixing on support base
6 Holes for fixing on support base
7 Primary combustion air inlet
8 Rear fire brick
9 Primary combustion air adjuster
10 Fire bed lined with fire bricks
11 Handle
12 Lateral fire brick
13 Firebox glass-ceramic panel
14 Frame for built-in installation
15 Upper shell
16 Air temperature probe housing
17 Configuring plates for ventilated and ducted air
18 Rear shell
19 External combustion air intake kit (optional)
20 Door closing hook
21 Base kit with feet (optional)
22 Adjustable feet
23 Front ventilation kit (optional)
24 Control unit for managing ventilation (included in the front ventilation kit)
25 Ventilated air ducting kit (optional)
26 Natural convection air ducting kit (optional)

Fig. 3

3.5 TECHNICAL SPECIFICATIONS

Description	Unit of measurement	STARBOX 650	STARBOX 750
Nominal heat input	kW	9,2	11,4
	kcal/h	7900	9800
Nominal heat output	kW	8,1	10,1
	kcal/h	6950	8700
Efficiency at nominal heat output	%	88,4	88,7
CO at 13% oxygen at nominal heat output	%	0,0447	0,0339
Flue outlet diameter	mm	130	130
Air intake pipe diameter (optional)	mm	80	80
Minimum chimney draught at nominal heat output	Pa	11,6	11
Combustion gas mass at nominal heat output	g/s	6,3	7,2
Average exhaust flue gas temperature at nominal heat output	°C	167,5	171,1
Hourly wood consumption	kg/h	2,11	2,62
Wood loading interval	min	57	48
Minimum safety distance from flammable materials (side/rear/top/front)	mm	200 / 300 / 800 / 950	200 / 300 / 800 / 950

Data measured in the laboratory in accordance with the product technical specifications.
The values were obtained according tot he EN 13229 standard.
The appliance heat output and consumption may vary depending on the type and degree of dryness of the wood used (an average value of 4,375 kWh/kg was considered).

VENTILATION CONTROL UNIT (OPTIONAL)

Description	Characteristics
Power supply	230 VAC ± 10% ~ 50 Hz | EMI filter on appliance: 2 VA | Entire fuse replaceable
Probe	NTC100K @25°C Range 0–180°C | Precision 21°C
Outputs	230 VAC fan | Imax: 0.8 A/1.5 A power-boosted version
Mechanical dimensions	Built-in temperature controller: 120 x 80 x 50 mm
Standards applied	EN 60730-1 50081-1 | EN 60730-1 A1 50081-2

3.6 DIMENSIONS AND CONNECTIONS

All the technical sheets for the dimensions and connections can be viewed by scanning the following QR Code from your smartphone.

STARBOX 650

https://docs.klover.it/it/guide/help/cs-stb650-tds-1

STARBOX 750

https://docs.klover.it/it/guide/help/cs-stb750-tds-1

4 FUEL

4.1 FUEL CHARACTERISTICS

It is forbidden to use any fuel other than wood.
- **DO NOT USE wood that has is very humid, wet or seasoned for less than 2 years.**
- **DO NOT USE wood with a high resin content as this may shorten the appliance working life and require more frequent cleaning of the flue and of the appliance.**

Since the characteristics and quality of the wood considerably influence product autonomy, yield and proper operation, the manufacturer suggests using well seasoned (at least 2 years) and dry wood, with humidity between 10÷15%.
Wood is divided into softwood (e.g. fir, pine, poplar, alder, chestnut, willow) and hardwood (beech, ash, hornbeam, locust and oak). Softwood ignites easily, burns quickly and has a long flame. Hardwood is more compact and burns more slowly with a short flame; it lasts longer and is more suitable for domestic heating systems.
Depending on the calorific value of the wood, its composition and consistency, and the flame duration, wood to burn can be classified into two categories: "good quality" and "poor quality".

Good-quality fuel
The following hardwoods are regarded as suitable: beech, ash, hornbeam, oak, locust, birch, maple and elm.

Poor-quality fuel
The following softwoods should not be used: willow, poplar and alder.

The use of poor-quality wood or any other material can damage the appliance functions and void the warranty, resulting in the manufacturer being exempted from all liability.

Indicative values referred to wood with uniform density and a residual humidity percentage between 10% and 15%

Type of wood	Calorific value (kcal/kg)	Specific weight (kg/m^3)
White fir	4650	440
Red fir	4857	450
Maple	4607	740
Birch	4968	650
Hop-hornbeam	4640	820
Chestnut	4599	580
Turkey oak	4648	900
Cypress	5920	620
Beech	4617	750
Ash	5350	720
Larch	4050	660
European alder	4700	530
Cypress poplar	4130	500
Locust	4500	790
Downy oak	4631	880

Size of the wood
The dimensions and arrangement of the wood logs also influence product performance. It is important that the wood:
- is cut into pieces adequate to the size and type of the firebox so that it does not rest against the walls or glass of the door
- is properly arranged on the brazier and above a layer of embers
- is in contact with the embers for a surface as large as possible, preferably free of bark.

For the dimensions and arrangement of the fuel, refer to the "*Loading the fuel*" chapter.

4.2 STORAGE

To ensure optimal combustion the wood must be stored in a dry and covered place, sufficiently far away from the appliance and from heat sources that may trigger combustion.

The room chosen to store the pellets must not be used as a warehouse for flammable substances or for activities subject to the risk of fire.
- **The wood MUST be transported and stored strictly in a way that ensures it remains dry at all times.**

5 CONFIGURATION FOR INSTALLATION

5.1 ROOM OF INSTALLATION

Rely on qualified personnel to choose the room of installation and to calculate the heating requirements of the rooms.
- Listed below are a few indications to be observed for correctly using the purchased product. Any local laws and regulations nonetheless take precedence over these indications.

The appliance cannot be installed and operated outdoors, but only indoors. Installing the product outdoors can lead to dangerous situations, health problems and operating anomalies.

The appliance must be installed in a room that guarantees easy and safe access during installation, use and any subsequent cleaning and maintenance interventions.
Moreover:
- the room of installation must guarantee an adequate supply of combustion air; consult the chapter "***Combustion air intake***"
- the room of installation and the environment to be heated must have the right size and characteristics in relation to the appliance's heating capacity; consult the chapter "***Technical Specifications***" to verify whether the appliance's power is suitable for the heating requirements of the relevant rooms
- the room of installation must allow for installing a flue for discharging the combustion fumes, as described in the chapter "***Fume exhaust***".

It is forbidden to install type A and B gas appliances in rooms containing wood-fired heat generators (or generators running on solid fuels in general) and in rooms connected to them (as per the UNI standards).
- The room of installation must not be used as a warehouse for flammable materials or for activities subject to the risk of fire.
- The volume of the room of installation must not be below that specified by the regulations and calculated by an HVAC technician.

Listed below are a few limitations for NON-sealed-type installations and installations where combustion air is not drawn from the outside.

Refer to the local regulations for further information and clarifications on any restrictions and special requirements.

The room of installation:
- must not be a bedroom or a studio flat, except when a sealed installation is used or the appliance has a closed firebox and the combustion air is drawn from the outside through a ducted system
- must not be a bathroom, shower room or similar
- must not be put in negative pressure with respect to the outdoor environment, due to the effect of contrary draught caused by the presence in the installation room of an additional appliance with an intake device (e.g. forced aeration systems or other heating systems with the use of ventilation for the change of air)).

In the room where the appliance is installed:
- It is forbidden to install appliances running on liquid fuel that operate continuously or discontinuously and draw the combustion air from the installation room
- It is forbidden to simultaneously use multiple appliances (two stoves, or a fireplace and a stove, etc.), except when:
  - the provisions provided by the manufacturer of each appliance have been observed
  - in the most demanding simultaneous operating condition, the negative pressure measured during use between the outdoor and indoor environments is lower than the value defined by the regulations (4 Pa).
- it is not allowed to install type-B gas appliances for space heating, with or without domestic hot water production
- only in rooms used as kitchens is it possible to use devices for cooking foods and hoods without extractor.

Multiple appliances can be present provided that this is allowed by the regulations and by the manufacturer of each single appliance.
- If multiple appliances are allowed, all the regulations provided by the manufacturer of each single appliance must be observed.
- In the room where the appliance is installed, type C gas-fired appliances are allowed (refer to the regulations in force).

5.2 MINIMUM SAFETY CLEARANCES

The product must be installed by observing the appropriate specified distances from walls and adjacent objects. Failing to observe the indications provided could lead to fire.

- **During the product's operation, any combustible or heat-sensitive material (such as wooden objects, tapestries, rugs, fabrics, clothing, ornaments, flammable liquids, etc.) should be kept, where not specified, at least one metre away.**

The product's positioning within the room should also take into account, besides the observance of the regulations, the heating requirements and the shape of the installation and adjacent rooms, also the accessibility for installation, use and maintenance purposes.

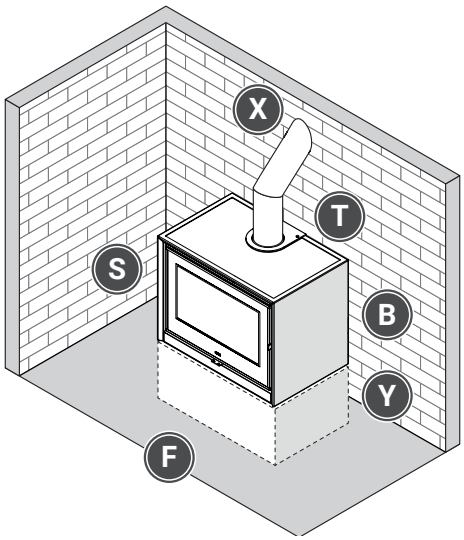


Fig. 4

Objects that are hard to remove situated near the product, the adjacent walls, the zone above and the support surface MUST be made with NON-flammable material and must be positioned at a minimum safety distance as shown in the table.

Minimum safety clearances (mm)		
S	Side (SIDE)	50
B	Back (BACK)	50
T	Top (TOP)	800
F	Front (FRONT)	950

Any heat-sensitive or flammable materials MUST be positioned at a minimum safety distance from the side walls of the stove, as indicated in the product's technical sheet, accessible through the QR Code present in the chapter "***Dimensions and connections***".

It is possible to install heat-sensitive or flammable objects at a shorter distance compared to the safety clearances ONLY if a suitable insulating protection is inserted in between; for further information consult the chapter "*Verifying the support surface*".

5.3 VERIFYING THE SUPPORT SURFACE

The appliance must be installed on a floor or slab with adequate load-bearing capacity, capable of withstanding the weight of the product complete with its cladding, accessories, finishes and fuel. If the existing building does not fulfil this requirement, appropriate measures (e.g. steel plate, concrete base) must be taken to distribute the load.

Consult a qualified technician to choose and implement the most appropriate solution.

Floors built using flammable material such as, for example, wood, parquet, linoleum and laminate, or that are covered with rugs, must be protected with a fire-retardant base beneath the appliance that also protects the front part in case any combustion residues fall during cleaning.

5.4 COMBUSTION AIR INTAKE

To ensure regular and safe combustion, the appliance must be able to draw a sufficient amount of air.
The inflow of the necessary air can be obtained in the following ways:
- through direct drawing from the installation room or adjacent rooms, suitably equipped with an external air intake
- with a direct connection to the combustion chamber through ducting, with air drawn from the outside or from adjacent rooms equipped with an external air intake. Ducting (where present) for drawing combustion air must have the characteristics specified in the chapter "***Connecting the combustion air***".

The external air intake must:
- guarantee a sufficient inflow of clean air for combustion with a total free cross-section equal to a larger than that specified in the chapter "***Technical Specifications***" and nonetheless equal to or larger than the cross-sectional area of the air inlet on the appliance
- be made at a height from the ground of roughly 20-30 cm
- be protected externally with a grille or suitable protection that reduces its minimum free cross-section and, in case of areas that are very windy or exposed to the elements, is equipped with an anti-rain and anti-wind protection
- be positioned in such a way that it cannot be obstructed and inspection and maintenance operations can be performed
- NOT be equipped with manual closing devices that reduce its minimum free cross-section.

If the external air intake cannot be fitted in the same room where the appliance is installed, this hole can be made in an adjoining room as long as this room communicates permanently, by means of a transit hole (15 cm minimum diameter).

It is forbidden to draw combustion air from potentially polluted areas such as garages and warehouses with combustible material or activities with fire risk, as indicated in the UNI 10683 standard.

If there are other heating or extraction devices inside the room, the air vents must guarantee a sufficient amount of air for properly operating all the devices, in accordance with the regulations in force and the manufacturer's indications.

- **Only sealed appliances (e.g. C-type gas appliances, according to the UNI 7129 standard) or appliances that do not cause a lower pressure compared with the external environment can pre-exist or be installed in the place where the wood-burning appliance is installed.**

5.5 FUME EXHAUST

The fume exhaust is an important function for the product's efficient operation. It must be made by qualified personnel and in accordance with the regulations in force, with regard to both its dimensions and the materials used to build it.

The product works with the combustion chamber in negative pressure and the fume exhaust under pressure; it is essential that the fume exhaust duct is hermetically sealed.

For example purposes, we list below the main parts making it up; for detailed information on the various possible solutions, consult the successive chapters.

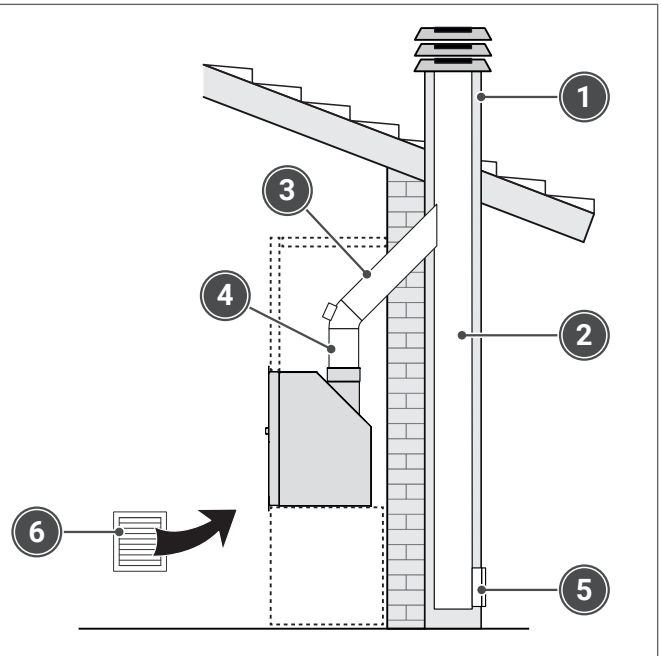


Fig. 5

1 Chimney
2 Flue
3 Connection to the flue
4 Fume adapter
5 Inspection for soot collection
6 External air intake

Listed below are the characteristics for creating a suitable outlet for discharging fumes.

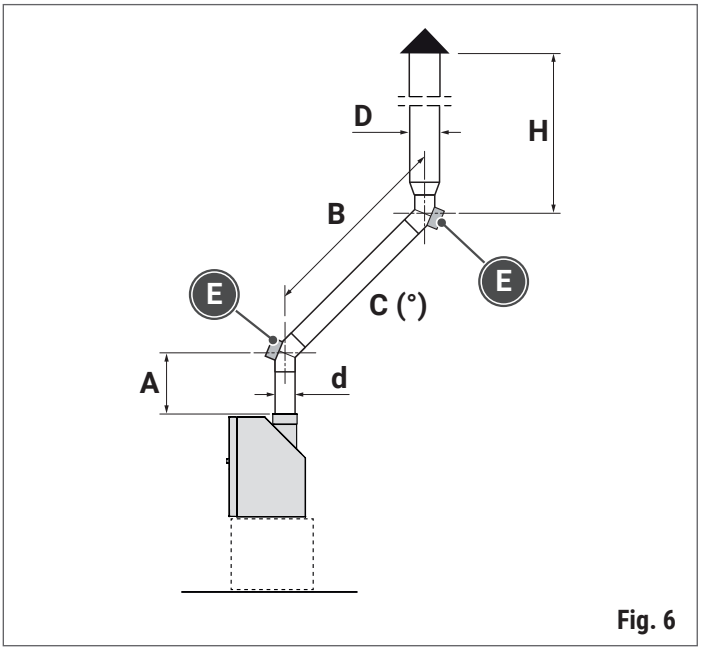


Fig. 6

Measurement		Value
A	mm	Initial vertical section ≥ 500
B	mm	Inclined section ≤ 2000
C	°	Inclination ≥ 45
d	mm	Diameter of the flue gas duct – see technical sheet of the appliance
D	mm	Diameter of the flue ≥ d
E	-	Inspection cap
H	mm	Useful height of flue ≥ 4000

In making the flue gas exhaust, the following indications MUST be observed:

- the flue must have a minimum cross-section with a **diameter equal to or larger than the appliance's fume exhaust** as specified in the chapter "***Technical Specifications***"
- it is mandatory to have an **initial vertical section of at least 500 mm** to ensure proper fume exhaustion
- it must go upwards, after the vertical section, for the entire remaining part, with a **gradient equal to or above 45%**, the inclined section must not be longer than 1/4 of the effective height H of the chimney or flue, and nonetheless **must not be longer than 2000 mm**
- make **no more than 2 direction changes**, besides the one deriving from the rear connection of the appliance to the flue, using elbows with 45° angle or tee fittings
- always use a **tee fitting with inspection cap** at each horizontal or vertical variation in the fume exhaust path
- if they are not self-supporting, **anchor the pipes with appropriate collars to the wall**, so that their weight does not interfere with the proper exhaustion of the combustion fumes
- the pipes must guarantee the fume tightness indicated in the "***Technical Specifications***" chapter, and must nonetheless **withstand at least 400°C**
- **the pipes must have a double wall (thermally insulated)** or be suitably insulated with rock wool.

5.5.1 FLUE GAS CHANNEL

The flue gas channel consists of the various components that connect the appliance to the flue, and allows for adequately dispersing the combustion by-products into the atmosphere.

The flue gas channel must be made by qualified personnel in accordance with the regulations in force; in particular, it must guarantee the minimum draught specified by the appliance's manufacturer and be suitably sealed.

- **The components making up the flue gas channel must be declared suitable for the specific operating conditions of the appliance to be installed and must be suitably sized in relation to it.**

Refer to the manufacturer's indications and designation with regard to: the safety clearances, installation procedure, maintenance, safety and insulation of the elements used to make the flue gas channel.

- **Be careful that the flue gas channel does not come into contact with heat-sensitive or combustible materials (for example fabrics, clothing, claddings, walls, wooden beams or ceilings, etc.).**
- **If wooden roofs or walls must be crossed, it is mandatory to use appropriate certified kits, available in retail stores.**
- **If there is a risk of accidental contact with the flue gas channel, adequately protect the external surface as indicated by the manufacturer of the flue gas channel elements and according to the regulations in force.**
- **If they are not self-supporting, anchor the pipes with appropriate collars to the wall, so that their weight does not interfere with the proper exhaustion of the combustion fumes.**

For detailed information on the position of your appliance's fume exhaust, consult the chapters "*Technical Specifications*" and "*Connection to the fume exhaust*".

The flue gas channel must not cross rooms where it is forbidden to install combustion appliances, nor other rooms with a risk of fire or that cannot be inspected.

- **It is forbidden to install flexible pipes made of metal, fibre cement, aluminium or pipes without CE approval, and to use of counter-sloping elements.**

The appliance must be connected to its own non-shared fume exhaust duct, therefore the flue gas channel MUST NOT be connected:

- **to a flue used by other appliances such as boilers, stoves, fireplaces, etc.**
- **to air extraction systems, such as hoods or purge devices.**

5.5.2 FLUE

Each product must be connected at a flue for discharging combustion by-products to the outside, via natural draught.

The flue must be made by qualified personnel and in accordance with the regulations in force, with regard to both its dimensions and the materials used to build it.

- **The flue must be suited to the specific operating conditions of the appliance to be installed and must be suitably sized in relation to it; in particular, it must guarantee the minimum draught specified by the appliance manufacturer and must be appropriately sealed.**

It is forbidden to make other flue gas or air extraction channels, or pipes connected to plants, pass inside the flue, unless otherwise specified by the manufacturer and allowed by the national standards and local regulations.

It is important to bear in mind that:

- the flue must be equipped with a chamber for collecting solid material and condensate; it must be situated under the fitting inlet, so that it can be easily opened and inspected through an airtight door (inspection for soot collection)
- if wooden roofs or walls must be crossed by piping, we recommend using appropriate certified kits, available in retail stores
- the flue must have a maximum operating temperature and soot fire resistance class corresponding to the type of fuel used and as indicated in the table.

Fuel	Maximum operating temperature in °C	Soot fire resistance
Pellets	200°C (T200)	Yes (G)
Wood	400°C (T400)	Yes (G)

Fumes can be discharged through the existing flue, after verifying that the flue has undergone proper maintenance.

- **If the flue does not conform to the requirements, either because it is too old or too large, assess with qualified personnel whether to adapt it to the regulations, for example by burying the flue in a stainless steel pipe suitably insulated and sized according to the path. Moreover, the connection to the flue must be sealed.**

The combustion by-products must be discharged through the roof.

- **For clarifications regarding any restrictions and special requirements in your area, refer to the local regulations.**

5.5.3 CHIMNEY

The stack is the final part of the chimney/flue that emerges from the roof; its function is to disperse smoke and other combustion by-products in the air.
It is important to bear in mind that:
- it must have a suitably sized useful outlet cross-section and nonetheless not inferior to the double the area of the chimney/flue cross-section
- it must be built in such a way so as to prevent foreign bodies (rain, snow, birds and other) from penetrating inside it
- it must be built in such a way so as to ensure the dispersion of combustion by-products even in the event of winds from every direction and inclination
- it must be positioned outside the reflux zone, so as to prevent the formation of counter-pressures, which could hamper the free discharge into the atmosphere of combustion by-products
- it must be positioned by taking into account the roof pitch and must respect the proper distances from buildings, plants, antennae and other obstacles, as specified in the regulations.

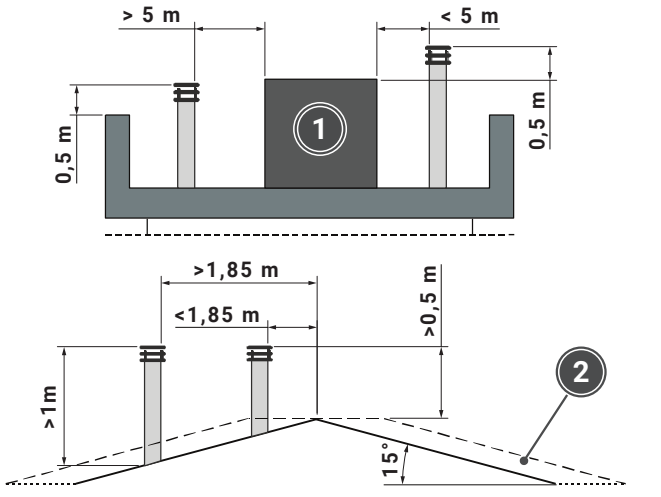


Fig. 7

1 Technical compartment
2 Reflux zone

6 INSTALLATION

The appliance MUST be installed by specialised personnel possessing adequate knowledge of the product itself, who must operate in accordance with the local, national and European regulations; moreover, said personnel shall be responsible for the correct installation and efficient operation of the appliance.
- **The installation MUST be made using adequate equipment and in accordance with the regulations on health and safety protection.**
- **Adequate personal protective equipment MUST be worn (gloves, safety footwear, etc.).**

During appliance handling, lifting and unpacking operations, it is strictly necessary to keep the packaged product in the proper direction as shown by the pictograms and the indications on the packaging, so as to avoid damaging delicate parts, such as the glass-ceramic panel of the door.

6.1 RECEIVING THE PRODUCT

The product is supplied as a single item on a wooden pallet, covered with nylon wrapping and protected by polystyrene elements and a cardboard box.
The product is delivered with the following equipment:
- Instructions for installation, use and maintenance
- Warranty certificate

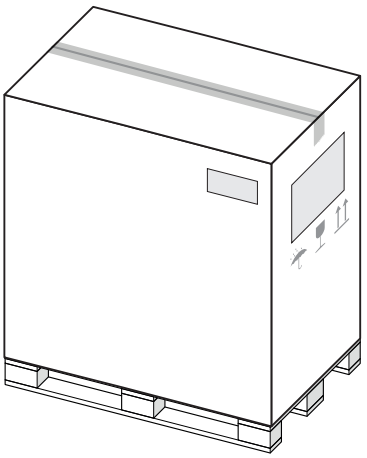


Fig. 8

The manual is an integral part of the product. It therefore should be read before installing and commissioning the appliance and stored carefully for future reference or when the product is transferred to a new owner.

Upon receiving the product, check that the goods received match the order by comparing the data on the shipment document with that of the label on the packaging. In case of discrepancies, immediately contact the dealer.
- **Moreover, check that the packaging is intact and lacks any defects or breakages, dents and damaged parts; if any damages are found, DO NOT USE the product and contact the dealer immediately.**

6.2 HANDLING

Be careful when moving the appliance to avoid possible damages to it. The appliance should only be unpacked once it has reached the installation site.
- **The appliance must be lifted and handled exclusively using suitable lifting equipment with adequate load-bearing capacity for the weight to be lifted; check the data of the label on the packaging.**
- **Be careful since the appliance tends to unbalance, because its centre of gravity is shifted towards the front.**
- **Adequately protect wooden or parquet flooring to prevent it from getting damaged.**

In order to prevent accidents or damages to the product, strictly observe the following recommendations:
- when shifting the packaging, perform slow and continuous movements
- do not tilt the packaging too far so as to prevent the product from tipping over
- the area where the product will be handled must be carefully cleaned and free from any type of hindrance.

6.3 UNPACKING

When removing the packaging, be careful to avoid scratching or damaging the product.
- **Do not disperse packaging material in the environment or leave it within reach of children, as the packaging may be potentially dangerous. It must therefore be disposed of according to the current legislation.**
- **Remove from the appliance the accessories and any polystyrene or cardboard parts used to secure the moving parts.**
- **When handling any steel parts, we suggest wearing clean cotton gloves to avoid leaving fingerprints on the product which could be difficult to remove during cleaning.**

To remove the appliance from its transport support (pallet):
- for model STARBOX 650 it is necessary to remove the combustion chamber (see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***") and loosen the screws fastening the appliance to the pallet; for model STARBOX 750 only the screws on the fixing plate must be removed
- lift the appliance using equipment suited to its weight
- remove the transport support (pallet).

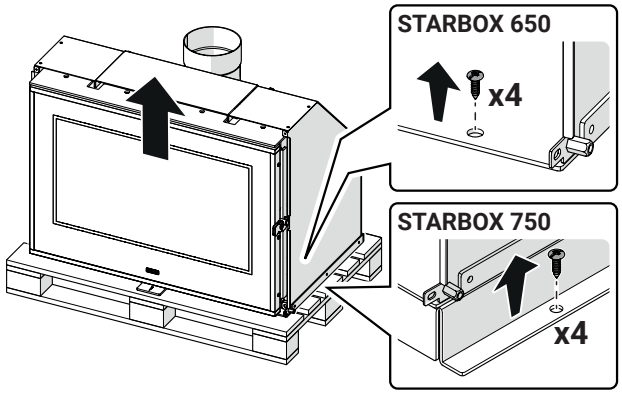


Fig. 9

6.4 POSITIONING THE APPLIANCE

Before positioning the appliance:
- **make sure that the chosen site is suitable for the product's placement and operation; carefully read the information and specifications contained in the section "*Configuration for installation*"**
- **make sure that the air nozzles are configured on the basis of the type of combustion air draw (consult the paragraph "*Connecting the combustion air*") and the chosen ducting system (consult the paragraph "*Installing the kit*"); also consult the product's technical sheet for information on their correct sizing and positioning.**

The insert can be positioned in an existing fireplace or in a newly built fireplace with suitable lining.
To position the insert correctly, it is essential:
- that the fireplace respects the minimum safety clearances, as indicated in the chapter "***Minimum safety clearances***"
- that the support base is suitably sized for housing the insert
- that the material with which the support base is made is capable of withstanding the insert's weight
- to use fastening systems suited to the material used to make the support; screws and plugs are not supplied and must be sized by the installer
- make the convective air inlet and outlet openings valid for all types of installation systems proposed:
  - convective air inlet minimum cross-sectional size = 400 cm^2
  - convective air outlet minimum cross-sectional size = 400 cm^2

Positioning in exciting fireplace
To install the insert in an existing fireplace, proceed as follows:
- remove the combustion chamber (1) completely – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- insert the outer shell (2) into the existing fireplace, level it and fasten it using the holes (3) present on the lower part (STARBOX 650) or on the fixing plate (STARBOX 750)

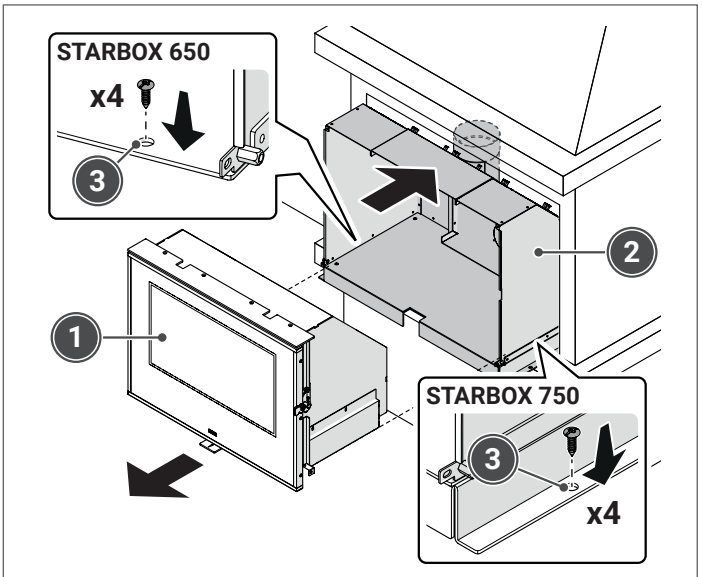


Fig. 10

- insert the combustion chamber into the outer shell and fasten it in place – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- insert the fume adapter (4) and connect it to the flue. If there is enough space, the fume adapter can be mounted without having to dismantle it from the combustion chamber
- open the door, see paragraph "***Opening the door***", and mount the filler frame (5) by fastening it to the combustion chamber with the screws (6) supplied.

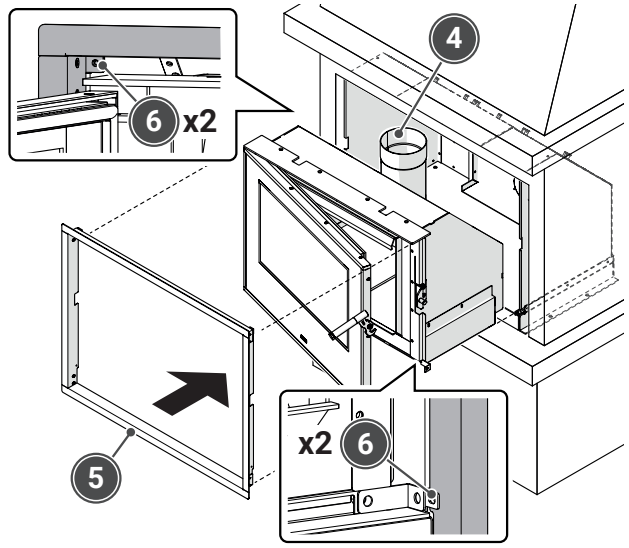


Fig. 11

Positioning with insert lining

If the appliance is installed in a newly built fireplace lacking a support base, use the "*Kit for base with adjustable feet*".

To line the insert, use non-flammable material and observe the minimum safety clearances, as specified in the chapter "*Minimum safety clearances*".
- **The insert can be positioned near flammable walls only if the minimum safety clearances have been observed – consult the chapter "*Technical Specifications*".**
- **If the minimum safety clearances cannot be respected, insulating material must be used. The dimensions and type of insulation depend on the type of surfaces to be protected.**
- **Wooden beams are allowed near the lining provided that they are at least 10 mm away. The beam must not lie within the fireplace's radiation field.**

Use insulating material with the following characteristics:
- mineral fibre, ceramic fibre, rock wool
- specific weight equal to or greater than 245 kg/m^3 with limit temperature around 1000°C
- thermal conductivity I (400°C) ≤ 0,1 W/m^3 with "AGI Q132" or "DIN 18895" coding
- if the material used is not inside walls, it should be attached to the entire surface of the wall, so that the fibres do not disperse in the air.

6.5 CONNECTING THE COMBUSTION AIR

The appliance is standard-configured for drawing combustion air from the same room where the product is installed, with the non-ducted intake situated on the front side.

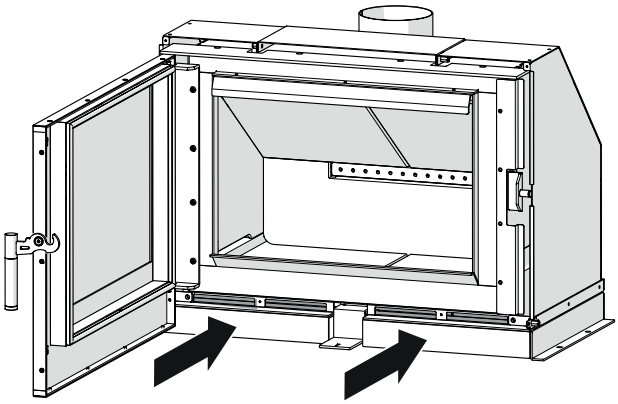


Fig. 12

We recommend carefully reading the chapter "*Combustion air intake*" to verify that the room of installation properly matches the type of combustion air intake system of the appliance.

Ducted combustion air intake

To modify the configuration of the combustion air intake from room to ducted, an appropriate kit must be used, to be purchased separately.

Proceed as follows:
- only if the insert has already been installed, remove the combustion chamber entirely, see paragraph "***Extracting the combustion chamber***", along with the rear shell (1), by extracting it from the inside
- remove the pre-cut closing plug (2)
- mount the nozzle (3) and fasten it with the screws supplied with the kit

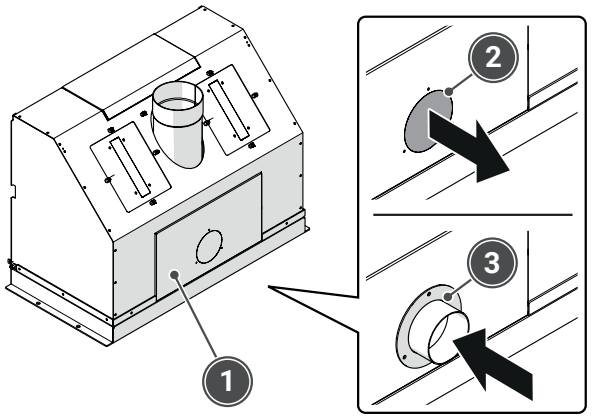


Fig. 13

- only if they have been removed previously, mount the rear casing and the combustion chamber back on again
- attach the profile (3) with the screws provided to close the front combustion air inlet.

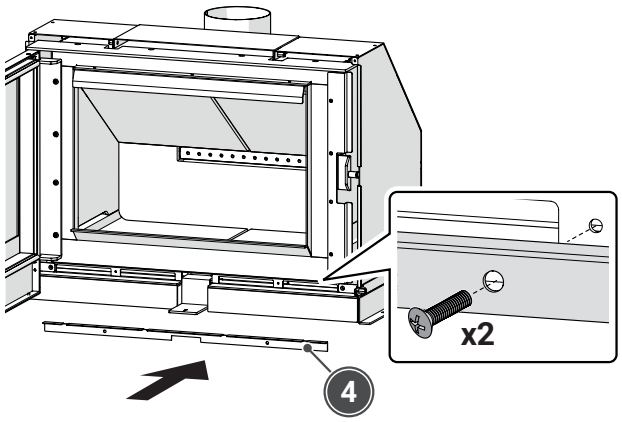


Fig. 14

6.6 CONNECTION TO THE FUME EXHAUST

We recommend carefully reading the chapters "*Minimum safety clearances*" and "*Flue gas channel*".

The appliance is standard-configured with the fume exhaust on the top (**Su**).

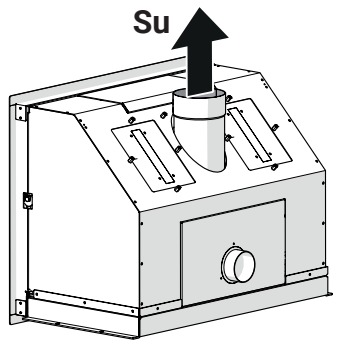


Fig. 15

To connect the fume exhaust to a stainless steel pipe, it may be necessary to use a dedicated fitting; if this is the case, consult the specifications of the steel pipe manufacturer.

6.7 INSTALLING THE KIT

6.7.1 KIT FOR BASE WITH ADJUSTABLE FEET

To install the kit, proceed as follows:
- remove the combustion chamber entirely – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- turn the outer casing (1) upside-down and place it on the floor on the rear side
- fasten the two supports of the base (2) to the plate; make sure that the brackets of the feet (3) face outwards, insert the bolts from inside the casing and screw on the nuts provided with the kit, without tightening them firmly
- attach the two reinforcements (4) to the supports and screw on the nuts and bolts provided with the kit, without tightening them firmly
- tighten the feet (3) firmly, turn the assembly that has just been mounted in the vertical position and firmly tighten all nuts and bolts
- place the insert in the desired position and level it by moving the adjuster feet.

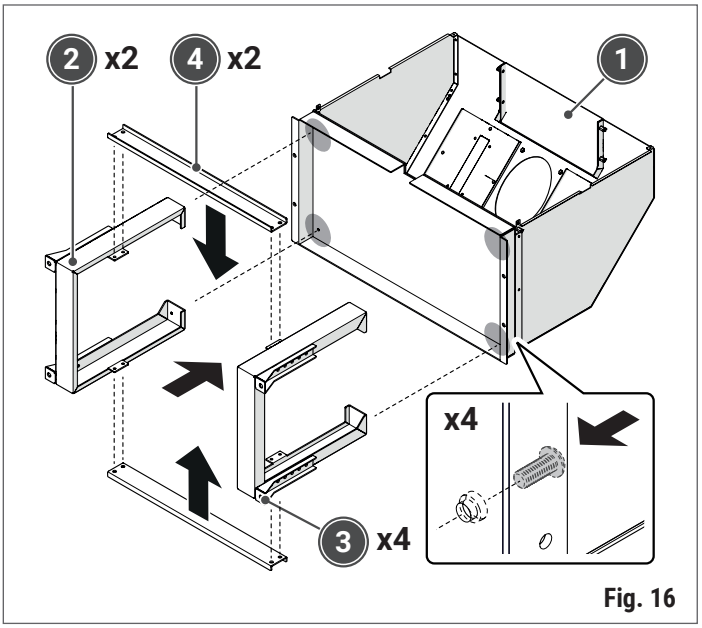


Fig. 16

6.7.2 FRONT VENTILATION KIT

To install the kit, proceed as follows:
- remove the combustion chamber entirely – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- remove the two plates (1) from inside and the upper casing (2)
- mount from the inside the new upper casing (3), the upper filler profile (4) and the two new plates (5) already fitted with fans and inlet

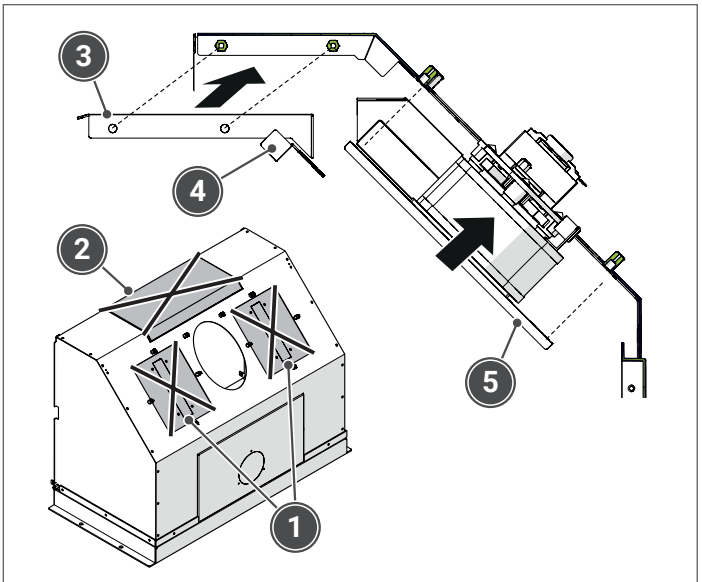


Fig. 17

Ventilation control unit

The electric connections must be made exclusively by qualified staff, in compliance with all general and local safety regulations in force.
- **Check that the mains power supply voltage and frequency match those of the appliance.**
- **The electrical cables MUST NOT come into contact with hot or moving parts, unless they have been insulated and protected with suitable materials.**
- **Only use components with adequate electrical protection rating, see paragraph "*VENTILATION CONTROL UNIT (OPTIONAL)*".**

Do not pair the probe and power cables; use a two-pin shielded cable with free sleeve with at least 1,5 mm² gauge and 2 m maximum length.
- **Mount a double-pole switch on the power supply line when making the electrical connections.**

Prior to making any electrical connection, disconnect the appliance from the power supply.
- **The manufacturer declines all responsibility for injury to persons and animals or damage to objects due to failure to earth the appliance or to comply with applicable regulations.**

To install the control unit, proceed as follows:
- attach the ventilation control unit to the wall using the screws provided
- connect the control unit to the power supply and connect the cables provided to the fans
- insert the air temperature probe supplied with the kit in the preferred housing (right or left) then fasten it with the screw and connect it to the control unit.

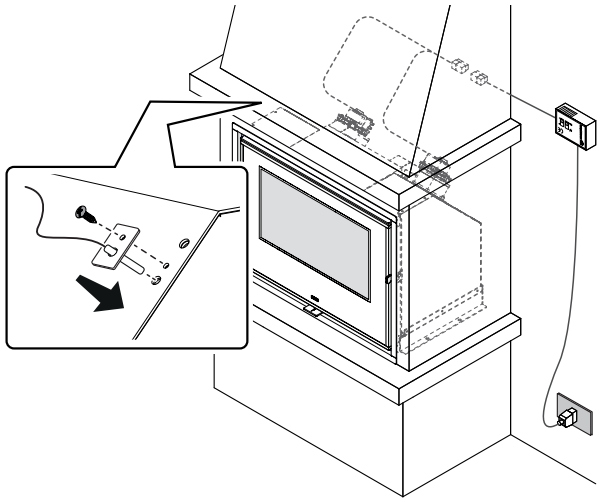


Fig. 18

6.7.3 VENTILATED AIR DUCTING KIT

To make the forced air ducting kit, it is necessary to order the "Forced air ventilation kit" in addition to the "Forced air ducting kit".

To install the kit, proceed as follows:
- remove the combustion chamber entirely – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- remove the two plates (1) from inside
- remove the pre-cut closing plugs (2)
- mount the ducted casings (3) fastening them with the screws provided

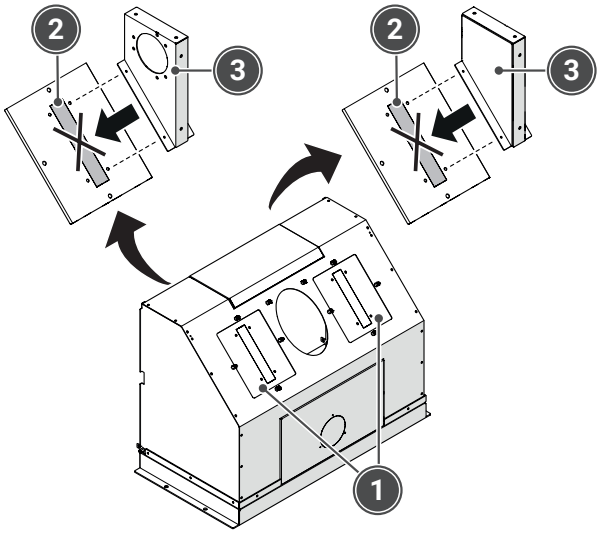


Fig. 19

- mount the fans (4) and seals (5) included in the "Front ventilation kit", orienting them as desired in one of the two possible positions: horizontal or vertical
- mount the inlet nozzles (6)
- mount from the inside the two plates (1) already fitted with fans and inlet nozzles
- complete the installation of the ventilation control unit and the connection to the fans as indicated in the paragraph "***Front ventilation kit***".

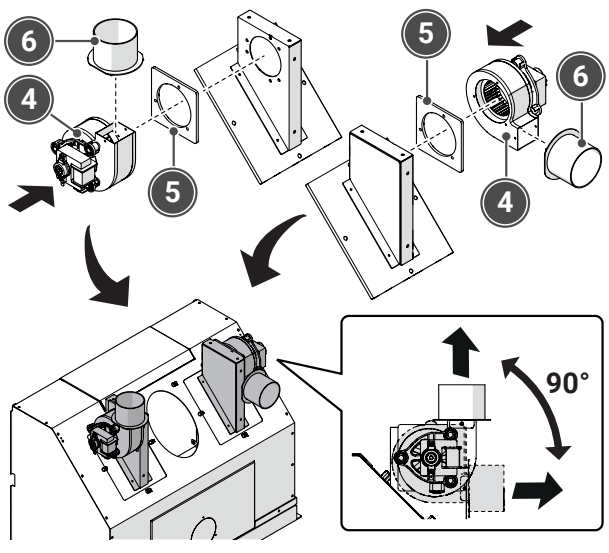


Fig. 20

It is possible to simultaneously install the "Ventilated air ducting kit" on one output and the "Front ducting kit" on the other outlet; in this case we suggest closing the hole not used for front ventilation with aluminium tape.

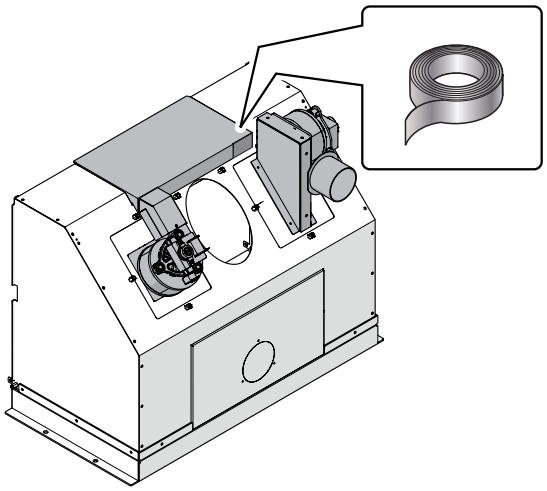


Fig. 21

Hot air ducting

If hot air is ducted in rooms other than those where the fireplace is installed, it is necessary to mount aeration vents in the walls or leave slits under the doors to ensure air circulates between the rooms.

- The diameter of the ducting pipes must be equal to or greater than the diameter used for the fan in order to prevent bothersome noises due to the high air speed.
- To prevent excessive head losses and possible air turbulences, it is important that the path of the pipe is as straight as possible.
- Each ducting pipe can have a maximum length of 6÷7 m. The length decreases by 1,2 m with every bend and with every nozzle due to head losses.

6.7.4 NATURAL CONVECTION AIR DUCTING KIT

To install the kit, proceed as follows:

- remove the combustion chamber entirely – see paragraphs "***Removing the fume adapter***" and "***Extracting the combustion chamber***"
- remove the two plates (1) from inside
- mount from the inside the casing the two inlet nozzles (2) supplied with the kit and fasten them with the screws provided
- connect the two inlet nozzles to the pipes fitted on the lining.

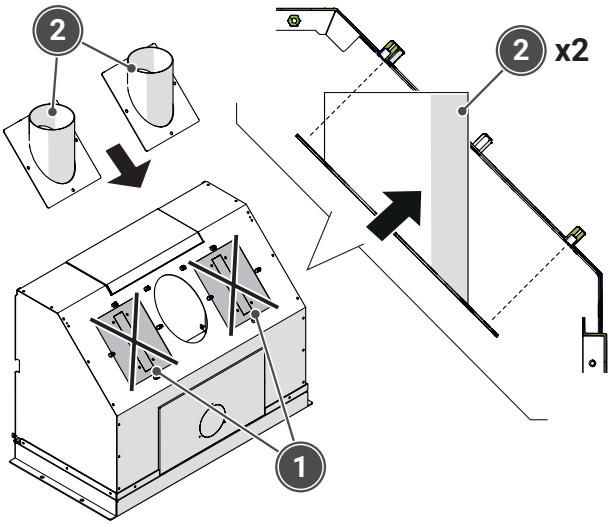


Fig. 22

Hot air ducting

It is advisable to duct hot air in the same room where the fireplace is installed. If hot air is ducted in other rooms, it is necessary to mount aeration vents in the walls and make slits under the doors to ensure that air can circulate between the two rooms.

- The ducting pipes must have a diameter equal to or greater that the nozzles through which hot air leaves the appliance, so as not to hinder the natural convection of the air.
- To prevent excessive head losses and possible air turbulences, it is important that the path of the pipe is as straight as possible.
- Each ducting pipe can have a maximum length of 3 m, without any bends. The length decreases by 1,2 m for every bend as a result of head losses.

6.8 DOOR OPENING REVERSAL

To reverse the door's opening direction, proceed as follows:
- open the appliance's door, see paragraph "***Opening the door***"
- loosen the screws and remove the handle (1)
- loosen the two screws (2) and remove the door (3)
- remove the two side plates (4) and the door closing hook (5)

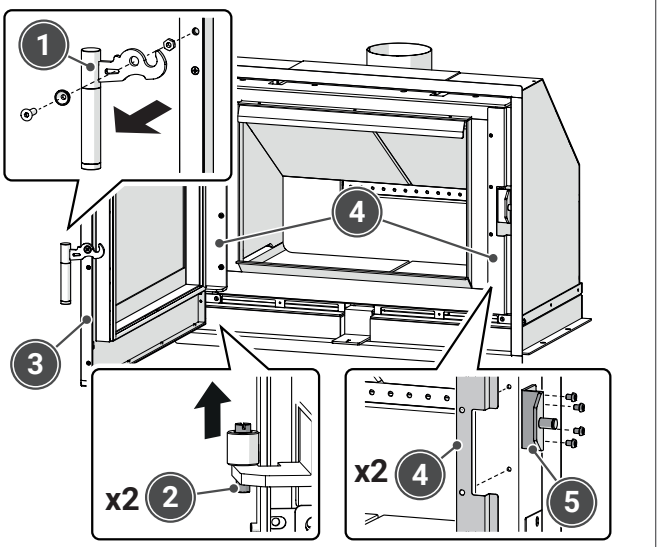


Fig. 23

- invert the position of the handle (1), of the side plates (4) and of the door closing hook (5)
- invert the opening of the door (3), fasten it with the screws (2) and check that it closes/opens perfectly.

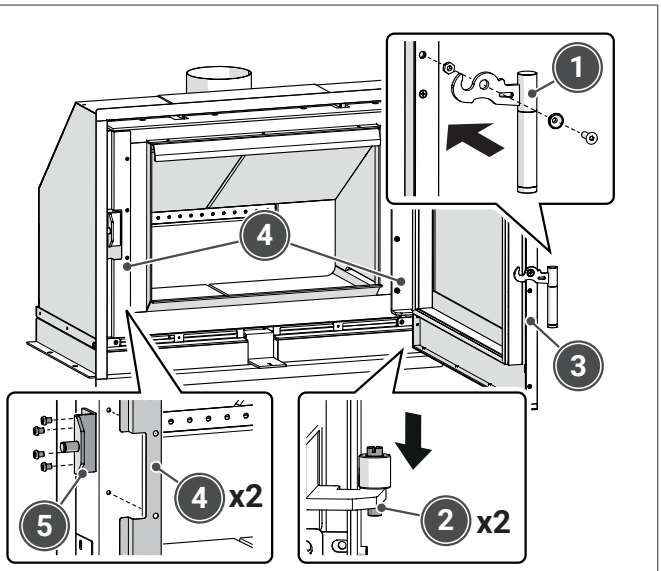


Fig. 24

6.9 ASSEMBLING THE FIRE BRICKS

The product is supplied with side and upper fire bricks that are dismantled to prevent them from breaking during transport; they must be installed only at the end of the installation phase.

Handle the refractory bricks very carefully as they do not withstand impacts.

To mount the fire bricks, proceed as follows:
- open the door of the appliance, consult the paragraph "***Opening the door***"
- position the side bricks (1)

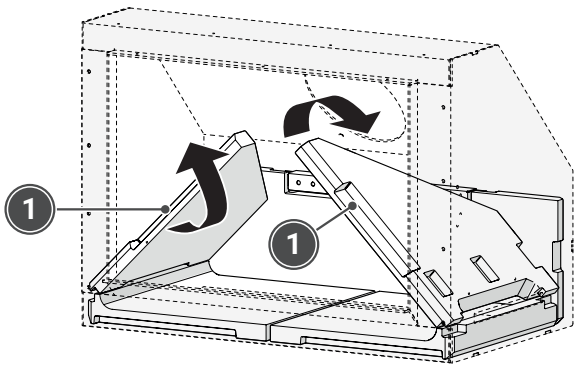


Fig. 25

- subsequently, mount the upper bricks (2); support the side bricks during the operation to prevent them from falling
- insert the locking profile (3).

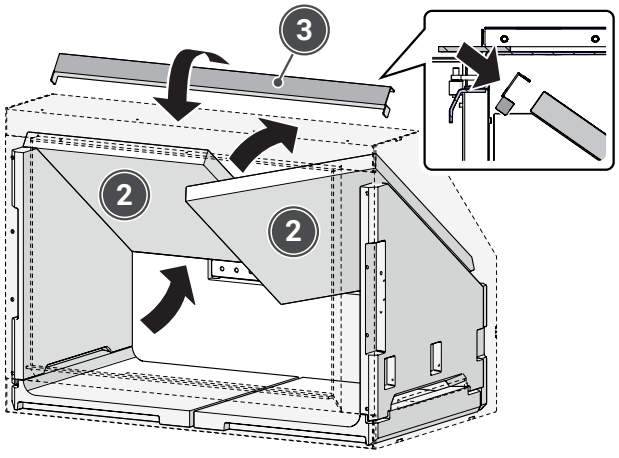


Fig. 26

7 INITIAL SETTINGS

7.1 REGISTERING THE PRODUCT

Once the product has been installed, the user must register it.
The registration entitles the user to a 2-year warranty as well as promotions and specific services (for example: discounts on spare parts, facilitated conditions for testing or maintenance, etc.).
Simply access the Web page shown below or scan the following QR Code using your smartphone.

https://garanzia.klover.it/it/registrazione_prodotto

8 COMMISSIONING

8.1 PRELIMINARY CHECKS

Before commissioning the appliance:
- **carefully read all the documentation accompanying the product and any supplementary accessories**
- **make sure that all the indications provided by the manufacturer and specified in the regulations are observed**
- **make sure you have completed all the necessary cleaning and maintenance operations of the product and the system.**

The commissioning must be MUST BE made by qualified personnel, who must:
- **perform a switch-on and operation check to verify that the product and all associated and involved elements of the system work properly.**
- **verify any ducting systems for hot air, if present, or for the hydraulic system and for any other heat sources associated with the product**

8.2 INITIAL START-UP

Before proceeding with the operations described below, consult the chapter "*Ignition*".

Before starting-up the product:
- **remove any accessories supplied or combustible elements from the combustion chamber, free the combustion chamber from the locking elements used during transport, if present**
- **check that the fire bricks are positioned correctly in their housing inside the combustion chamber**
- **when igniting the appliance for the first time, use little wood chopped into small pieces and observe the instructions given under "*Loading the fuel*".**

During the first ignition attempts, bad odours may be released due to the evaporation of the greases or oily liquids used to manufacture the product and contained in the paint:
- **adequately ventilated the room where the appliance is installed**
- **avoid staying in the room for too long, as the vapours emitted could be hazardous to people and animals**
- **moreover, during the first few days of use, the appliance should be operated at minimum power.**

The first ignition is used to verify that the appliance works properly, but also to allow the product to settle and greases and oily liquids used to manufacture and present in the paint to fully evaporate. For this reason, the product should initially be used at minimum capacity, by loading the combustion chamber with only 50% fuel at least on the first day.
At the end of this procedure, greases or oily liquids will have evaporated, the paint will have stabilised and the product can be used normally. If necessary, the appliance can be used at maximum capacity until the substances that cause bad odours have disappeared entirely.

9 USE

9.1 LOADING THE FUEL

It is forbidden to use any fuel other than wood.
- **It is forbidden to use any highly flammable liquid or gaseous substance such as alcohol, petrol or similar.**

Before proceeding with the operations described below, consult the chapter "*Fuel*".

Before loading the fuel:
- **the combustion chamber must be free of ash and residues of the previous combustion; if it is not, consult the paragraph "*Cleaning of the combustion chamber*"**
- **check that the fire bricks are positioned correctly in their housing inside the combustion chamber.**

To load the wood:
- open the firebox door
- arrange small slats of tender wood in the centre of the firebox, placing them on top of one another and leaving some space in between
- in between the slats add some easily combustible fuel, e.g. paper or other ignition material available in retail shops.

9.2 ADJUSTING THE COMBUSTION AIR

The combustion air is indispensable for determining flame development, the duration and quality of combustion and, consequently, the thermal yield of the appliance.
Since combustion varies in relation to several factors, for example the quality and quantity of fuel used, the characteristics of the system and the atmospheric and weather conditions, it is necessary to choose the most suitable adjustment of the combustion air.

Never load the firebox excessively with an insufficient supply of combustion air. This may cause a consistent formation of unburned gases/fumes which, in the absence of the flame, may jeopardise safety.

A significant presence of unburned gases or fumes inside the firebox may spark a sudden flame and, in some cases, may even cause the glass of the door to break.
- **An excessive supply of combustion air may cause quicker combustion resulting in greater wood consumption and a lower yield of the appliance.**

The combustion air can be adjusted by shifting the combustion air primary damper as follows:
- to **reduce** the influx of combustion air, pull the adjuster towards you
- to **increase** the influx of combustion air, push the adjuster

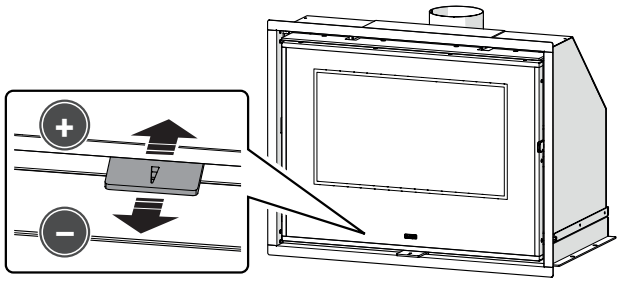


Fig. 27

9.3 IGNITION

Verify that the firebox is not empty. If it is, fill it and perform the operations described in the paragraph *Loading the fuel*.

It is forbidden to use any fuel other than wood.
- **It is forbidden to use any highly flammable liquid or gaseous substance such as alcohol, petrol or similar.**

Proceed as follows:
- open the firebox door and open the combustion air adjuster
- switch the fire on: if the wood struggles to ignite, leave the door ajar, while closely monitoring it, for the time necessary for the flames to develop fully
- close the firebox door
- wait for a lasting and constant flame to develop then close the combustion air primary damper.

Any noises heard during the operating phases could be due to the expansion of the metal plates making up the boiler body. These noises can be more frequent during the appliance ignition and switch-off phases and must not be regarded as a manufacturing defect.
- **Any perceived smell of smoke (especially during the ignition phase) should not be regarded as a manufacturing defect.**

During ignition, combustion may be difficult to achieve until the flue gas pipes and the flue are not hot enough.
- **In non-optimal weather conditions, for example with low pressure or strong wind, the fume exhaust draught may not work properly and thus generate excessive smoke in the firebox**
- **In all these cases, proceed using a limited fuel load to heat the fume pipes and the flue and then ignite the appliance normally.**

During the ignition phase and normal operation of the appliance, keep at a safe distance from the appliance and do not remain standing in front of it. Some parts of the product (door, handle, dampers, glass parts, cooking plate and ceramic and/or stone parts) may reach very high temperatures. Be very careful: adopt the appropriate precautions and wear adequate personal protective equipment, especially if there are children, elderly and disabled people and animals.

- **During the ignition phase and normal operation of the appliance, the door must ALWAYS remain closed and the glass must be intact.**
- **Keep any flammable products (e.g. wooden furniture, tapestries, rugs, fabrics, clothing, ornaments, flammable liquids, etc.) far away from the appliance.**

9.4 FUEL REFILLING

Once the wood inside the firebox has burned and a sufficient quantity of embers has formed, the fuel can be refilled.
Proceed as follows:

- open the combustion air primary adjuster
- wait a few seconds then slowly open the firebox door to prevent smoke from escaping into the room
- if necessary, uniformly spread the embers using a stoker
- place some logs, preferably without bark, on top of the embers and in contact with them as far as possible
- close the firebox door
- wait for a lasting and constant flame to develop then close the combustion air primary damper.

STARBOX 650 = 2 x 1,1 kg STARBOX 750 = 3 x 0,9 kg

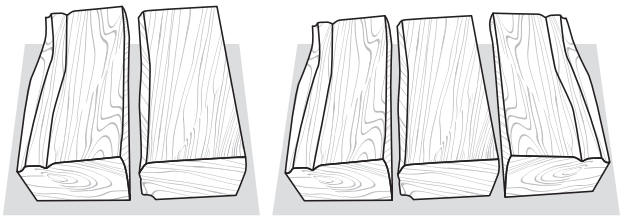


Fig. 28

To favour quicker ignition when there is a limited layer of embers, introduce into the firebox a limited fuel load and use small pieces of wood.

- **After 45 minutes from the refill, it is advisable to check whether another refill is required.**

Once the fuel has been loaded, monitor the appliance until the flame has developed completely.

- **If a consistent amount of unburned gases/fumes forms, leave the firebox door ajar for the time required for the flames to develop fully. Close the door once the fire has properly developed.**

9.5 OPERATION

Before using the product, make sure you have read and understood all the safety instructions, in particular the following chapters:

- **"*Fuel characteristics*"**
- **"*Loading the fuel*"**
- **"*Ignition*"**
- **"*Fuel refilling*".**

It is forbidden to use any fuel other than wood.

- **It is forbidden to use any highly flammable liquid or gaseous substance such as alcohol, petrol or similar.**

Do not use the product for drying laundry. Any drying racks must be kept at a safe distance as indicated in the chapter "*Minimum safety clearances*".

Any noises heard during the operating phases could be due to the expansion of the metal plates making up the boiler body. These noises can be more frequent during the appliance ignition and switch-off phases and must not be regarded as a manufacturing defect.

- **Any perceived smell of smoke (especially during the ignition phase) should not be regarded as a manufacturing defect.**

During the ignition phase and normal operation of the appliance, keep at a safe distance from the appliance and do not remain standing in front of it. Some parts of the product (door, handle, adjusters, glass and ceramic and/or stone parts) may reach very high temperatures. Be very careful: adopt the appropriate precautions and wear adequate personal protective equipment, especially if there are children, elderly and disabled people and animals.

- **During the ignition phase and normal operation of the appliance, the door must ALWAYS remain closed and the glass must be intact.**
- **Keep any flammable products (e.g. wooden furniture, tapestries, rugs, fabrics, clothing, ornaments, flammable liquids, etc.) far away from the appliance.**

To optimise the performance of the appliance during normal operation, adjust the opening of all dampers (air and smoke) according to draught; once combustion is complete, close all smoke and combustion air dampers to retain heat for as long as possible.

9.6 VENTILATION CONTROL UNIT

The control unit is used to manage hot air ventilation when fans are installed. It is supplied together with the "***Front ventilation kit***" and is also used when the "***Ventilated air ducting kit***" is installed.

Before using the control unit:
- **carefully read all the documentation accompanying the product and the kit**
- **make sure that all the indications provided by the manufacturer and specified in the regulations are observed**
- **make sure that it is correctly installed and connected to the appliance.**

The instruments of the control unit and their related functions are illustrated below.

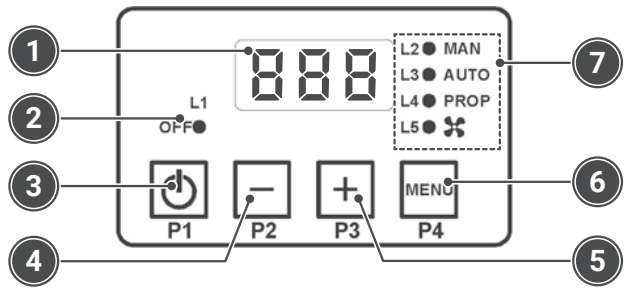


Fig. 29

Description	Status	Action
(1) DISPLAY		
(2) LED 1 OFF	LED 1 On	The control unit is switched off.
(3) P1 ON/OFF button	... when pressed the first time for long	Switches the control unit on.
	... when pressed the second time for long	Switches the control unit off.
(4) P2 DECREASE button	... when pressed the first time briefly	Modifies/decreases the selected value.
(5) P3 INCREASE button	... when pressed the first time briefly	Modifies/increases the selected value.
(6) P4 MENU button	... when pressed the first time briefly	Shows the current operating mode on the display and the relative LED lights up.
	... when pressed subsequently	Cyclically selects the operating modes signalled on the display and by the relative LED.

Description	Status	Action
(7) OPERATING MODE LED	L2 On	MANUAL mode operation.
	L3 On	AUTOMATIC mode operation.
	L4 On	PROPORTIONAL mode operation.
	L5 On	Fan in function.

9.6.1 IGNITION

The control unit is switched (**ON**) and off (**OFF**) with the prolonged pressing of button **P1**.
The (**OFF**) status is signalled by LED **L1** switching on.

9.6.2 OPERATING MODES

MANUAL

With LED **L2** (**MAN**) lit, the fan works at the set speed regardless of the temperature read by the probe.

AUTOMATIC

With LED **L3** (**AUTO**) lit, the fan activates at the set speed if the temperature read by the probe is higher than the **SET** parameter setting.

PROPORTIONAL

With LED **L4** (**PROP**) lit, the fan activates at the speed calculated in the **SET** – (**SET** + **DEL**) parameter range if the temperature read by the probe is greater than **SET** parameter setting.

9.6.3 FUNCTIONS

STAND-BY function

The function is active (parameter **Stb=1**).
With the device switched off (**OFF**), if the temperature read by the temperature probe exceeds the value of parameter **TSI**, the device automatically switches to the ON status (**ON**).

SAFETY function

The function is active (parameter **SIC=1**).
If the temperature exceeds the value of parameter **TSI**, with the fan off and MANUAL mode (**MAN**) active, the device switches to PROPORTIONAL mode (**PROP**) with a 10-second initial delay.

FAN SAFETY function

The function is not active (parameter **SAF=0**).
With the function active, if the temperature exceeds the value of parameter **tSA**, the fan is switched off (**OFF**).

ALARM function

The function is active (parameter **Enb=1**).
If the temperature exceeds the value of parameter **TAL**:
- the buzzer sounds which can be deactivated for 5 minutes by pressing any button
- after this time, if the alarm condition persists, the buzzer sounds again.

9.6.4 MODIFYING THE SETTINGS

Selecting the OPERATING mode

Briefly press button **P4** (MENU) to view the current operating mode on the display and from the relative LED.
Pressing button **P4** after allows for cyclically selecting the operating modes signalled on the display and by the relative LED.

The setting is memorised automatically after 4 seconds.

If the fan is in function, LED **L5** lights up.

Selecting the operating speed

Briefly press button **P2** (DECREASE) or **P3** (INCREASE) to view the set speed of the fan. Alternatively press the following buttons to modify the fan speed setting:
- P0 = fan off, only in MANUAL operating mode (**MAN**)
- P1 = minimum speed
- P2 / P3 / P4 = intermediate speeds
- P5 = maximum speed

The fan speed cannot be modified if the PROPORTIONAL operating mode (**PROP**) has been set.
In the AUTOMATIC operating mode (**AUTO**) the settable speeds are P1 / P2 / P3 / P4 / P5.

9.6.5 PARAMETERS

Parameter	Acronym	Default
Fan activation temperature	SET	50°
Fan activation thermostat hysteresis	iSt	4
ALARM activation temperature	TAL	150
SAFETY activation temperature	TSI	100 °C
Fan SAFETY activation temperature	TSA	180°C
SAFETY Function Enabling	SIC	1 [on]
Fan SAFETY Function Enabling	SAF	0 [off]
STAND-BY Function Enabling	Stb	1 [on]
BUZZER Function Enabling	Enb	1 [on]
Fan Surge Duration	t01	0
No. of Fan Power Levels	Pn	5
P1 Fan Speed	U01	37
P5-1 Fan Speed	-Un	46
P5 Fan Speed	Un	100
Adjustment temperature range in PROP mode	DEL	85°

10 MAINTENANCE

For all maintenance operations in which the operator must work within the cladding or flue gas chamber, it is MANDATORY to contact an authorised KLOVER Technical Assistance Centre or qualified personnel. Prior to performing any maintenance operation, adopt the following precautions:
- **make sure that the appliance is off and all its parts have cooled down completely**
- **make sure that the ashes are completely extinguished and cold**
- **use adequate personal protective equipment as set forth in the applicable regulations**
- **use adequate equipment (ash tray, spout cleaning brush, etc.) and comply with the occupational health and safety regulations.**

At the end of the cleaning and maintenance operations:
- **replace any worn or damaged parts with original spare parts**
- **reinstall all previously dismantled components and restore all the normal operating conditions of the appliance and system**
- **reinstall all the protections and re-enable all the safety devices**
- **perform an ignition and operation test to verify that the product works properly.**

Any problem affecting the appliance caused by lack of cleaning will not be covered by the warranty. Failure to perform these operations could affect the safety of the product.
- **Any waste generated with cleaning must be disposed of in accordance with the waste disposal regulations.**

The boiler body is treated with anti-oxidant paint in order to protect it against oxidation in the event of long periods of inactivity. During normal operation, this paint no longer retains its original function and any wear of the paint inside the combustion chamber should not be regarded as a manufacturing defect.

10.1 SCHEDULED MAINTENANCE

Timely and systematic maintenance is an essential factor for the appliance's correct operation, optimal heat performance and long-lasting operation.

Scheduled maintenance operations must be carried out at least ONCE A YEAR and, nonetheless, before the appliance is started up after a prolonged period of inactivity.

The required cleaning frequency depends on the type and quality of the wood used. The times indicated below may therefore vary.

Recommended frequency

Possible interventions by the user	
Cleaning the glass door	Daily
Fire bed cleaning	Daily
Cleaning of the combustion chamber	every 30 days
Filter or protective mesh of the combustion air intake (if present)	every 30 days
Operations requiring the intervention of the TAC	
Cleaning of the combustion chamber	every year
Cleaning of the ventilation channels and fans	every year
Cleaning of the flue gas channel	every year
Cleaning of the flue	every year
External air intake	every year
Fire brick cleaning and replacement	every year
Tightness and state of wear of glass seals and of all elements subject to wear	every year

10.2 CLEANING OF THE CLADDING

The ceramic cladding (if present) must be cleaned with a soft and dry cloth. In the event of more stubborn dirt, use cleaning products suited to ceramic or concentrated products for porcelain stoneware, capable of removing stains caused by oil, ink, coffee, wine, etc..

Avoid wetting the hot ceramic surface with cold water as the thermal shock could cause the ceramic to break.

10.3 CLEANING OF PAINTED METAL PARTS

To clean the outer parts made of painted metal, use a soft cloth dampened with water.

Do not clean metal parts with degreasing or abrasive substances such as methylated spirits, thinners, petrol or acetone.
- **If these substances are used, the manufacturer declines all responsibility for any resulting damages.**

Any shade variations of metal parts can be ascribable to improper use of the product.

10.4 OPENING THE DOOR

During normal operation of the appliance, the door must ALWAYS remain shut. It can only be opened once the appliance is switched off and has cooled down.

To open the appliance's door, proceed as follows:
- grip the handle and push it upwards
- open the door.

It will now be possible to clean the inside of the glass or perform cleaning and maintenance on the inner part of the appliance.

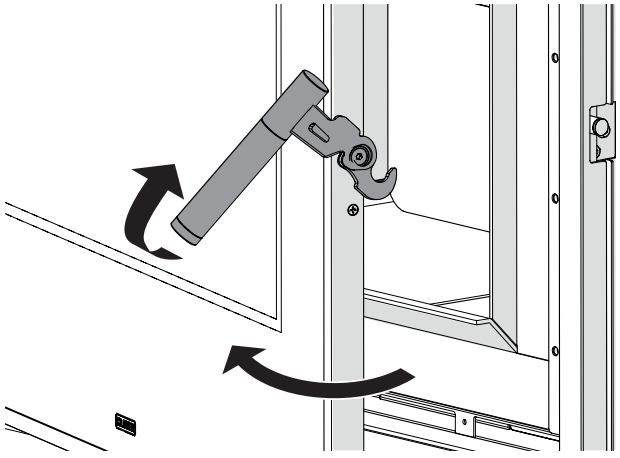


Fig. 30

10.5 CLEANING THE GLASS DOOR

Recommended cleaning frequency: consult the paragraph "*Scheduled maintenance*".

The glass panel of the door must be cleaned using a damp cloth or a detergent specifically formulated for glass-ceramic.

Do not use abrasive sponges or materials that can scratch or ruin the glass, as any scratches could evolve into cracks or ruptures.
- **Avoid wetting and cleaning the hot glass surface with cold water as the thermal shock could cause the glass to break.**

10.6 FIRE BED CLEANING

Recommended cleaning frequency: consult the paragraph "*Scheduled maintenance*".
- **Before proceeding with the cleaning operations, any unburned pellets left in the brazier must be removed.**
- **Consult the paragraph "*Ash disposal*" to dispose of the ash.**
- **TOOLS TO BE USED; ash vacuum device equipped with a fine-mesh filter in order to prevent part of the ash from being blown into the room.**

Do not use abrasive sponges or wet cloths and do not place the surfaces in direct contact with the pipe of the ash suction device.
- **Do not use water to clean the inside of the combustion chamber.**

To clean the fire bed, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- use a suitable vacuum cleaner to remove the combustion residues and any ash left inside and outside the fire bed.

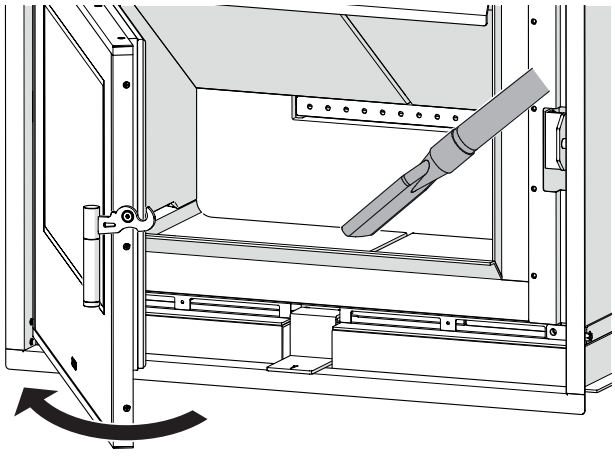


Fig. 31

10.7 CLEANING OF THE COMBUSTION CHAMBER

Recommended cleaning frequency: consult the paragraph "***Scheduled maintenance***".
- Before proceeding with the cleaning operations, any unburned pellets left in the brazier must be removed.
- To dispose of any ash, consult the paragraph "***Ash disposal***".
- TOOLS TO BE USED; brush with soft bristles (NOT supplied), ash vacuum device equipped with a fine-mesh filter in order to prevent part of the ash from being blown into the room.

Do not use abrasive sponges or wet cloths and do not place the surfaces in direct contact with the pipe of the ash suction device.
- Do not use water to clean the inside of the combustion chamber.

To clean the combustion chamber, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- clean the fire bed, consult the paragraph "***Fire bed cleaning***"
- remove the upper fire bricks, consult the paragraph "***Removing the fire bricks***" support the side bricks during the operation to prevent them from falling
- dust the surfaces of the combustion chamber gently using a brush
- use a suitable ash cleaner to suck up combustion residues.

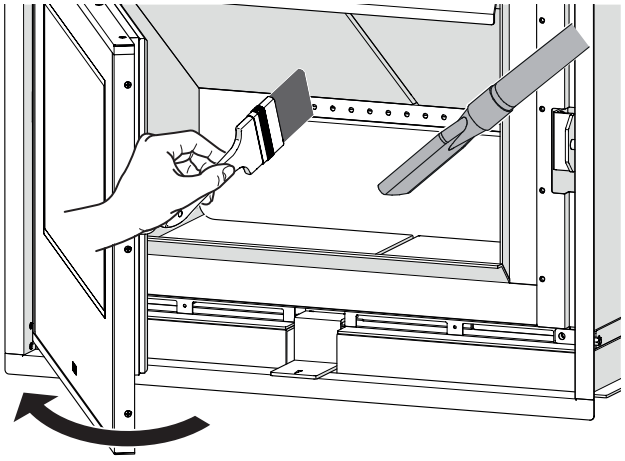


Fig. 32

10.8 FIRE BRICK CLEANING AND REPLACEMENT

Recommended cleaning frequency: consult the paragraph "***Scheduled maintenance***".
- Before proceeding with the cleaning operations, any unburned pellets left in the brazier must be removed.
- To dispose of any ash, consult the paragraph "***Ash disposal***".
- TOOLS TO BE USED; brush with soft bristles (NOT supplied).

Do not use abrasive sponges or wet cloths and do not place the refractory bricks in direct contact with the ash suction machine's tube.
- Do not use water to clean the surface of the refractory bricks.

To remove and clean the fire bricks, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- remove the fire bricks, consult the paragraph "***Removing the fire bricks***"
- dust the surface of the refractory bricks gently using a brush.

10.9 CLEANING THE FLUE GAS CHANNEL

The flue gas channel must be cleaned depending on how frequently the fume exhaust system tends to accumulate dirt, but nonetheless ALWAYS at the start of the winter season, and whenever necessary. The flue gas channel MUST be cleaned at least once a year.

Recommended cleaning frequency: consult the paragraph "***Scheduled maintenance***".
- Before proceeding, carefully read the chapter "***Flue gas channel***".
- Consult the paragraph "***Ash disposal***" to dispose of the ash.

Cleaning must be performed ONLY by an authorised KLOVER Technical Assistance Centre or by qualified personnel.

It is also important to check for any obstructions in the flue before switching the appliance on following long periods of inactivity. If the flue is not cleaned, the operation of the appliance and of its components could be hampered.

10.10 ASH DISPOSAL

The ash generated through the combustion of natural wood (untreated) can be used as fertiliser for plants, taking care not to exceed 2.6 kg/10 m^2 per year.

The ash must be placed in a metal container with a sealed lid. Until the embers definitively extinguish, the closed container must be placed on a non-combustible base well away from combustible materials.
- **Only once the ash has extinguished may it be disposed of together with organic waste, while making sure that there are no inorganic materials in it.**

Do not throw burning ash into the waste bin.

11 COMPONENT DISMANTLING

11.1 FRAME REMOVAL

To remove the frame, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- use suitable tools to remove any silicone or putty between the frame and the fireplace lining
- loosen the fixing screws
- remove the frame and place it on a clean and stable surface to prevent it from getting damaged.

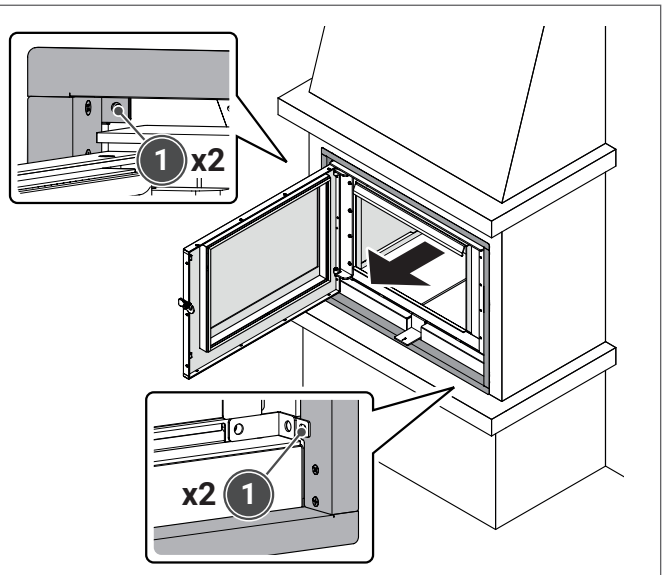


Fig. 33

To mount the frame, perform the procedure in reverse order.

11.2 REMOVING THE FIRE BRICKS

Handle the refractory bricks very carefully as they do not withstand impacts.

To remove the fire bricks, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- support the upper bricks (2) with one hand, pull the locking profile (1) towards you to free the bricks and remove them; during the operation, support the side bricks (3) to prevent them from falling

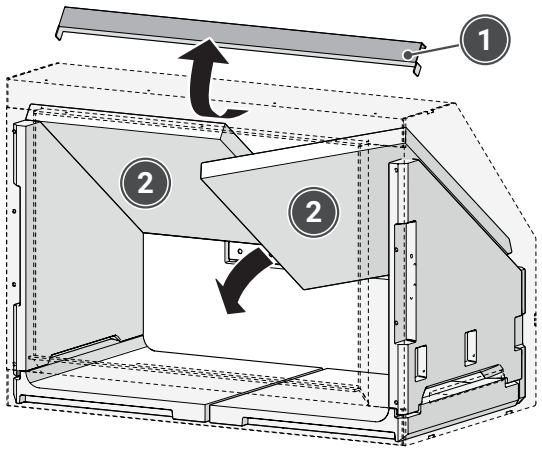


Fig. 34

- subsequently, remove the side bricks (3), the rear bricks (4) and the fire bed (5).

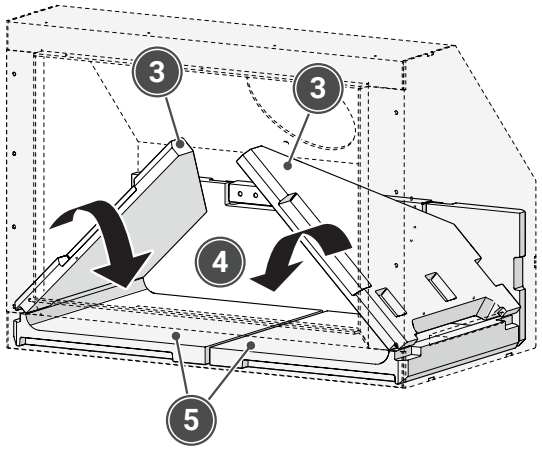


Fig. 35

To mount the fire bricks, perform the above procedure in reverse order.

11.3 REMOVING THE FUME ADAPTER

To remove the fume adapter, proceed as follows:
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- remove the upper fire bricks, consult the paragraph "***Removing the fire bricks***"
- loosen the fixing screws and remove the fume adapter from the inside; disconnect any pipes present.

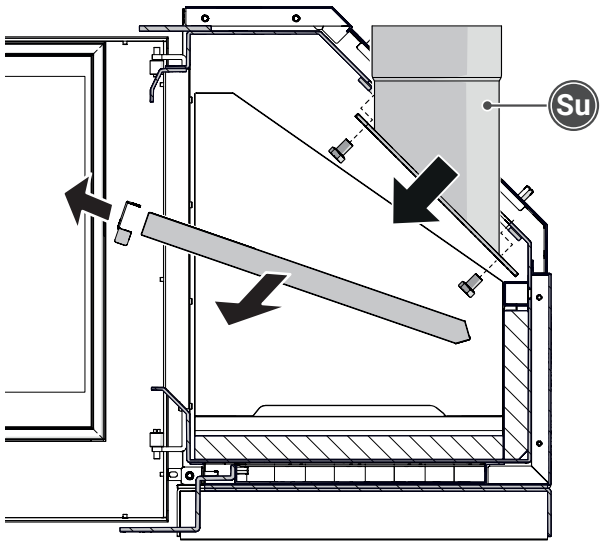


Fig. 36

Perform the above procedure in reverse order to mount the fume adapter.

The fume connector is fitted with a seal that could get damaged when dismantling the component. Before putting the fume connector back on, verify that the seal is intact; if not, it must be replaced.

11.4 EXTRACTING THE COMBUSTION CHAMBER

To extract the combustion chamber, proceed as follows:
- we suggest removing the frame to avoid damaging it, consult the paragraph "***Frame removal***"
- open the door of the appliance –, consult the paragraph "***Opening the door***"
- remove the upper fire bricks, consult the paragraph "***Removing the fire bricks***"
- remove the fume connector, consult the paragraph "***Removing the fume adapter***"
- loosen the fixing screws (1) and extract the combustion chamber (2).

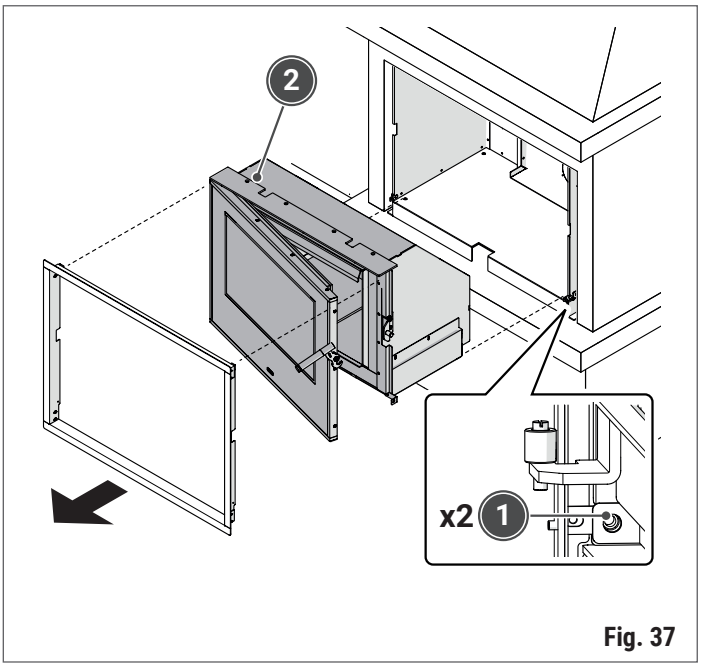


Fig. 37

To mount the combustion chamber, perform the above procedure in reverse order.

12 ALARMS - ANOMALIES - USEFUL TIPS

Anomalies, causes and possible remedies

Anomaly	Causes	Possible solution
Ignition difficulties	Insufficient combustion air	Increase the combustion air intake (see "Adjusting the combustion air").
	Non-conforming quality, size and quantity of fuel	Use fuel conforming to the indications given under the chapter "Fuel".
	Insufficient draught	Open the fume adjuster (if present) and the combustion air primary adjuster.
		Clean the fire bed (see "Cleaning the fire bed").
		Clean the combustion chamber (see "Cleaning the combustion chamber").
	External air intake not present of with insufficient cross-sectional size	Contact the authorised KLOVER Technical Assistance Centre.
	Fume discharge system clogged or not made correctly	Contact the authorised KLOVER Technical Assistance Centre.
Presence of smoke and soot in the room	Loss of smoke from piping	Check the tightness of the fume pipe.
	Insufficient draught	Adjust the fume adjusted (if present).
		Clean the fire bed (see "Cleaning the fire bed").
		Clean the combustion chamber (see "Cleaning the combustion chamber").
	Fume discharge system clogged or not made correctly	Contact the authorised KLOVER Technical Assistance Centre.
	External air intake not present of with insufficient cross-sectional size	Contact the authorised KLOVER Technical Assistance Centre.
The glass dirties very quickly	Non-conforming quality, size and quantity of fuel	Use fuel conforming to the indications given under the chapter "Fuel".
	Insufficient draught	Adjust the fume adjusted (if present).
		Clean the fire bed (see "Cleaning the fire bed").
		Clean the combustion chamber (see "Cleaning the combustion chamber").
	Fume discharge system clogged or not made correctly	Contact the authorised KLOVER Technical Assistance Centre.
Condensate build-up	Slow combustion and thus excessively low fume temperature	Increase the combustion air intake (see "Adjusting the combustion air").
		Use smaller-size and more seasoned wood (see "Fuel").
	Fume discharge system and condensate collection chamber not made correctly	Contact the authorised KLOVER Technical Assistance Centre.
Presence of water in the firebox	Fume discharge system not made correctly	Contact the authorised KLOVER Technical Assistance Centre.
The fan (if present) does not work	Lack of power supply in the home	Check the home's electrical system.
	The appliance is not powered	Check that the plug is connected to the mains power and to the appliance and that any switches of the electrical system are open.
	Incorrect power supply connection	Contact the authorised KLOVER Technical Assistance Centre.
	Defective control unit	Contact the authorised KLOVER Technical Assistance Centre.
Noisy fan (if present)	Presence of dust or other objects in the fan	Check and clean the fan.
	Vibrations in the fan	Contact the authorised KLOVER Technical Assistance Centre.
	Worn rotating parts	Contact the authorised KLOVER Technical Assistance Centre.
Little hot air comes out of the nozzles (if present)	Ducting pipe not insulated	Insulate the ducting pipe using suitable materials.
	Ducting pipe with excessively long path and/or too many bends/branches	Modify the path and follow the instructions.
	Excessively large room in relation to the appliance's power and capacity of the fan (if present)	Heat fewer rooms or use the appliance together with other heat generators.

Ventilation control unit (if present). Alarm signals, causes and possible remedies

Alarm	Cause	Possible solution
Lo	Probe interrupted	Contact the authorised KLOVER Technical Assistance Centre.
Hi	Probe in short-circuit	Contact the authorised KLOVER Technical Assistance Centre.

13 STANDARD WARRANTY CONDITIONS

The standard warranty conditions can be viewed by scanning the following QR Code from your smartphone.

https://docs.klover.it/it/guide/help/cs-cgc-1

14 INACTIVITY OF THE PRODUCT

At the end of every season, or before a long period of inactivity of the product, it is necessary to:
- remove all the unburned wood from the combustion chamber
- perform all the cleaning and maintenance operations specified in the paragraph "***Maintenance***"
- at the end of all cleaning and maintenance operations, apply some non-acidic oil on the plate using a damp cloth
- entrust specialised and qualified personnel to check, clean and service the product and the entire system (the fume exhaust pipes, combustion air intake pipes, the external air intake, any hot air ducts, etc.).

Excessive humidity and excessively long periods of non-use may cause rust to form on certain uncoated parts inside the product.
- **This is a natural occurrence that does not hamper the efficiency and durability of the products, and must not be regarded as a defect.**

After the product has not been used for a long time, the materials may expand again and smelly vapours may recur. Consult the paragraph "*Initial start-up*".

15 END-OF-LIFE DISPOSAL

The product must be disposed of exclusively by the owner, who is responsible thereof and who must act in conformity to the regulations in force concerning safety and environmental protection.
Contact the competent authorities for information on the relevant local regulations.

Entrust a qualified technician to permanently decommission the product.
Before dismantling the product:
- disconnect the power supply (for appliances powered electrically)
- put all the system's components and connections in safe conditions.

When this symbol appears on the appliance or accessories, or on their packaging or documentation, it means that the appliance, accessories, batteries/accumulators and relative electrical and electronic components must NOT be regarded and disposed of as normal household waste but must be delivered to an appropriate waste collection facility for the recycling of waste electrical and electronic equipment.
Incorrect disposal can be harmful to human health and to the environment.
It is possible to ask the dealer to collect waste electrical and electronic equipment under the conditions and with the procedures specified in the national regulations that transpose Directive 2012/19/EU (for Italy see Legislative Decree 49/2014).
Contact the competent authorities for information on the relevant local regulations.

Firepower

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