KLOVER®

FUOCO E PASSIONE

MONO 1000

WAVE 90

WAVE 110

EN	INSTRUCTIONS FOR USE

CONTENTS

INTRODUCTION

Important safety instructions

Please read these instructions before installing and using the product.

- The installation and initial start-up of the appliance must be performed by skilled personnel trained in the relevant safety standards. They will be fully responsible for the definitive installation of the appliance and its proper operation. KLOVER srl shall not be held liable if these precautions are not observed.
- During the installation and use of the appliance, all local regulations - including those referring to national and European Standards - must be observed.
- Connect the flue gas outlet to a flue with the specifications described in the "Flue and its connection" section of this User guide.
- The appliance is not suitable for installation on a shared flue system.
- If the flue should catch fire, use appropriate fire extinguishing equipment or call the fire brigade.
- Connect the product to an earthed power socket. Avoid using sockets controlled by switches or automatic timers.
- Do not use the power supply cable if damaged or worn.
- If a multiple socket is used, make sure that the total voltage of the connected devices does not exceed the rated voltage for the socket. Also make sure that the total voltage of all the devices connected to the socket does not exceed the maximum permitted level.
- The plug on the appliance's power cable should be connected only once the assembly and installation of the appliance is complete. It should remain accessible after installation if the appliance is not fitted with a suitable and accessible two-pole switch.
- Do not use flammable substances to clean the appliance or its parts.
- Do not leave flammable containers and substances in the place where the appliance is installed.
- The appliance works exclusively with wood pellets and only with the hearth door shut.
- NEVER open the door of the appliance during normal operation.
- The use of poor quality pellets or any other material can damage the appliance operation, voiding the warranty and exempting the manufacturer from all liability.
- Do not use the appliance as an incinerator or for any use other than that for which it was designed.
- Do not use fuels other than those recommended.
- Do not use liquid fuels.
- The appliance, and its outer surfaces in particular, become very hot to the touch during operation; handle with caution in order to avoid burns.
- Keep fuel and flammable materials at a safe distance.
- Only use original spare parts recommended by the manufacturer.
- Do not make any unauthorised modifications to the appliance.
- Do not touch the hot components of the product (ceramic glass, flue pipe) during normal operation.
- Never touch the appliance if you are barefoot and/or if you have wet or damp parts of the body.
- Use the appropriate button to switch off the electrical panel. Do not disconnect the power supply cable while the appliance is operating.
- During the ignition phase and normal operation of the appliance, maintain the necessary safety distance and do not remain standing in front of it.
- Keep children away from the appliance when it is running since they could get burned by touching its hot components.
- Do not leave the packaging elements within reach of children or unassisted disabled persons.
- Children and inexperienced people must not be allowed to use the appliance.
- The appliance may be used by children no younger than 8 years of age and people with reduced physical, sensory or mental capabilities, or those without experience of the appliance, as long as they are supervised or have received instructions on how to use the appliance safely and understand the hazards inherent to the appliance.
- Children should not play with the appliance.
- User maintenance and cleaning operations should not be carried out by unsupervised children.
- Do not use the appliance in ways other than those indicated in this user guide.
- The appliance is designed for indoor use only.
- This user guide constitutes an integral part of the appliance. If the product is sold to another user, this manual must be passed on to the new owner.

Klover declines all liability in case of accidents due to failure to comply with the specifications of this manual.
Klover declines all liability due to incorrect use of the product by the user, unauthorised modification and/or repairs, and use of non-original spare parts or spare parts not specifically designed for use on this product model.
Klover shall not be held liable for the stove's installation. The installer is the sole party responsible for this operation and is also entrusted with checking the flue, external air vent and the correctness of the proposed installation solutions. All the safety regulations set out in the specific laws in force in the country where the machine is installed must be observed.

Non-routine maintenance must only be performed by authorised and qualified staff.

To ensure the validity of the warranty, the user must comply with the instructions contained in this guide 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 guide shall automatically void the warranty.

THE MACHINE AND THE PELLETS

Components of the appliance

The appliance is delivered with the following equipment:
- No. 1 - User, installation and maintenance guide;
- No. 1 - Power supply cable;
- No. 1 - Front heat exchanger cleaning hook;
- No. 1 - Remote control.

The following images show some details of the appliance:

Front heat exchanger cleaning **hook**.

Anti-interference filter
Main switch, connection for power supply cable with 2 built-in fuses (4A 250V).

Safety thermostat with manual reset.

Pellet loading tray.

Insert locking knobs.

Micro-switch to close the door.

Support panel.

Wi-Fi information (MAC address and registration code).

T.ROOM terminal Room thermostat connection

T.ROOM terminal 1 Connection of ducted room 1 thermostat or ducted room 1 probe

Pellet reserve sensor.

Flue gas outlet.

Ducted air outlet.

Intake pipe.

Technical Specifications

		1	2
		MONO 1000 WAVE 90	**WAVE 110**
Nominal heat input	kW kcal/h	**8,2 (7.050)**	**10,7 (9.200)**
Reduced thermal capacity	kW kcal/h	**3,1 (2.670)**	**3,1 (2.670)**
Nominal thermal output	kW kcal/h	**7,8 (6.700)**	**10,1 (8.690)**
Reduced thermal power	kW kcal/h	**2,48 (2.490)**	**2,9 (2.490)**
Efficiency at thermal nominal power	%	**95,2**	**94,3**
Efficiency at reduced thermal power	%	**95,3**	**95,3**
CO at 13% oxygen at nominal thermal power	%	**0,013**	**0,012**
CO at 13% oxygen at reduced thermal power	%	**0,050**	**0,050**
Maximum power uptake	Watt	**340***	**340***
Power uptake when running	Watt	**80**	**85**
Nominal voltage	V	**230**	**230**
Nominal frequency	Hz	**50**	**50**
Flue outlet diameter	mm	**80**	**80**
Air intake pipe diameter	mm	**40**	**40**
Minimum chimney draught at nominal thermal power	Pa	**10,7**	**11**
Minimum chimney draught at reduced thermal power	Pa	**9,3**	**9**
Combustion gas mass at nominal thermal power	g/s	**6,5**	**7,5**
Combustion gas mass at reduced thermal power	g/s	**2,9**	**3,4**
Ventilated pellet tank capacity (ducted)	kg	**20**	**20**
Average exhaust flue gas temperature at nominal thermal power	°C	**77,0**	**95,1**
Average exhaust flue gas temperature at reduced thermal power	°C	**62,5**	**62,5**
Minimum safety distance from flammable materials (side/rear/front)	mm	**200 / 200 / 800**	**200 / 200 / 800**

* Power consumption only during the ignition cycle.
The appliance's heat output may vary depending on the type of pellets used.

Pellet properties

The appliance has been tested with all types of pellets available on the market. The pellets must have the following properties:
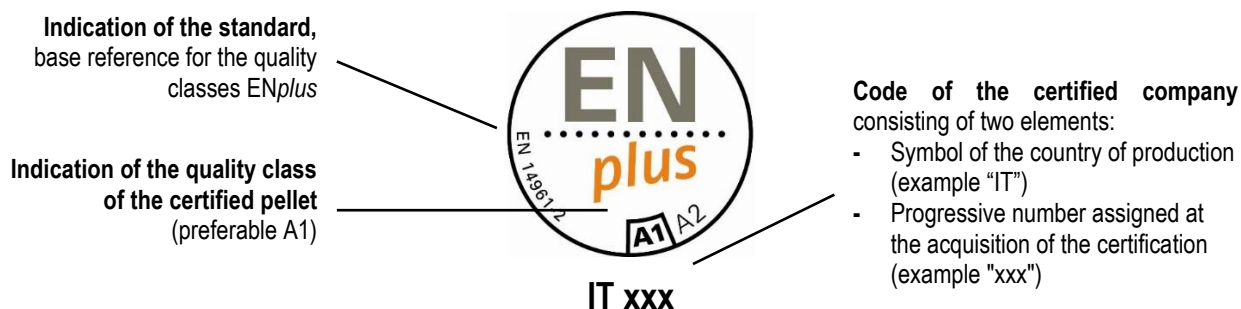- Diameter 6 mm.
- Maximum length 35 mm.
- Maximum humidity content 8 – 9 %.
- 100% wood. Totally additive-free.
- Maximum ash residue 1.1 %.

To obtain good performance from the appliance, we recommend using good quality pellets. **Pellets should be poured into the tank using a shovel, and not directly from the bag.**

Good quality pellets should have the following properties:
- Constant diameter cylinders with a smooth, shiny surface;
- There should not be a lot of sawdust inside the packaging;
- After grabbing a bunch of pellets and placing them into a container filled with water, good-quality pellets will sink and poor-quality ones will tend to float;
- The quality certification data, in particular conformity to international standards such as EN14961-2, DIN 51731 and O-NORM M7135, should be indicated on the packaging;
- The packages should be intact since pellets tend to absorb humidity. Humidity not only reduces the calorific value and increases the amount of flue gases expelled, but also causes swelling of the product which may create problems with the appliance.

The production of pellets must be compliant with some international standards (such as EN14961-2, DIN 51731 and O-NORM M7135) which establish minimum values for quality checks on pellets. To facilitate the right choice of the combustible material you can find below one of the most common certification marks identifying the quality of the pellets:

Indication of the standard,
base reference for the quality classes ENplus

Indication of the quality class of the certified pellet
(preferable A1)

EN plus
EN 149612
A1 A2
IT xxx

Code of the certified company
consisting of two elements:
- Symbol of the country of production (example "IT")
- Progressive number assigned at the acquisition of the certification (example "xxx")

The use of poor quality pellets or any other material can damage the appliance operation, voiding the warranty and exempting the manufacturer from all liability.

In order to guarantee trouble-free combustion, the pellets must be stored in a dry place.

REQUIREMENTS OF THE PLACE OF INSTALLATION

Positioning

The initial phase for best installation of the appliance is to determine its optimum location; the following elements need to be considered:
- The possibility of creating an external air vent;
- The possibility of creating a straight flue, preferably coaxial to the outlet of the appliance;
- Ease of access for cleaning the appliance, the flue gas exhaust pipes and the flue.

The unit must be installed on a floor with a suitable load capacity. If the existing building does not fulfil this requirement appropriate measures (e.g. load distribution plate) must be taken.
The minimum safety distance from flammable materials must be at least 200 mm from the sides and 800 mm from the front of the appliance.
Relocating the appliance should not be done by forcing on the handle, glass or ceramics.
The installation must guarantee easy access for cleaning the appliance, the flue gas exhaust pipes and the flue, and any subsequent maintenance operation by the Authorised technical assistance centre.

The appliance must not be installed in small rooms, bedrooms, bathrooms or in areas with an explosive atmosphere.

Once you have found the best location for the appliance, position it following the instructions given below.

IF THE APPLIANCE IS INSTALLED IN AN EXISTING CONVENTIONAL FIREPLACE, POSITION IT AS EXPLAINED BELOW:

1. Make sure the floor supporting the appliance has the following properties:
- It must be able to withstand the weight of the product and its accessories.
- It must be strong enough to permit anchoring with anchor plugs in complete safety. If it is not, a new reinforced concrete slab with metal mesh must be made over the existing (cleaned) fireplace floor.
- It must be perfectly flat.
- The side walls must be as perpendicular as possible to the floor.

2. Make sure the space is large enough to house the insert.

After checking the above conditions, install the unit as follows:

3. Fit the appliance with the base in the hearth compartment and, after defining the right position, drill the holes to anchor the base to the floor.

4. Use expansion bolts to anchor the base of the appliance to the floor. **This operation must be carried out very carefully to prevent the structure from tipping over when the insert itself is extracted.**

5. Make the electrical connections and attach the flue in accordance with the applicable laws.
N.B.: when making the electrical connections, MAKE SURE that the electrical cable is long enough to allow the appliance's guides to extend outwards from the hearth itself.

IF THE APPLIANCE IS INSTALLED AS A "NEW UNIT", POSITION IT AS FOLLOWS:

1. Make sure the surface supporting the frame has the following specifications:
- It must be able to withstand the weight of the product and its accessories.
- It must be strong enough to permit anchoring with anchor plugs in complete safety. If it is not, a new reinforced concrete slab with metal mesh must be made.
- It must be perfectly flat.

2. Place the supporting frame against the wall and anchor it with the expansion bolts.
This operation must be carried out very carefully to prevent the structure from tipping over when the insert itself is extracted.

3. Make the electrical connections and attach the flue in accordance with the applicable laws.
N.B.: when making the electrical connections, MAKE SURE that the electrical cable is long enough to allow the appliance's guides to extend outwards from the hearth itself.

4. Now install the external covering.
The appliance should not be covered for at least 6–7 days, so that it can be checked to verify that it works properly.

Spaces around and above the appliance

The following figure shows the minimum clearances to be observed when installing the product in relation to walls and/or the two side walls of the covering (if these cannot be easily removed).
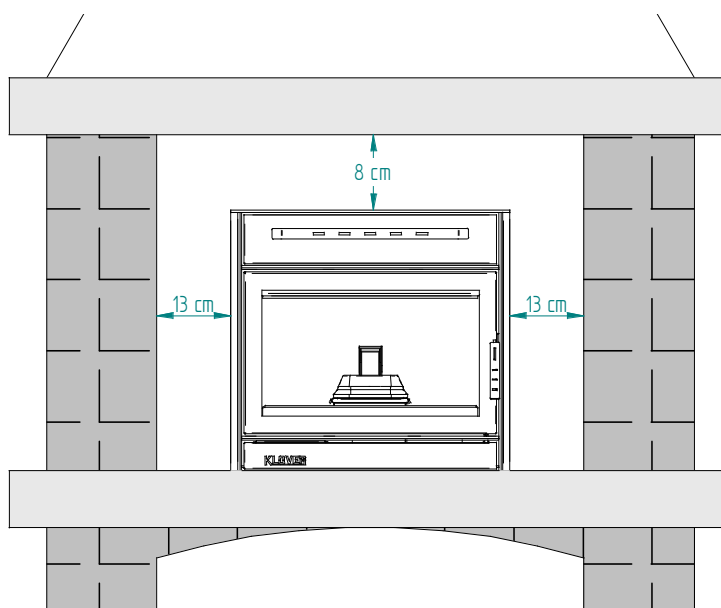
The space between the appliance's walls and the hearth compartment must be closed with a filler frame which must be easily removable for maintenance operations.

Furniture and movable objects must be positioned at least 15 cm from the sides of the appliance; these objects must be moved when performing maintenance on the appliance.

Protect all structures that can catch fire against the heat radiated by the fire.

Any additional intervention by the authorised technical assistance centre that requires the appliance to be disconnected from the system will not be covered by the warranty, as explained in the chapter *"Standard Warranty Conditions"*.

External air intake

During operation, the appliance takes in air from the environment in which it is installed; it is therefore essential that this air is replaced through an external air vent. The absence of the air vent may affect the draught inside the flue and, therefore, the combustion and safety of the appliance.

Consequently, **it is mandatory** to install an external air vent with a minimum clear opening of **at least 80 cm²** (round hole with minimum 15 cm diameter protected with a special fixed large-mesh grid).

If the wall behind the appliance is on the outside, we recommend opening the hole close to it at roughly 10 cm from the base of the appliance (see example in Fig. 1).

Fig. 1

REAR WALL

**AIR VENT
DIAMETER 150 mm**
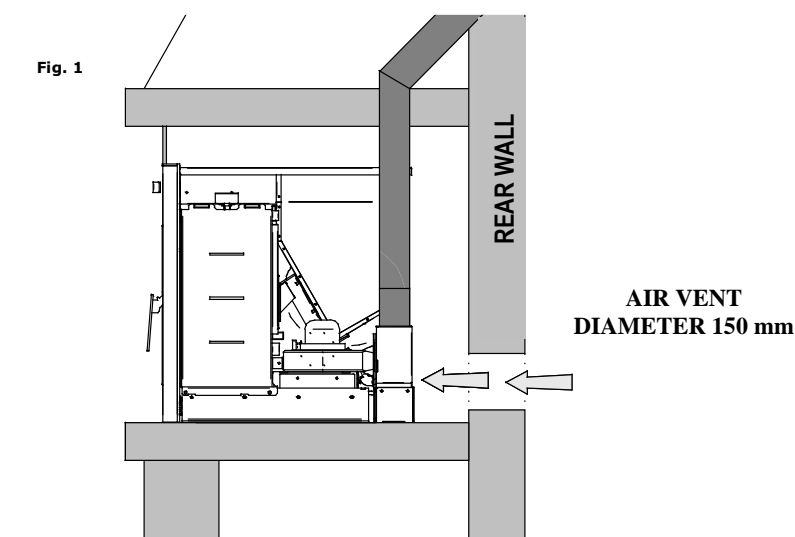
If it is not possible to fit an air vent in the wall behind the appliance, make a hole in a perimeter wall inside the room where the appliance is installed and another hole in the covering (see example in Fig. 2). If it not possible to fit the external air vent in the same room where the appliance is installed, the 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).

Fig. 2

REAR WALL

**AIR VENT
DIAMETER 150 mm**

**AIR OPENING
DIAMETER 150 mm**
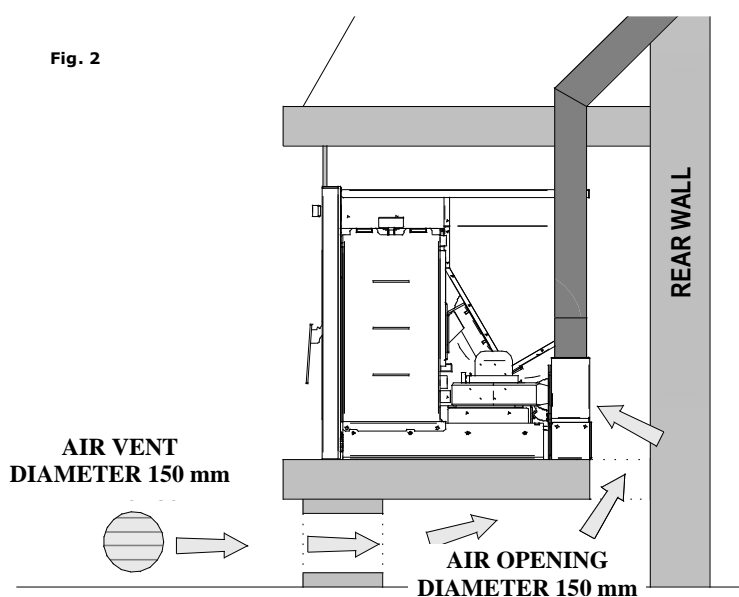
The hole must be protected externally with a fixed grille. The protective grille must be checked periodically to ensure that it is not obstructed, thereby hindering the flow of air. **Keep all the air vents free of obstructions.**

The UNI 10683 Standard FORBIDS the drawing of combustion air from garages, warehouses containing combustible materials, or from business premises with a fire hazard.

Do not connect the external air vent directly to the appliance through piping. 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.

Only sealed appliances (e.g. C-type gas appliances, according to the UNI 7129 Standard) or appliances that do not lower the room's pressure with respect to the external environment can pre-exist or be installed in the room where the appliance is installed.
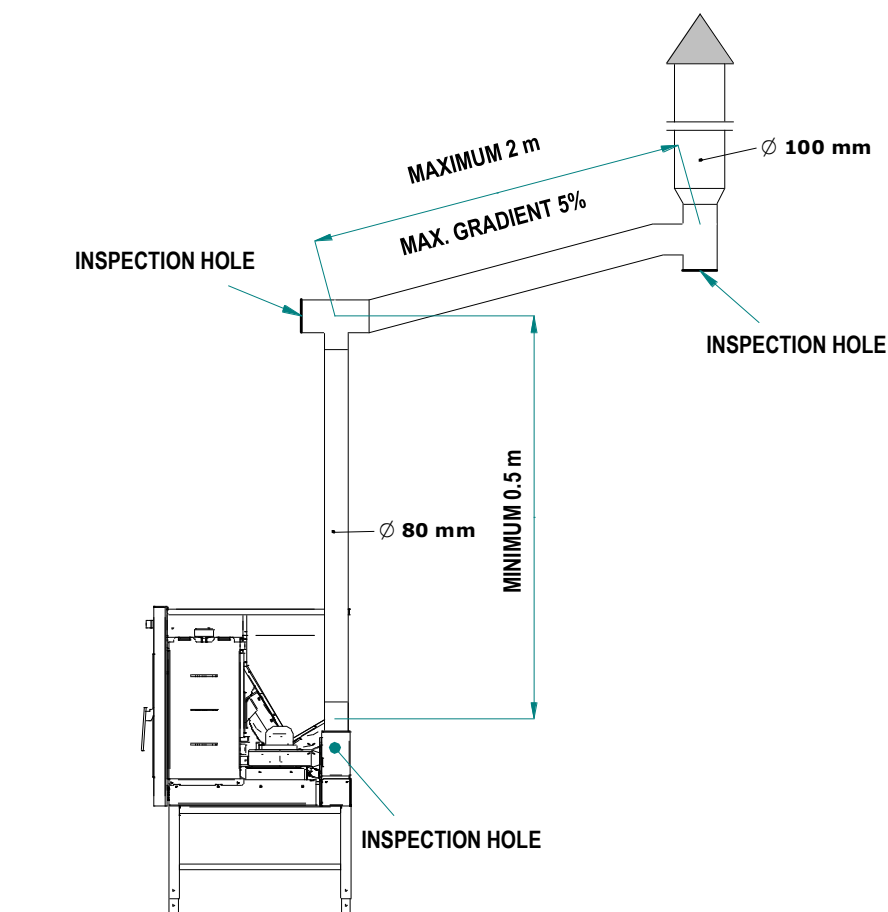Extractor fans can cause malfunctions to the appliance if used in the same room.

The flue and connection to the same

The **flue** is an essential element for the efficient operation of the appliance. The flue must have a minimum cross-sectional area as that indicated in the technical specifications of the appliance (80 mm). Each product must be equipped with its own flue, without other adjoining elements (boilers, chimneys, stoves, etc.). The flue dimensions are closely related to its height, which must be measured from the appliance flue gas outlet to the base of the stack. In order to guarantee adequate draught, the surface of the chimney flue outlet must be double the flue cross-section. The discharge pipe for combustion products generated by the forced draught device, must comply with the following requirements:

- It must seal off the combustion gases, as well as being waterproof and suitably isolated and insulated in relation to the conditions of use (refer to UNI 9615);
- It must be made of suitable materials capable of withstanding normal mechanical stress, heat, and the effects of combustion gases and condensate, if any;
- It must go upwards after the vertical section, for the entire remaining part, with a minimum gradient of 5%. The sub-horizontal section must not have a length greater than ¼ of the effective height H of the flue or chimney, and **must not be longer than 2,000 mm**;
- It must preferably have a round internal cross-section: square or rectangular cross-sections must have rounded corners with radius not inferior to 20 mm;
- It must have a constant, free and independent internal cross section;
- Rectangular cross-sections must have a maximum ratio of 1.5 between the sides;
- If the flue is installed externally, it must be insulated in order to prevent the flue gases from cooling and allowing condensation to form;
- Parts made from non-combustible materials **(it is absolutely prohibited the use of aluminium flue)** - capable of withstanding combustion gases and potential condensation - must be used for mounting the flue gas pipes (for the section from the appliance to the flue inlet);
- It is forbidden to use fibre cement pipes to connect the appliance to the flue;
- Flue gas conduits must not pass through rooms in which the installation of combustion devices is prohibited;
- The flue gas conduits must be assembled in such a way as to guarantee adequate sealing of flue gases during low pressure operation of the appliance;
- The installation of horizontal sections is prohibited;
- It is prohibited to use counter sloping elements;
- The flue gas pipe must allow for the recovery of soot or be cleanable, and must have a constant cross-section;
- It is forbidden to allow other air intake conduits and system pipes to transit inside the flue gas pipes, even if they are over-sized.

FURTHER SPECIFICATIONS TO BE CONSIDERED
- The appliance works with the combustion chamber in depression and the flue pipe in pressure; **it is essential that the flue gas outlet is hermetically sealed.**
- The flue pipes inside the installation room must be made of a suitable material (see current regulations) and equipped with seal gaskets with a minimum diameter of 80 mm.
- The pipes must have a double wall (thermally insulated) or be suitably insulated with rock wool. The maximum temperature of the flue pipe inside the room must not exceed 70°C.
- IT IS MANDATORY TO HAVE AN INITIAL VERTICAL SECTION OF AT LEAST 1.5 MT IN ORDER TO GUARANTEE CORRECT FLUE GAS DISCHARGE.
- Every direction change must be carried out with a T-shaped fitting and inspection cap. The tubes must be air tight through special seals which resist up to 250° C. Attach the pipes to the wall with special collars to avoid any vibration.
- IT IS STRICTLY FORBIDDEN TO INSTALL DRAUGHT REGULATION VALVES (BUTTERFLY VALVES).

MAXIMUM 2 m

MAX. GRADIENT 5%

∅ 100 mm

INSPECTION HOLE

INSPECTION HOLE

MINIMUM 0.5 m

∅ 80 mm

INSPECTION HOLE

If the flue should be old or too big (internal diameter greater than 15 cm), duct the flue using a stainless steel pipe, properly insulated with rock wool or vermiculite, and sized according to the route. The connection to the flue must be appropriately sealed.

When assembling the flue, there must be no more than 4 direction changes, including the initial T-shaped fitting.
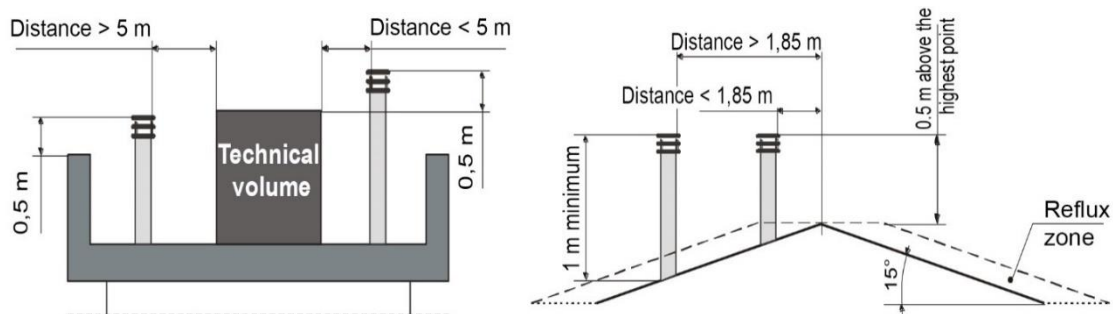
Chimney

The **chimney** is a device crowning the flue, used to ease dispersion of combustion products.
It must satisfy the following requirements:
- It must have a usable outlet cross-section no less than double that of the flue onto which it is inserted;
- In must be shaped in such a way as to prevent rainwater or snow from seeping into the flue;
- It must be built in such a way as to ensure the discharge of combustion by-products even in the event of winds from every direction and inclination.
The outlet height (where height refers to the top of the flue, regardless of any chimney stacks) must be outside of the so-called reflux zone, in order to prevent the formation of counter-pressures preventing the free discharge of combustion by-products into the atmosphere.
It is therefore necessary that the minimum heights - indicated in the following diagrams - are observed:

Distance > 5 m

Distance < 5 m

0,5 m

Technical volume

0,5 m

Distance > 1,85 m

Distance < 1,85 m

0.5 m above the highest point

1 m minimum

15°

Reflux zone

ELECTRICAL CONNECTION

The electric connection must only be performed by **qualified staff,** in compliance with all general and local safety standards.

Check that the power supply voltage and frequency correspond to 220V – 50 Hz.

The appliance's safety is ensured when it is properly connected to an efficient earthing system.

In the electric connection to the mains power supply, include a 6 A – Id 30 mA differential trip-switch with suitable breaking load. The electric connections, including the earth connection, must be made after shutting off the electrical system.
When completing the system, bear in mind that the cables must be laid in an unmovable manner and far from parts subject to high temperatures. During the final wiring of the circuit, only use components with a suitable electrical protection rating. Do not pass electric cables in the immediate vicinity of the flue gas pipe, unless they are insulated with suitable materials.

KLOVER srl declines all responsibility for injury to persons and animals or damage to objects due to failure to connect the appliance to earth or to comply with IEC specifications.

Connection to the room thermostat or a room temperature sensor

On the back of the appliance there are one or more terminal boards which are used to connect the room thermostat or room temperature sensor (see "Components of the appliance")

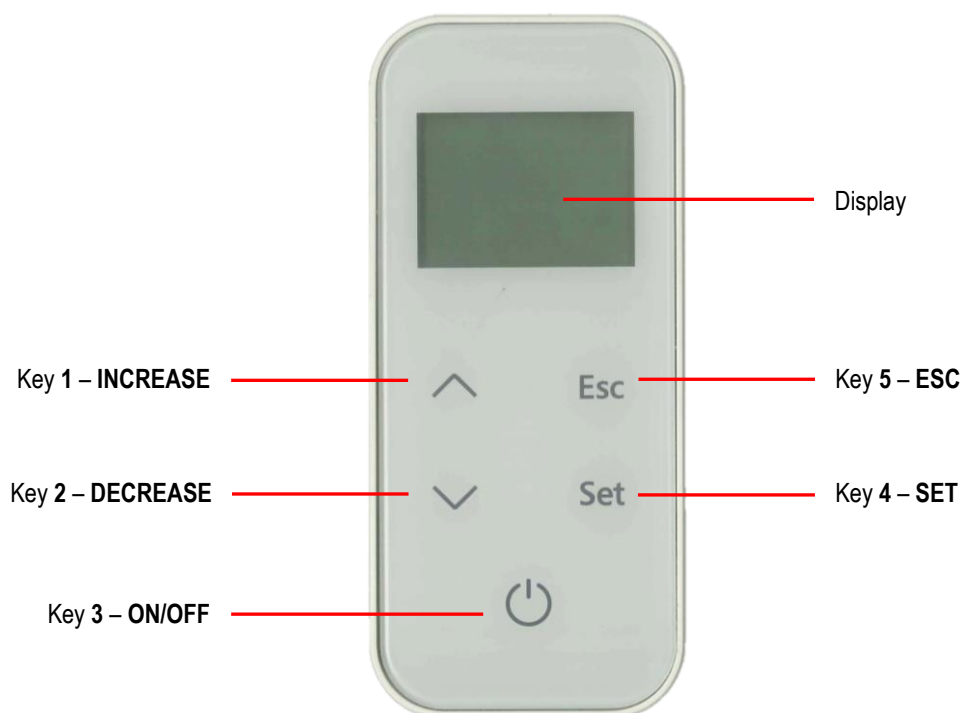The table below describes the functions of the terminals on the rear panel of the appliance.

Terminal	Description	Type of control	Action
1	**Main room**	Only with room Thermostat *	With the contact CLOSED the appliance will continue to operate at the set power, independently of the SET ROOM (key 1) setting and the status of any other connected thermostats or temperature sensors.
			With the contact OPEN the appliance will switch to modulation mode as long as the room temperature set in the SET ROOM (key 1) setting is satisfied and any other connected thermostats or temperature sensors are satisfied.
2	**Ducted room 1** *(present only on models with one or two ducted outlets)*	With room Thermostat * (Pr56 must be enabled with value **T1** or **T1+2**)	With the contact CLOSED the appliance will continue to operate at the set power, independently of the SET ROOM (key 1) setting and the status of any other connected thermostats.
			With the contact OPEN the appliance will switch to modulation mode as long as the room temperature set in the SET ROOM (key 1) setting is satisfied and any other connected thermostats are satisfied. Ducted fan 1 will switch to modulation mode in any case.
		With Room sensor ** (Pr56 must be enabled with value **S1** or **S1+2**)	Once the SET ROOM 1 temperature setting is reached (Menu 12-SET AMB. CAN.), the appliance will switch to modulation mode as long as the room temperature set in the SET ROOM (key 1) setting is satisfied and any other connected thermostats or temperature sensors are satisfied. Ducted fan 1 will switch to modulation mode in any case.
3	**Ducted room 2** *(present only on models with two ducted outlets)*	With room Thermostat * (Pr56 must be enabled with value **T2** or **T1+2**)	With the contact CLOSED the appliance will continue to operate at the set power, independently of the SET ROOM (key 1) setting and the status of any other connected thermostats.
			With the contact OPEN the appliance will switch to modulation mode as long as the room temperature set in the SET ROOM (key 1) setting is satisfied and any other connected thermostats are satisfied. Ducted fan 2 will switch to modulation mode in any case.
		With Room sensor ** (Pr56 must be enabled with value **S2** or **S1+2**)	Once the SET ROOM 2 temperature setting is reached (Menu 12-SET ROOM. CAN.), the appliance will switch to modulation mode as long as the room temperature set in the SET ROOM (key 1) setting is satisfied and any other connected thermostats or temperature sensors are satisfied. Ducted fan 2 will switch to modulation mode in any case.

* Connect a room thermostat with no power to manage a simple clean contact, preferably with a hysteresis value that can be calibrated.
** Connect a type "NTC 10K ± 1%" room sensor.

DESCRIPTION OF COMPONENTS

Remote control

Key **1** – **INCREASE**

Key **2** – **DECREASE**

Key **3** – **ON/OFF**

Display

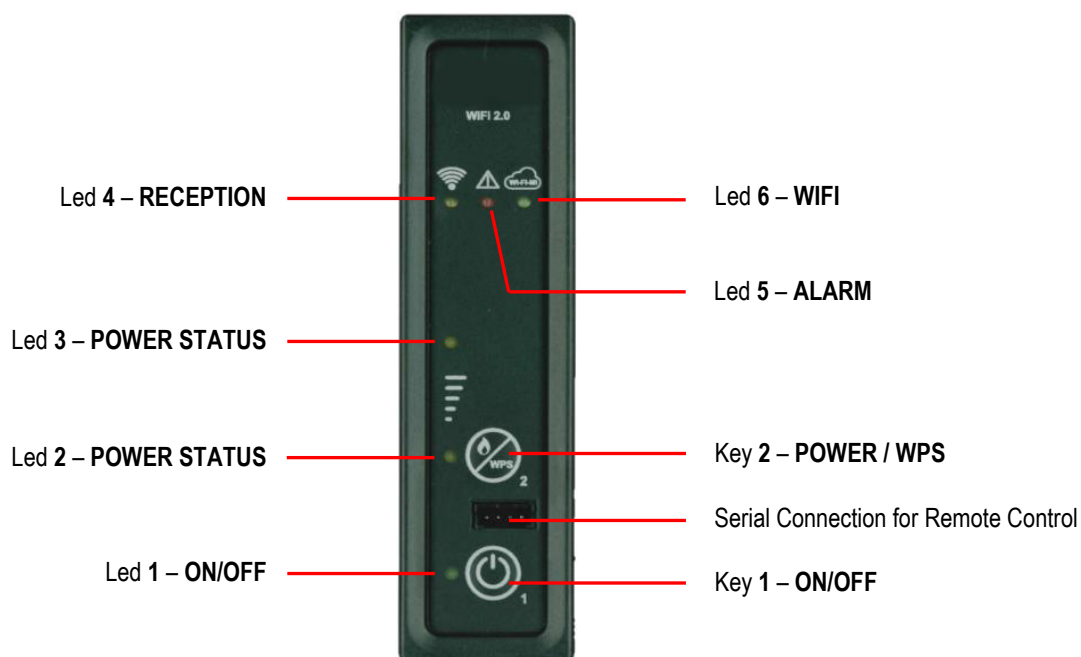Key **5** – **ESC**

Key **4** – **SET**

The remote control must be fitted with 3 AAA 1.5 V batteries (mod. LR03 / MN2400); The battery life depends on how often the remote control is used.

The table explains how the keys on the remote control work.

Key	Description	Mode	Action
1	INCREASE	On the first press...	Allows you to modify the room temperature "*SET ROOM*".
		Programming mode..	Changes/increases the value of the selected menu item. Increases the room temperature setting/operating power. In "*SET DUCTING*" mode, it modifies the value of ducting 2.
2	DECREASE	On the first press...	Allows you to modify the operating power "*SET POWER*".
		Programming mode..	Changes/decreases the value of the selected menu item. Decreases the room temperature setting/operating power. In "*SET DUCTING*" mode, it modifies the value of ducting 1.
3	ON/OFF	On the first press...	Activates the display.
		Working..	Switches the appliance off when pressed for 2 seconds.
		Off..	Switches the appliance on when pressed for 2 seconds.
		In alarm block..	Releases the alarm.
		Menu/programming mode..	Moves you to the previous menu level, not saving the changes made.
4	SET	On the first press...	Enters the user menu.
		Menu mode..	Moves you to the next menu item, storing the changes made.
		Programming mode..	Moves you to the next submenu item, storing the changes made.
5	ESC	On the first press...	Allows you to modify the speed of the ducted fans "*SET DUCTING*".
		Menu mode..	Moves you to the previous menu item, storing the changes made.
		Programming mode..	Moves you to the previous submenu item, storing the changes made.

Support panel

Led **4 – RECEPTION**

Led **6 – WIFI**

Led **5 – ALARM**

Led **3 – POWER STATUS**

Led **2 – POWER STATUS**

Key **2 – POWER / WPS**

Serial Connection for Remote Control

Led **1 – ON/OFF**

Key **1 – ON/OFF**

The table explains how the keys on the support panel work.

Key	Description	Mode	Action
1	**ON/OFF**	Working..	Switches the appliance off when pressed for 2 seconds.
		Off..	Switches the appliance on when pressed for 2 seconds.
		In alarm block..	Releases the alarm.
2	**POWER**	Each press...	Modifies the operating power *"SET POWER",* choosing from the 3 available power settings (1, 3 or 5).
		With long press 6 seconds ...	It allows the WiFi module to enter WPS mode to facilitate connection to the WiFi network of the home modem (it is also necessary to hold down the WPS button of the modem, according to its characteristics).

The table explains how the LEDs on the support panel work.

LED	Description	Status	Action
1	**ON/OFF**	Off	The appliance is off.
		Flashing	The appliance is shutting down.
		On	The appliance is on.
2 and 3	**POWER STATUS**	Led 2 On, Led 3 Off	Power set to setting 1.
		Led 2 On, Led 3 On	Power set to setting 3.
		Led 2 Off, Led 3 On	Power set to setting 5.
4	**RECEPTION**	On	On when the card receives a signal from the remote control.
5	**ALARM**	On	The appliance is in alarm.
6	**WIFI**	Off	The appliance is not connected to a Wifi network.
		Slow flashing	The WiFi module is in Access Point mode (waiting for connection to the network).
		Fast flashing	The WiFi module is in WPS (signal search) mode.
		On	The appliance is connected to a Wifi network.

The support panel allows you to control basic functions governing the operation of the appliance in the absence of the remote control.
The following operations can be carried out:
- **SWITCH ON/OFF**: holding key 1 (On/Off) down for 2 seconds
- **MODIFY OPERATING POWER**: each press of key 2 (Power) varies the operating power by selecting one of the three available power settings (1, 3 or 5). With the help of LEDs 2 and 3 (Power status) you can check the set power setting (see LED table).

Display

The remote control display shows information concerning the operating status of the appliance.

The display is activated by pressing key 3 (On/Off).

The figure below shows the display when the appliance is in normal operating mode.

Room temperature

Operating status

Clock

Power setting in POWER SET
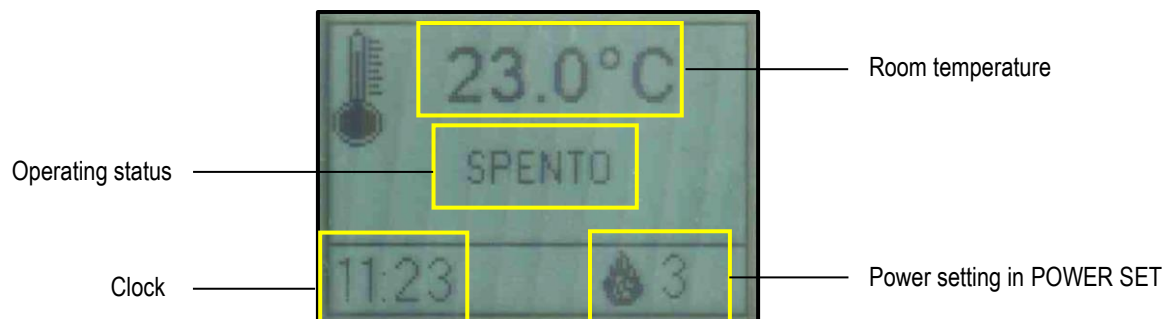
After turning on the menu using key 4 (Set), it is possible to choose from many types of display and available settings according to the selected menu.

The following diagram shows the display when navigating the menu.
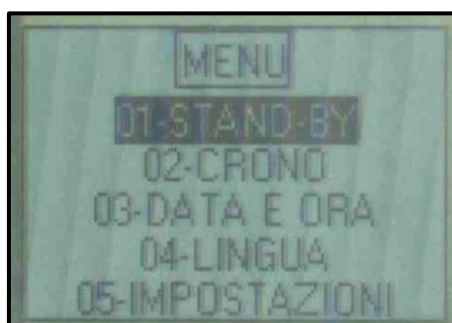
THE MENU

Access the Menu by pressing key 4 (Set) on the remote control.

The menu is divided into different items and levels, providing access to the programming and settings options of the appliance.

Keys 1 and 2 (Increase and Decrease) allow you to select the menus to be modified.
Key 4 (Set) accesses the menu to be modified, storing the changes made previously.
Key 5 (Esc) returns you to the previous menu item, storing the changes made previously.
Inside the menu to be modified, use keys 1 and 2 (Increase and Decrease) to modify the value set in the selected menu.

Listed below are the menus present on the PCB, with the relevant explanations.

MENU 01 – STAND-BY
If underlined disabled, the switching off of the appliance once the "SET ROOM" temperature setting has been reached is excluded. The operating power will however be modulated; the display will show the word "MODULATION"
If enabled the appliance will enter modulation mode and/or switch off if the temperature set in "SET ROOM" is reached. During the modulation stage the display will show the words "OK ST-BY"; when switched off it will show "STAND-BY".

The image below shows the screen when STAND-BY is enabled:

Enable field
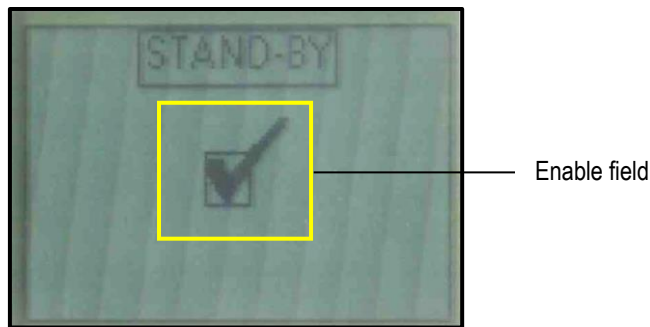
MENU 02 – TIMER
Allows you to access the different timer programmes (daily, weekly and weekend).

In order to avoid any undesired switching on/off operations, only activate and use a single programme at a time (daily, weekly or weekend programme).

- **Sub-menu 02 – 01 – Enable timer**
Allows you to globally enable and disable all timer functions. For the correct operation it is recommended to enable it using keys 1 or 2 (Increase and Decrease) when at least one on/off programme (daily, weekly or weekend programme) is activated.
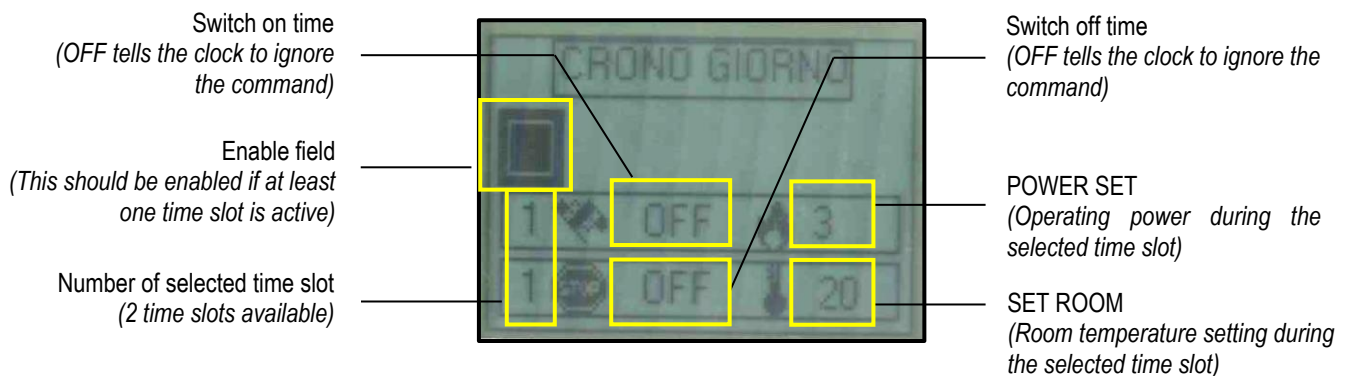
The image below shows the screen when the Timer is enabled:

Enable field

- **Sub-menu 02 – 02 – Daily timer**
Allows you to enable, disable and set the daily timer functions.

The daily timer has two operating time slots can be set according to the following table (it is not essential to use both at the same time):

Switch on time
(OFF tells the clock to ignore the command)

Enable field
(This should be enabled if at least one time slot is active)

Number of selected time slot
(2 time slots available)

Switch off time
(OFF tells the clock to ignore the command)

POWER SET
(Operating power during the selected time slot)

SET ROOM
(Room temperature setting during the selected time slot)

- Keys 1 and 2 (Increase and Decrease) allow you to modify the selected value.
- Key 4 (Set) selects the subsequent value.
- Key 5 (Esc) selects the previous value.
- Key 3 (ON/OFF) takes you back to the previous menu item.

- **Sub-menu 02 – 03 – Weekly timer**

Allows you to enable, disable and set the timer weekly program functions.

The weekly timer has four operating time slots can be set according to the following table (it is not essential to use all of them at the same time):

Switch on time
(OFF tells the clock to ignore the command)

Enable field
(This should be enabled if at least one time slot is active)

Number of selected time slot
(4 time slots available)

Days display field enabled:
1-Monday / 2-Tuesday / 3-Wednesday / 4-Thursday / 5-Friday / 6-Saturday / 7-Sunday
(When the dot is full, that day is active)

POWER SET
(Operating power during the selected time slot)

SET ROOM
(Room temperature setting during the selected time slot)

Switch off time
(OFF tells the clock to ignore the command)

- Keys 1 and 2 (Increase and Decrease) allow you to modify the selected value.
- Key 4 (Set) selects the subsequent value.
- Key 5 (Esc) selects the previous value.
- Key 3 (ON/OFF) takes you back to the previous menu item.

After having set the switch on and off times and the power and temperature settings, you must choose the days on which to activate that time slot. Below is the screen display for the enabling days:

Enable days field:
1-Monday / 2-Tuesday / 3-Wednesday / 4-Thursday / 5-Friday / 6-Saturday / 7-Sunday
(When the dot is full, that day is active)

- Key 1 (Increase) enables the selected day.
- Key 2 (Decrease) disables the selected day.
- Key 4 (Set) selects the subsequent day.
- Key 5 (Esc) selects the previous day.
- Key 3 (ON/OFF) takes you back to the previous menu item.

- **Sub-menu 02 – 04 – Weekend Timer**

Enables/disables/sets the programmable timer's weekend functions (valid on Saturday and Sunday).

Switch on time
(OFF tells the clock to ignore the command)

Enable field
(This should be enabled if at least one time slot is active)

Number of selected time slot
(2 time slots available)

Switch off time
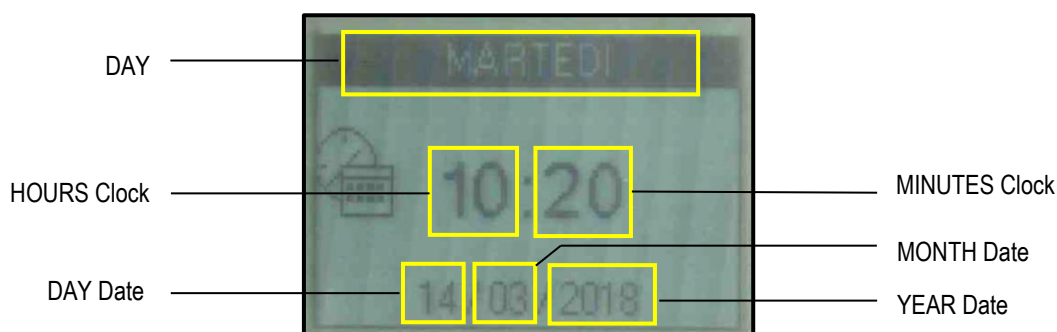*(OFF tells the clock to ignore the command)*

POWER SET
(Operating power during the selected time slot)

SET ROOM
(Room temperature setting during the selected time slot)

- Keys 1 and 2 (Increase and Decrease) allow you to modify the selected value.
- Key 4 (Set) selects the subsequent value.
- Key 5 (Esc) selects the previous value.
- Key 3 (ON/OFF) takes you back to the previous menu item.

MENU 03 – DATE AND TIME
Allows for setting the current day, date and time.

DAY — MARTEDI

HOURS Clock — 10 : 20 — MINUTES Clock

MONTH Date

DAY Date — 14 03 2018 — YEAR Date

- Keys 1 and 2 (Increase and Decrease) allow you to modify the selected value.
- Key 4 (Set) selects the subsequent value.
- Key 5 (Esc) selects the previous value.
- Key 3 (ON/OFF) takes you back to the previous menu item.

MENU 04 – LANGUAGE
Allows you to select the dialogue language from the available choices (Italian, English, French, German and Spanish).

MENU 05 – SETTINGS
Allows you to adjust the different settings on the remote control.

The table below shows the settings and their meanings:

Menu	Meaning	Values that can be set *
CARD BEEP	Enables/disables the beep sound made by the power card	ON – OFF
DISPLAY ILLUMINATION	Regulates the duration of the display illumination	2 / 10 secs
DISPLAY ON	Regulates the duration of the display activation	15 / 60 secs – ON
DISPLAY BRIGHTNESS	Enables/disables display illumination	ON – OFF
DISPLAY CONTRAST	Regulates the display contrast	15 / 60 #
KEY BEEP	Enables/disables the beep sound made each time a key on the remote control is pressed	ON – OFF

* The values set affect the life of the batteries fitted in the remote control.

MENU 06 – INITIAL LOAD
Enables pellet pre-loading for 90" when the appliance is switched off and cooled down. Start the function with key 1 (Increase) and stop with key 3 (On/Off). This may be useful if the appliance is switched on after the tank has been completely emptied, or when it is filled for the first time. **Warning: once the operation has been completed, before switching on the appliance you should remove any accumulation of pellets deposited inside the ash drawer.**

MENU 07 – FIREPLACE STATUS
Allows for viewing the current status of the appliance, by showing the operating conditions of the various devices connected to it. Several pages are displayed in succession. The data is reserved for Technical assistance Centre.
The table below shows the various devices and their meanings:

Display	Meaning
L04-270218 (example)	Firmware code loaded in the control unit.
ARIA 1.0 (example)	Firmware code loaded in the remote control.
F.GS.T	Indicates the temperature read by the sensor inside the combustion chamber.
R.TMP.	Indicates the room temperature as measured by the sensor inside the remote control.
R.TMP 1	If a temperature sensor is connected, this indicates the temperature in ducted room 1 measured by the same. If a room thermostat is connected, this indicates the status of the same (OFF = R.T. contact OPEN = Thermostat not in demand) (ON = R.T. contact CLOSED = Thermostat in demand)

R.TMP 2	If a temperature sensor is connected, this indicates the temperature in ducted room 2 measured by the same. If a room thermostat is connected, this indicates the status of the same (OFF = R.T. contact OPEN = Thermostat not in demand) (ON = R.T. contact CLOSED = Thermostat in demand)
EX.RPM	Indicates the speed of the flue extractor fan.
LOAD	Indicates the pellet loading interval.
R.T. STATUS	Indicates the status of the main room thermostat. (OFF = R.T. contact OPEN = Thermostat not in demand) (ON = R.T. contact CLOSED = Thermostat in demand)
SPE.AIR	Indicates the speed of the front air fan.
SPE.DUC1	Indicates the speed of ducted air fan 1.
SPE.DUC2	Indicates the speed of ducted air fan 2.
TIMER 1	Indicates the end (minutes) of the current operating phase.
TIMER 2	Indicates the end (seconds) of the current operating phase.
DEL.ALARM	Indicates in an alarm state, the time (seconds) before the alarm condition is shown on the display.
T.CARD.	Indicates the temperature read by the sensor inside the control unit.
CLEANER	Indicates the status of the brazier cleaner. (OFF = Contact OPEN = Brazier not aligned) (ON = Contact CLOSED = Brazier aligned)
LEV.PELLET	Indicates the status of the pellet level sensor in the tank. (OFF = Sensor covered = Pellets in the tank above the reserve limit) (ON = Sensor covered = Pellets in the tank below the reserve limit)
SERVICE	Indicates the hours remaining before servicing, to be requested from the Technical Assistance Centre.

MENU 08 – WIFI STATUS *(Menu not used)*

MENU 09 – USER CALIBRATION *
Menu dedicated to expert users only; allows you to carry out a limited calibration of the pellet load (PELLET TYPE) and flue gas extractor (FLUE TYPE) as shown in the table below:

Menu	*Meaning*	*Values that can be set*
PELLET TYPE	By increasing the value by a single unit, the pellet load is increased by approximately 4%.	-9 / +9
	By decreasing the value by a single unit, the pellet load is decreased by approximately 4%.	
FLUE TYPE	By increasing the value by a single unit, the flue gas extraction speed (and thereby the intake of combustion air) is increased by approximately 3%.	-9 / +9
	By decreasing the value by a single unit, the flue gas extraction speed (and thereby the intake of combustion air) is decreased by approximately 3%.	

* Access by non-expert users can cause serious damage to the equipment, to things and the environment as well as personal injuries. Klover declines any responsibility for damages arising from inappropriate calibration.

MENU 10 – TECHNICAL CALIBRATION
Allows you to access all data reserved for the Technical Assistance Centre. Access is protected by a password. Unauthorised access can cause serious damage to the equipment, to things and the environment as well as personal injuries.

MENU 11 – RELAX FUNCTION *(Menu not available)*
Allows for reducing the front air fan speed for a pre-set time (90 min).

MENU 12 – SET ROOM. DUC. *(Menu displayed only on models with this function)*
Allows you to access and modify the room temperature of zone 1 and zone 2 controlled by the associated fans (see also "*Modify ducted air speed Set values*")

The image below shows the screen for the "SET DUCTED ROOM" menu item:
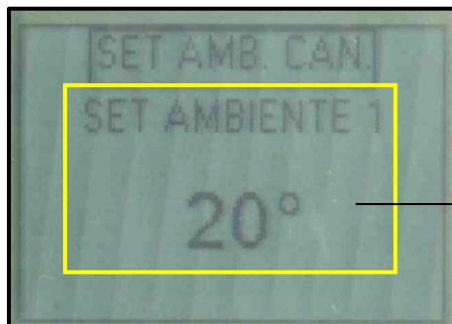
SET ROOM ZONE 1
(Room temperature for zone 1, can be set at values between 07°C and 40°C)

To modify the room temperature, select the *"SET DUCTED ROOM"* to be modified (*"SET ROOM 1"* or *"SET ROOM 2"*) by pressing keys 4 (Set) or 5 (Esc).
Press keys 1 and 2 (Increase and Decrease) to adjust the value; values between 07°C and 40°C can be set.
Press key 3 (On/Off) to exit the menu, saving the set value.

INITIAL CONFIGURATIONS

Connecting the remote control

The first time the product is powered or any time you want to change the connection channel, the remote control must be interfaced with the support panel fitted on the appliance. This should be carried out as follows:

1. Press keys 3 (On/Off) and 4 (Set) on the remote control for several seconds.
2. The words "MENU' RADIO ID" will appear, along with the channel the remote control is linked to if it has already been configured.
3. Using key 2 (Decrease) on the remote control, choose "NEW", then confirm by pressing key 4 (Set).
4. Using keys 1 or 2 (Increase or Decrease) on the remote control, choose the channel to connect to. Do not confirm by pressing key 4 (Set).
5. Press keys 1 (On/Off) and 2 (Power) on the support panel at the same time, holding them down until all the LEDs are lit.
6. Confirm the channel selected previously by pressing key 4 (Set) on the remote control; the remote control will be begin searching for a channel to connect to.
7. If the operation has been performed correctly, the user screen for the appliance will appear on the remote control. If this is not the case, it will display a message saying the channel was not found; repeat the operation in this case.

Connection to the WiFi network

The appliance is equipped with a Wi-Fi board that enables it to be remotely controlled via the "KLOVER HOME" App, which can be downloaded to smartphones or tablets from various stores (Apple, Android, etc.).

The procedure for connecting the Wi-Fi board to the domestic network is explained below:
1. Power the appliance by touching the *"ON/OFF main switch"* located on the rear of the appliance itself.
2. Download and install the "KLOVER HOME" App on your device.
3. Access the "KLOVER HOME" App and select "Add Stove", following the guided procedure.

INITIAL START-UP

First start-up

Perform the following operations:

- Connect the appliance to the electrical system by using the provided cable;
- Set the "*power ON/OFF switch*" on the rear side of the appliance to "I" (on);
- Fill the pellet tank; for the first ever ignition, to avoid wasting the time required for filling the entire screw feed channel **(this should be done every time the appliance runs out of pellets)**, we recommend you follow the instructions in the "*MENU 06 – INITIAL LOAD*";
- Switch on the appliance using the "ON/OFF" key on the remote control (key 3) or on the support panel (key 1). See the instructions below. **Warning: before switching on the device make sure that the brazier is clean and there are no pellets inside it; otherwise it is necessary to empty and/or clean the brazier.**

We recommend that you use high quality pellets so as not to impair the operation of the appliance. Damage caused by poor-quality pellets shall not be covered by the warranty.

Do not pour pellets manually into the brazier.

Ignition cycle

Holding down key 3 (On/Off) on the remote control or key 1 (On/Off) on the support panel, will switch on the appliance.

The ignition cycle can last 20/25 minutes max. and is divided into five steps:

Phase	Display	Meaning	Duration
1°	CHECK UP	Brazier cleaning cycle	Approx. 30 seconds
2°	PELLET LOADING	Pre-loading of pellets into the brazier (continuous loading of pellets) to sufficiently fill the brazier to allow for ignition	Approx. 4 minutes
3°	FLAME STAND-BY	Wait before flame ignition after pre-loading (pellet loading suspended)	Approx. 4 minutes
4°	FLAME STAND-BY / PELLET LOADING	Loading of pellets into brazier (intermittent pellet loading)	Cannot be determined
5°	STABILISATION	Flame stabilisation, allowing uniform ignition of all pellets unburnt during the previous stages.	Approx. 8 minutes

At the end of the ignition cycle, the appliance switches to working mode at the power level set in "SET POWER".

If the ignition fails, the display will show the alarm *"IGNITION FAILED"*.
The alarm may also occur if the brazier is dirty; in this case, clean the brazier and re-start.

Warning: during the ignition phase and normal operation of the appliance, maintain the necessary safety distance and do not stand in front of it.

Working mode

During the normal working phase, by pressing key 1 (Increase), you can set the "SET ROOM" (room temperature). When this temperature is reached, the appliance enters economy mode operation *"MODULATION",* as long as all connected thermostats and temperature sensors are satisfied *(See also "Connection to the room thermostat or an additional room temperature sensor")*.

- With "Menu 01-STAND-BY" underline enabled, the appliance will automatically switch off, switching to "OK ST-BY" status after the time set in Pr44 (factory setting: 10 minutes); once the switching off phase is complete, the appliance will automatically switch back on if the room temperature falls below the temperature differential set in Pr43 (factory setting: 1°C) i.e. **Room temperature < ("SET ROOM" – Pr43).**
- With "Menu 01-STAND-BY" disabled, the appliance will switch to MODULATION mode once the set room temperature has been reached and it will not automatically switch off.

If the above condition occurs when the switch-off cycle is not yet completed, please wait until the cycle is complete.
The cleaning cycle of the brazier (displayed under **"BRAZIER CLEANING"**) is done at predetermined time intervals for an established period (see "PCB parameters").

Switch-off cycle

Pressing key 3 (On/Off) on the remote control or key 1 (On/Off) on the support panel, will switch off the appliance. The display will show **"SWITCHING OFF"**. The pellet loading stops and the flue gas extractor speed increases to maximum and then switches off after the cooling of the appliance, displaying **"OFF"**. During this stage the brazier is emptied and cleaned.

Modifying the main room temperature Setting

- To modify the room temperature, simply select *"SET ROOM"* by pressing button 1 (Increase).
- Press keys 1 and 2 (Increase and Decrease) to adjust the value and confirm by pressing key 4 (Set) or 5 (Esc); values between 07°C and 40°C can be set.
- Pressing key 3 (On/Off) or waiting a few seconds without confirming will mean that the set value is not saved.

During this operation, the display will appear as in the following picture:

SET ROOM
(Room temperature for the main room, can be set at values between 07°C and 40°C)

During the working mode, the appliance enters economy mode operation - *"MODULATION"* when that temperature value is reached (See "*Working mode*").

Modifying the power Setting

- To modify the working power you must select *"SET POWER"* by pressing key 2 (Decrease).
- Press keys 1 and 2 (Increase and Decrease) to adjust the value and confirm by pressing key 4 (Set) or 5 (Esc); power values between 1 and 5 can be set.
- Pressing key 3 (On/Off) or waiting a few seconds without confirming will mean that the set value is not saved.

During this operation, the display will appear as in the following picture:

POWER SET
(Working power values between 1 and 5 can be set.)

Modify ducted air speed Set values

- To modify the speed of the ducted air fans (1 or 2 according to the model), select *"SET DUCTING"* by pressing key 5 (Esc).
- Press key 2 (Decrease) to modify the value for the ducted air fan for zone 1 and confirm by pressing key 4 (Set) or 5 (Esc); the value can be set manually from 1 to 5, or set to automatic (A) connected with the value set in *"SET POWER"* (see *"Modifying the power Setting").*
- Press key 1 (Increase) to modify the value for the ducted air fan for zone 2 and confirm by pressing key 4 (Set) or 5 (Esc); the value can be set manually from 1 to 5, or set to automatic (A) connected with the value set in *"SET POWER"* (see *"Modifying the power Setting").*
- Pressing key 3 (On/Off) or waiting a few seconds without confirming will mean that the set value is not saved.

During this operation, the display will appear as in the following picture:

SET DUCTING 2
(Speed of ducted air fan for zone 2)

SET DUCTING 1
(Speed of ducted air fan for zone 1)
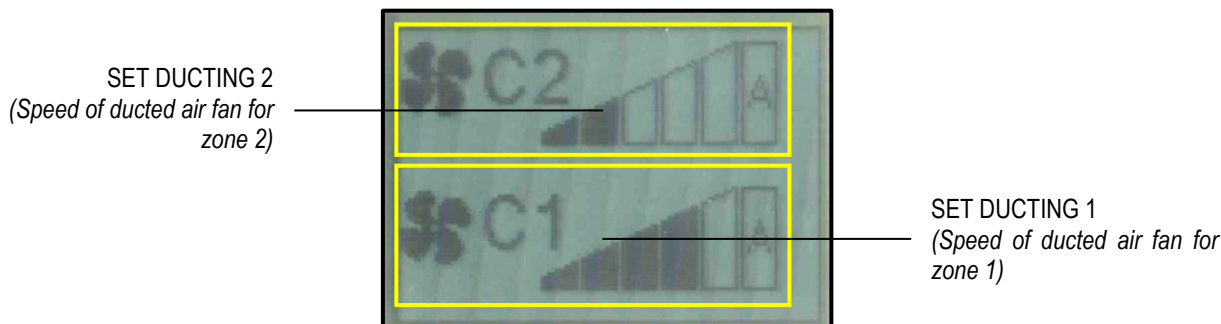
Modifying the temperature Setting for ducted rooms

See the chapter on *"THE MENU"* under the section "**Menu 12 – Set Room. Duc.**".

PROBLEMS, ALARMS, USEFUL ADVICES

Useful info…

Listed below is some important information regarding the appliance:
- It is normal for the appliance to emit a smell of paint during its first few days of operation. We recommend ventilating the installation room during the initial start-up. For the first few days of operation we also recommend that you run the appliance at high power.
- The boiler unit is treated with anti-oxidant paint in order to protect it against oxidation in the event of long periods of inactivity. After initial start-up, this paint no longer preserves its original features and any wear of the paint inside the combustion chamber should not be regarded as a manufacturing fault.
- Do not clean with water inside the combustion chamber; any oxidation of the combustion chamber after a long period of inactivity is not to be considered as a manufacturing fault.
- Any perceived noise during operation may be caused by the expansion settling of the plates that make up the boiler unit. These noises are accentuated especially during ignition and switching off phases of the appliance and are not to be considered a manufacturing fault.
- If ignition fails, empty the pellets out of the brazier; only then should you reignite the appliance.
- Any perceived smoke smell (especially during ignition) is not to be considered a manufacturing fault.
- The appliance works exclusively with wooden pellets; do not burn different fuels.
- The noise level of the appliance is emphasised if the pellet container is empty. Therefore we recommend that you always keep the pellet level to at least half tank.
- If there is soot and fine particulate in the room where the appliance is installed, check the seal on the flue gas pipes and the filter of the ash vacuum device used for cleaning.

What happens if…

…the pellets do not ignite
If the ignition fails, the display will show the alarm message *"IGNITION FAILED"*.
Cancel the alarm and reset the appliance to standard condition by pressing key 3 (On/Off) for a few seconds.
If ignition fails, empty the pellets out of the brazier; only then should you reignite the appliance.

...the fire door is open or not properly closed
If the door is left open or not properly closed, the pellet loading will not start, therefore the appliance will not switch itself on. If the door is opened during normal operation, the appliance switches to *"THERMAL SAFETY"* alarm.

...the pellet container door is open or not properly closed
If the pellet container door is left open or not properly closed, the pellet loading will not start, therefore the appliance will not switch itself on. If the door is opened during normal operation, the appliance switches to *"DEPRESS.-FAILURE"* alarm.

...the flue pipe is dirty, blocked or not correctly installed
If the flue is dirty, blocked or incorrectly manufactured, pellet loading will not start, thus the appliance will not switch itself on. If the flue is obstructed during normal operation, the appliance switches to *"DEPRESS.-FAILURE"* alarm.

…the pellet tank goes in over-temperature

If the pellet container is overheated (>85°C), the pellets will not be loaded because the manual reset thermostat cuts in. If this happens during normal operation, the appliance switches to *"THERMAL SAFETY"* alarm. It is therefore necessary to reset the "*manual reset thermostat*" (see "*Components of the appliance*") before switching the appliance on again. To reset, it is necessary to remove the black cap and press the button below.

...lack of power (blackout)

If a power blackout occurs for a shorter time than Pr48, when power is restored, the appliance will immediately re-start in the working mode (recovering the set working power).

If the outage lasts longer than Pr48, when power is restored, the appliance will enter the *"STAND-BY CLE" (stand-by)* mode running the entire switch-off and cleaning cycle until cooling. When this phase is over, the appliance can be restarted resuming work at the set power.

Previous state	Black-out duration	State after power restore
OFF	any	OFF
CHECK UP	any	CHECK UP
PELLET LOADING	any	BLACK OUT ALARM
FLAME STAND-BY	any	BLACK OUT ALARM
FLAME STAND-BY / PELLET LOADING	any	BLACK OUT ALARM
STABILISATION	Duration < Pr48	STABILISATION
STABILISATION	Duration > Pr48	STAND-BY CLE with automatic re-ignition after machine cooling
WORK (any phase)	Duration < Pr48	WORK (any phase)
WORK (any phase)	Duration > Pr48	STAND-BY CLE with automatic re-ignition after machine cooling
BRAZIER CLEANING	Duration < Pr48	BRAZIER CLEANING
BRAZIER CLEANING	Duration > Pr48	STAND-BY CLE with automatic re-ignition after machine cooling
SWITCHING OFF	any	SWITCHING OFF and after cooling OFF
STAND-BY	any	STAND-BY

Alarm signals

The following table describes the different alarms which may appear.

DISPLAY VISUALISATION	ORIGIN OF ALARM
AL 01 – **BLACK OUT**	Black-out alarm. When power is cut off under determined conditions (see *"What happens if…"*)
AL 02 – **TEMP. F.GAS**	Faulty or disconnected flue gas temperature sensor.
AL 03 – **REG. ENCODER**	This occurs when the speed detected by the flue gas extractor does not correspond with the set speed.
AL 04 – **NO ENCODER**	Flue gas extractor or flue gas extractor encoder faulty. This occurs when the encoder (tachometer) in the extractor detects an extractor speed equal to 0.
AL 05 – **IGNIT. FAILED**	No ignition. This occurs when the minimum temperature in the combustion chamber (Pr13) is not reached within the maximum ignition cycle time (Pr01).
AL 06 – **PELLET CHECK**	Sudden shut-down during the work phase. This occurs when, during the work phase, the temperature in the combustion chamber drops below the minimum threshold (Pr13).
AL 07 – **THERM. SAFETY**	Temperature safety device. This occurs when the safety thermostat (pellet container over temperature) or the fire door open or not correctly closed cuts in. If the safety thermostat cuts in the appliance must be manually rearmed (see "*Components of the appliance*").
AL 08 – **DEPRESS.-FAILURE**	Poor depression. This occurs when the flue gas pressure switch cuts in due to poor draught in the flue pipe or the pellet container door is open.
AL 10 – **SCREW FEED SAFETY**	This occurs when a continuous loading of pellets takes place (the screw feed gear motor does not stop for at least 0.2 seconds during the maximum work interval of 8.0 seconds). Before the alarm is activated a safety relay cuts in and forcibly cuts off the power supply to the gear motor.
AL 11 – **INSUFFICIENT DRAUGHT**	This occurs when the flow of combustion air is less than the set threshold. NOT USED ON THIS PRODUCT.
AL 12 – **CLEANER FAULT**	This occurs when the brazier is not correctly aligned during the cleaning procedure (either during start-up or shut-down).

Every alarm causes the appliance to switch-off immediately. The alarm state is reached after the time set on Pr11 (set as default at 90") and it can be reset by pressing button 3 for a while. In the event of a fault, contact the *Klover Authorised technical assistance centre.*

CLEANING AND MAINTENANCE

Precautions before cleaning

Before carrying out any cleaning or maintenance operations, make sure that:
- the appliance is off and has cooled down completely;
- the ash is completely cold.
- the ash vacuum device used for cleaning is suitable and its filter is in good condition.

Before re-starting the appliance, re-install all previously removed components.

During cleaning operations, use the personal protection devices specified in Directive 89/391/EEC.
The required cleaning frequency depends on the type and quality of the pellets used. The schedule indicated below may therefore vary.
Any problem affecting the appliance caused by lack of cleaning will not be covered by the warranty. The failure of these operations could affect the safety of the product.

Cleaning operations may be carried out by the end user, as indicated in the paragraph below.

Routine cleaning

The ordinary cleaning of the appliance must be done at least every 30 hours of operation or after 6–8 ignition cycles, so as to always guarantee efficient performance and optimal operation. Proceed as illustrated below:
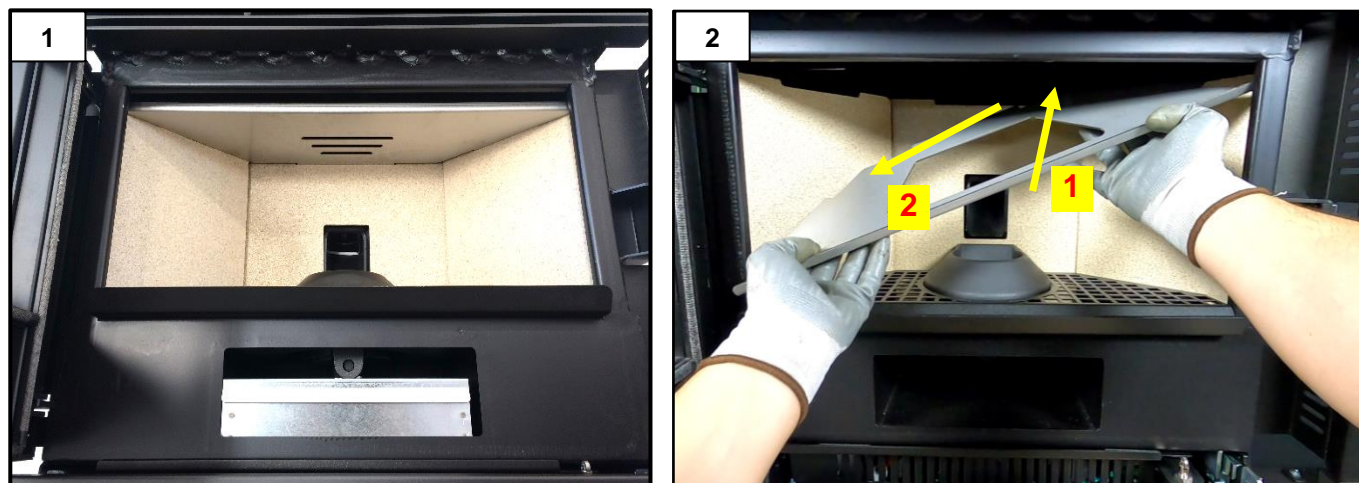
Remove the flame separator as shown in the picture (Fig. 1 and 2).

Use the appropriate *cleaning hook for the front scraper* to pull out the two front rods and then move them forward and backwards to clean off combustion residues from the air exchanger (Fig. 3).

Remove the brazier covering ring (Fig. 4) and remove the combustion residues from the brazier (Fig. 5).

Remove the grille (Fig. 6) and suck up the ash deposited on the sides of the brazier (Fig. 7).

Empty the ash box (Fig. 8).

WARNING: use suitable ash vacuum devices equipped with a fine-mesh filter in order to prevent ash from being blown into the room and damages to the vacuum cleaner. We do not recommend the use of normal vacuum cleaners.

Non-routine cleaning

Non-routine cleaning of the appliance must be done at least every 30 days so as to always guarantee its efficient performance and optimal operation. Proceed as illustrated below:

Perform routine cleaning;
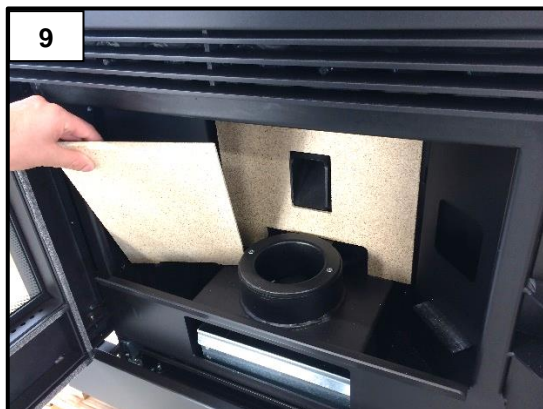
After removing the flame separator and the grille, dismantle the vermiculite panels (Fig. 9).
Brush and vacuum the right and left rear smoke ducts (Fig. 10).
Remount the vermiculite panels, grille and flame separator.

WARNING: handle the vermiculite panels very carefully as they do not withstand impacts.


Fully loosen the two front locking knobs (right and left) and extract the insert (Fig. 11).
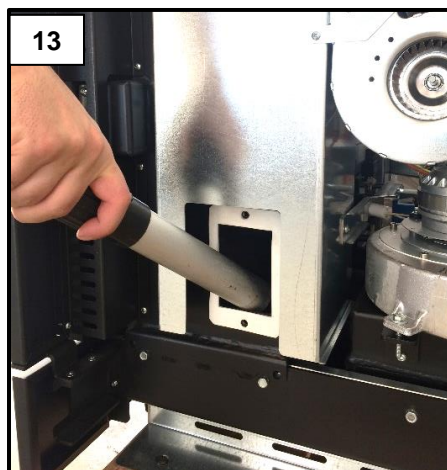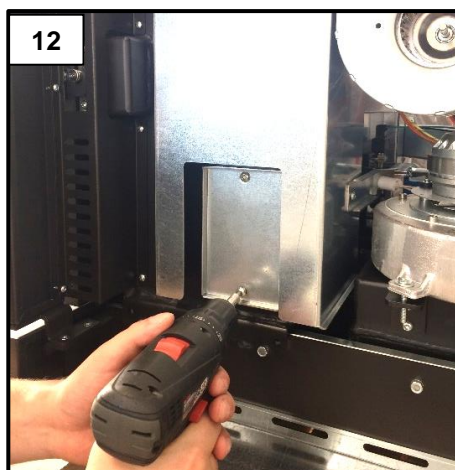
Remove the plate covering the right-hand smoke circuit inspection port (Fig. 12) and suck up the combustion residues deposited inside (Fig. 13).
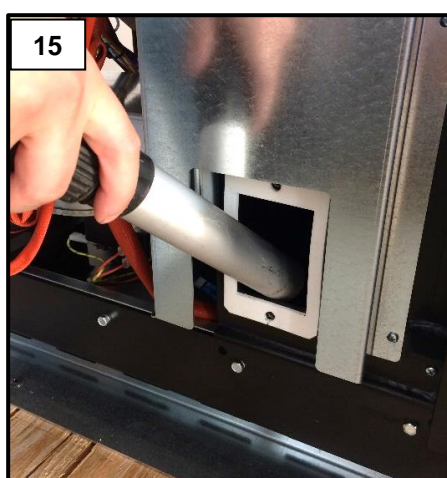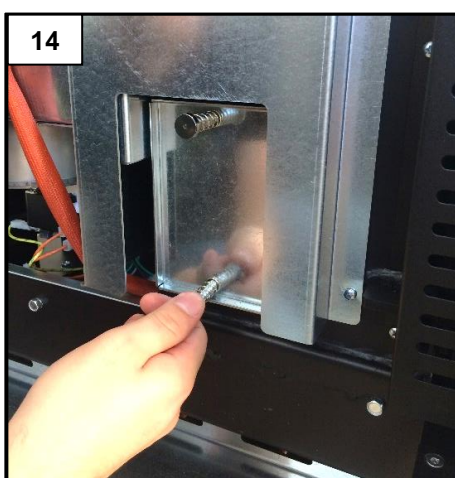
Dismantle the right-hand smoke circuit inspection valve (Fig. 14) and suck up the combustion residues deposited inside (Fig. 15). Remount the two previously removed elements and check the tightness of the underlying seals.
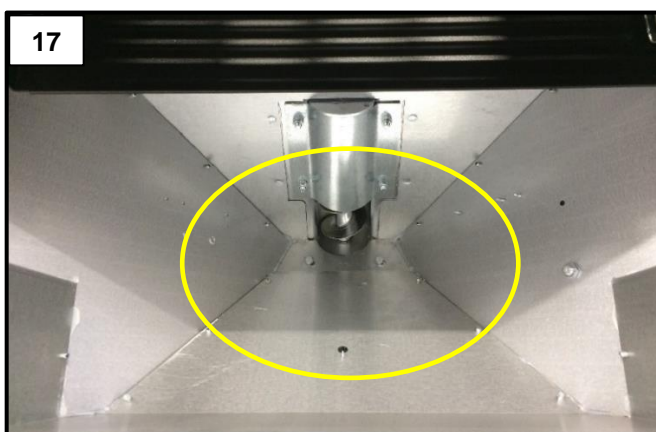

Suck up the combustion residues deposited inside the smoke pipe connection point (Figure 16).

After completing the cleaning phases explained above, the insert should be pushed and reattached, making sure that the seals adhere full to the stop point. Screw on the two front locking knobs.

To ensure correct operation, it is necessary to remove the sawdust deposited on the base of the tank (Figure 17) at least once every 30 days. **<u>The pellet tank must be emptied at the end of every season.</u>**

Cleaning the vermiculite components

The vermiculite panels do not require any special maintenance. If necessary, they must be dusted gently using a brush only. To avoid jeopardising their durability, they <u>must not</u> be cleaned using abrasive sponges, wet cloths or the tube of the ash vacuum device placed directly in contact with it.
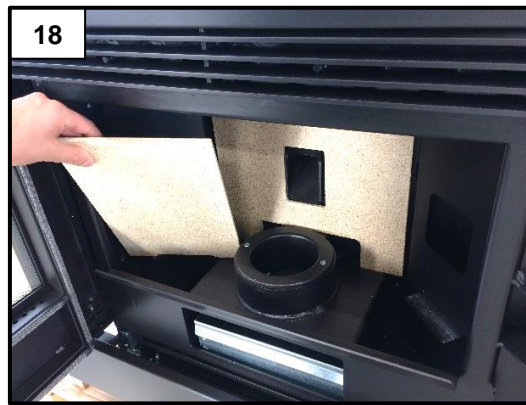
To remove the vermiculite components, first remove the side panels and then the rear panel (Fig. 18).
WARNING: handle the vermiculite panels very carefully as they do not withstand impacts.

Cleaning the ceramic glass

Always clean the glass when the appliance is off and has cooled down completely. Use a damp cloth or a detergent specifically formulated for ceramic glass. Do not use abrasive sponges. Do not clean the glass if still warm; changes in temperature can lead to breakage.

Cleaning the flue

The flue must be cleaned at least once a year, at the beginning of winter, and whenever it becomes necessary.
It is 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 its components may be compromised.

The cleaning frequency of the appliance and flue depends on the quality of the pellets used.

USE TOP QUALITY PELLETS TO OBTAIN THE BEST RESULTS.

Maintenance

Timely and systematic maintenance is essential for guaranteeing correct operation, optimal heat performance and durability of the device. Therefore, qualified staff should check the appliance at least once a year at the beginning of the season.

You must periodically check the seals because the latter guarantee the air- and water-tightness of the appliance and its good functioning; if they are worn or damaged you need to be replace them immediately by contacting a *Klover Authorised technical assistance centre.*

For proper operation, the appliance must undergo routine maintenance performed by a Klover *Authorised technical assistance centre* at least once a year.

STANDARD WARRANTY CONDITIONS

1. General information
This standard warranty ("**Klover Warranty**") is issued by Klover Srl, San Bonifacio, Via A. Volta no. 8, for the products shown on the website www.klover.it (the "**Products**"). The Klover Warranty does not affect the rights provided for by European directive 99/44/EC or by Italian legislative decree no. 206/2005 "Consumer Code", where applicable.
The Klover Warranty is limited to Italy. Klover Srl invites Consumers not based in Italy to contact the dealer from which they bought the Product, to obtain the current warranty conditions.

2. Activation of Warranty
The Klover Warranty must be activated, within 60 days from the date of purchase, on the website www.klover.it in the section *"Register your warranty"*. The requested details should be completed, and a delivery note or other fiscal proof of purchase (e.g. receipt) should be attached.
Alternatively, the warranty certificate, which can be found in each Product pack (the "**Warranty Certificate**") must be sent to Klover Srl, within the same period of 60 days from the date of purchase, by following the instructions on the certificate. When registering or sending the guarantee, please ensure that the customer copy of the Warranty Certificate is retained. It must be duly completed and signed by the Consumer and by the installer, together with the delivery note or other form of proof of purchase, in order for the Klover Warranty to be valid.

3. Two-year Klover Warranty
The Klover Warranty covers the free repair of the Product all parts of the Product that are found to be defective at origin, due to defects confirmed by Klover Srl to be exclusively attributable to the manufacturer. If it is not possible to repair the Product in any way, it will be replaced. In both cases, there will be no change to the expiry or terms of the warranty provided when the Product was purchased.
The Klover Warranty offers all the advantages of a service guaranteed directly by Klover Srl through its network of authorised service centres (Centri di Assistenza Tecnica or "**C.A.T.**") in Italy. The list can be found on the website www.klover.it.
The Klover Warranty will remain in effect for a period of 2 years from the date of purchase, if proven by a delivery note or other proof of purchase (e.g. receipt), stating the name of the seller, the product that was bought, and the date of purchase.
Product components replaced by an authorised dealer at the Consumer's expense as they were "out of warranty" after expiry of the two-year period will be guaranteed by Klover Srl for one year from the date of replacement, excluding costs of intervention, labour and ancillary costs.

4. Five-year Klover Warranty
If the First Switch-on service is provided by an authorised dealer within 3 months from the date of purchase, the Consumer will be entitled to the Warranty on the main "boiler unit" for a period of 5 years from the date of purchase.
The cost of the First Switch-on service is paid by the Consumer.
This Klover Warranty is valid on condition that the seasonal maintenance is performed by the local service centre as indicated in the user manual (for example, Safe Top boiler units require annual use of the Long Life protection).
The First Switch-on Report, duly completed and signed, must be kept carefully to ensure that the Klover Warranty remains operational.

5. Complaints and Assistance
As provided for by Legislative Decree 24/2002, complaints should be sent to the retailer through whom the Product was bought.
Once the retailer has checked that the Klover Warranty is in force and has not been invalidated, they will contact the local service centre to agree the terms of intervention to verify and eliminate the reported fault. If the Consumer contacts the service centre directly, the service centre must immediately inform the retailer from whom the Product was bought.
If, while inspecting the Product, the service centre finds that the reported defect is not one of the defects covered by the Warranty, the call-out and any works completed, will be paid by the Consumer.
In order to improve the service and reduce intervention time, Consumers are asked to provide the details of the Product they are calling about. In particular, the following information should be provided: • Warranty Certificate number • the name, model and serial number of the Product • the date of purchase • the reported defect.

Klover Srl will not be liable for any delays in carrying out repairs or replacements of the Product.

6. Disclaimer
Klover Products must undergo functional testing before any related masonry works are carried out (for example before tiling, installation of pilasters, or painting of the walls). Klover Srl is not liable for any costs incurred as a result of removal and/or reconstruction of related installations, or for any other ancillary intervention even if it is the result of works to replace defective parts.
Klover Srl is not liable for any faults in the Product that may be attributable to external conditions and/or events, including but not limited to insufficient installation capacity, mis-installation, lack of maintenance for maintenance not carried out in accordance with the instructions in the user manual, or misuse of the Product. The cost of any works will be paid by the Consumer in such cases.
Klover Srl declines all liability in respect of any loss or damage that may be caused directly or indirectly to the Consumer and/or to a third party or to persons, animals or property as a result of failure to comply with all the relevant instructions concerning installation, use and maintenance of the Product. The injured party must prove the loss or damage, the defect, and the causal connection, and must the retailer from which the Product was bought, in accordance with Legislative Decree 24/2002.

7. Exclusions from Klover Warranty
The Klover Warranty does not include:
• Defects in the Product that are not attributable to manufacturing defects • Defects in the products related to mis-installation or inappropriate installation • Defects related to improper functioning of the chimney flue • Defects in the Product caused by negligence, accidental breakage, normal wear and tear, tampering and/or damage during transport (scratches, dents etc.), including shipments sent free to destination, works carried out by unauthorised personnel, and additional damage caused by inappropriate intervention by the Consumer • Calibration of settings • Damage caused by the use of expired or inappropriate fuel • Transport costs.

The Klover Warranty excludes the following Product components:
• Ceramic or tempered glass, ceramic/majolica tiling and/or lacquered steel and/or cast iron. Changes in colour shades, speckling, superficial cracking, shading and minor dimensional variations are not considered Product defects, but are characteristics of the artisanal manufacturing process • Painted, chromed or gilded details, handles, dials • All the external components of the Product on which the Consumer may intervene directly during use and/or maintenance, or which may be subject to wear and tear and/or the formation of rust, or blemishes on the steel caused by harsh detergents, in particular the use of wood at a rate that exceeds the recommended hourly capacity, or the use of fuels that were not recommended or were not included in the instructions • Refractory materials or vermiculite • The pellet brazier, grille and cast iron cooking plate, the smoke deflector or flame guard, the seals, fuses or batteries in the Product's electronic components and any other removable component that may be subject to normal wear and tear • Electrical and electronic parts found to be faulty as a result of non-standard electrical connections, natural disasters or voltage variations other than the nominal variation.

8. Forum
The Court of Verona will have sole jurisdiction in the event of a dispute.