Ravelli®
il fuoco intelligente

USER MANUAL
HANDHELD TOUCH RADIO

TOUCH
display

Stove model:
Stove serial number:
Date of installation:
Support reference data:
Telephone number:

CONTENTS

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Introduction

Warning:
We recommend you carefully read this booklet, which describes all the necessary phases for perfect functioning of your stove.

Note:
The standards relevant to the installation and functioning contained in this manual can differ based on local standards in force. In this case, always comply with the indications of the local competent authorities. The drawings in this manual are indicative, not to scale.

Information:
The packaging we have used offers good protection against any damage due to transport. In any case, check the stove immediately after delivery; in the event of possible visual damage, immediately inform your Ravelli srl dealer.

Description of the User and Maintenance Manual:
With this User and Maintenance Manual, the company Ravelli srl wishes to provide the user with all the information on safe use of the stove, to avoid damage to people or property or parts of the stove.

Please carefully read this manual before use and any intervention on the product.

Warnings:
Ravelli srl stoves are manufactured while paying particular attention to each component, to protect both the user and the installer from the danger of possible accidents. We recommend authorised staff pay particular attention to electrical connections after each intervention on the product.

Installation must be carried out by authorised staff, who must issue the customer with a declaration of conformity for the system, while taking full responsibility for final installation and the resulting good functioning of the product installed. It is necessary to keep in consideration all national, regional, provincial and municipal laws and standards for the country in which the equipment is installed. There is no liability on the part of Ravelli S.R.L. in the event of non-compliance with these precautions.

This user's manual forms an integral part of the product: ensure that it is always with the stove, also in the case of transfer to another owner or use or transfer to another location. In the event it is damaged or lost, ask technical support for a copy.

This stove is intended exclusively for the use for which it was specifically manufactured. Do not use the equipment as an incinerator or in any other way other than for what it was intended. The manufacturer is excluded from any contractual or out of contract responsibility for damage caused to people, animals or property, errors during installation, regulation and maintenance and improper use. No other fuel other than pellets can be used. Do not use combustible liquids.
Having removed the packaging, ensure the integrity and completeness of the content.

All the electrical components forming the stove should be replaced exclusively by an authorised technical support centre using original pieces. **Stove maintenance must be carried out at least once a year and scheduled in advance with the technical support service.**
Do not carry out any unauthorised changes to the equipment.

For safety purposes, remember:
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience
and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. The children should be supervised to make sure they do not play with the device.
- contact with the stove is not recommended if you are in your bare feet or with parts of your body wet;
- it is forbidden to change the safety or regulation devices without the authorisation or without the instruction of Ravelli srl.
- it is prohibited appliance installation in small rooms, bedrooms, rooms with explosive atmospheres etc..
- we do not recommend loading pellets directly into the brazier before switching on the stove;
- before connecting the appliance make sure the water mains pressure is below 3 bars;
- the appliance works exclusively on wooden pellets; do not use the stove with other type of fuel.

The technician carrying out the installation must inform the user that:
1. In the event of water leakage, close the water supply and promptly inform the technical support service.
2. The operating pressure of the system must be periodically checked. Should the stove be inactive for prolonged periods:
we recommend you contact the technical support service to carry out the following operations:
- turn off taps on the heating and sanitary systems;
- empty the heating and sanitary system if there is a risk of freezing.
When the stove is functioning, it can reach very hot to touch temperatures, especially on the external surfaces: operate with care to avoid burns.

The stove was designed to function in any climatic condition; in the event of particularly adverse conditions (wind, frost) the safety systems could intervene and switch off the stove.
If this occurs, urgently contact the technical support service and, in any case, doe not disable the safety systems.

Safety information

The stove must be installed and inspected by specialist staff trained by head office. Please carefully read this user and maintenance manual before installing and operating the stove. If you require further clarification, contact your nearest Ravelli srl dealer.
The stove must be located indoors, never outdoors. Because it is controlled by an electronic board, it enables completely automatic and uncontrolled combustion: in fact, the control panel regulates activation, the 5 power levels
and switch off phase, guaranteeing safe functioning.
Most of the hot ash falls into a pan via the basket used for pellet combustion. Check
check, on a daily basis, if the basket is clean, because not all pellets are of the highest quality and they can leave residues which are difficult to remove.
The glass is equipped with a special air wash for self-cleaning: yet, it is impossible to avoid a slight yellowish film on the glass after some hours of functioning.
As already mentioned previously, the stove should be powered with pellets with diameter of 6 mm, but it can also operate with pellets with different diameter: in this case, contact your Ravelli dealer for technical advice.

NOTE

- Prepare the installation location of the stove according to local, national and European regulations.
- The stove must only be powered using high quality pellets with a diameter of 6 mm as described in the dedicated chapter.
  The stove cannot burn traditional wood.
  It is forbidden to use the stove as an incinerator. DANGER OF FIRE!!!
- **Installation, electrical connection, verification of functioning and maintenance must be carried out by qualified and authorised staff.**
- **Improper installation or poor maintenance (non-conformity with what is reported in the following booklet) may cause damage to people or property. In this condition, RAVELLI SRL is released from all civil or criminal liability.**
- Before connecting the stove to electrical power, the connection of the discharge tubes (specifically for pellet stoves, not in aluminium) with the flue must be complete.
- The protection grid placed inside the pellet tank must never be removed.
- There must be a sufficient exchange of air in the room in which the stove is installed.
- Never open the door of the stove when functioning. **DANGER OF FIRE!!!**
- **It is forbidden to operate the stove with the door open or with the glass broken. DANGER OF FIRE!!!**
- When the stove is working, the surfaces, the glass, the handle and the tubes are very hot: during functioning these parts can only be touched using adequate protective equipment.
- **Do not switch on the stove without firstly carrying out a daily inspection as described in the MAINTENANCE chapter of this manual.**
- **Do not dry washing on the stove. Any washing lines or similar must be kept an appropriate distance from the stove. DANGER OF FIRE!!!**
- Scrupulously follow the maintenance schedule.
- Do not switch off the stove by disconnecting the electrical mains.
- Do not clean the stove until the structure and ash are completely cold.
- Carry out all operations in a completely safe and calm manner.

Responsibilities
By handing over to the end user this manual, Ravelli srl denies all liability, both civil and criminal, for accidents arising from non-compliance with instructions contained in it.
Ravelli srl denies all liability deriving from improper use of the stove, from incorrect use by the user, from unauthorised changes and/or repairs and from use of non-original spare parts.
The manufacturer declines all direct and indirect civil and criminal liability due to:

- poor maintenance
- non-compliance with the instructions contained in this manual
- use not complying with safety directives
- installation not complying with the standards in force in the country
- installation by unqualified and untrained staff
- changes and repairs unauthorised by the manufacturer
- use of non-original spare parts
- exceptional events

Spare parts
Exclusively use original spare parts. Do not wait for the components to deteriorate before replacing them. Replace a worn component before it is completely broken to prevent any accidents due to sudden breakage of the components. Carry out periodic maintenance controls as described in the dedicated chapter

General information

What are wood pellets?
Pellets are composed of woodchip and sawdust produced in joineries. The material used cannot contain any foreign substances such as glue, lacquer or synthetic substances.
The wood is pressed using a perforated matrix: due to the high pressure the sawdust heats to activate the natural binders in the wood; in this way, the pellet maintains its shape, also without adding artificial substances. The density of the wood pellets varies based on the type of wood and can exceed 1.5 - 2 times that of natural wood.
The cylindrical sticks have a diameter of 4 - 10 mm. and a variable width between 10 and 30 mm.

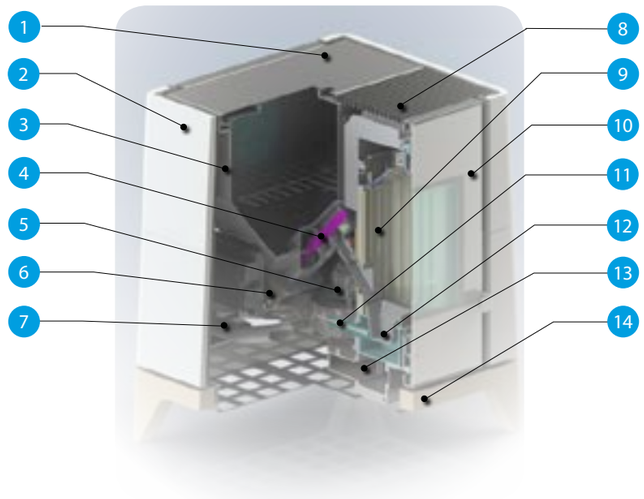
Length	:	approx. 10 - 30 mm
Diameter	:	approx. 4 - 10 mm
Real weight	:	approx. 650 Kg/m³
Heat power	:	approx. 4.9 kWh/Kg
Residual humidity	:	approx. 6 - 12 %
Ash	:	<1.5%
Specific weight	:	>1.0 Kg/dm³

Pellets must be transported and stored in dry places. On contact with humidity they swell, becoming unusable: therefore it is necessary to protect them from humidity both during transport and storage.
Ravelli srl recommends a pellet with a diameter equal to 6 mm. **If you wish to use a pellet type with a different diameter contact the support centre to carry out the due regulations on the stove.**

Excerpt from the DIN PLUS standard:
This standard requires that the pellet is produced with starting material "virgin wood" free of contaminants (glues, paints, preserva -tives). Manufacturing, however, alloews the use of vegetable non-chemically modified thermal agglutinating agents such as wheat flour, rye or starch, which cannot however exceed 2% of the product.

The pellets can be light or dark, usually packed in bags bearing the manufacturer's name, the main features and the marking of DIN Plus standard.

How is a stove made?



1	Pellet tank cover
2	Design coating
3	Pellet tank
4	Pelelt infeed screw
5	Smoke extractor
6	Pellet gear motor
7	Air intake duct with flow meter
8	Hot air output grid
9	Vermiculite
10	Front door
11	Ignition resistance
12	Cast iron brazier
13	Fume duct
14	Stove base
15	Air intake duct with flow meter

Combustion

Combustion is nothing more than a chemical reaction in which two agents, called the fuel and the oxidizing agent, combine to produce a new substance. A considerable amount of heat is also produced from this reaction (concept of pellet stove functioning).
To facilitate the aforementioned expression, we can take into consideration this practical diagram called the "combustion triangle"; it consists of three elements which are necessary to produce a combustion reaction. These three elements are:

- fuel (pellets)
- oxidizing agent (oxygen in air)
- trigger (electrical resistor on switch on)

The fuel and the oxidizing agent must be in adequate proportions because combustion is restricted to the so-called "inflammability field". The reaction between the fuel and the oxidizing agent is not spontaneous, but occurs using an external trigger. The trigger can be represented for example by a heat source or a spark. The trigger represents the ignition energy necessary for the reagent molecules to start the reaction and must be provided externally (electrical resistor on switch on). Then, the energy released by the reaction makes self-sustainment possible.
Three types of combustion are reported below, the correct one is reported in Figure 3:

Fig. 1

INCORRECT combustion, flame too drawn, in "blowtorch" style with a high quality of incandescent pellets coming out of the grate. Correct the pellet/air set by reducing the percentage of air (from 0 to -5); if not sufficient, also increase the percentage of falling pellets (from 0 to +5) to arrive to the condition in Figure 3.
If the changes made to the settings do not bring the stove to the right combustion conditions in Figure 3, contact the Technical Support Centre.

Fig. 2

INCORRECT combustion, "spring" flame in "wood stove" style with high quantity of pellets not burning on the grate. Firstly, check the door is closed and the ash pan. Secondly, correct the pellet/air set by increasing the percentage of air (from 0 to +5); if not sufficient, also reduce the percentage of falling pellets (from 0 to -5) to arrive to the condition in Figure 3.
If the changes made to the settings do not bring the stove to the right combustion conditions in Figure 3, contact the Technical Support Centre.

Fig. 3

CORRECT combustion, lively yellow/white flame with a minimum quantity of pellets on the grate.
Ideal combustion which does not require changes.

Figure 3 shows a flame produced by a stove with functioning power set on the maximum value 5.

Safety devices
The stove is equipped with sophisticated safety systems, which avoid damage to the stove and/or the home in the event of breakage of a single piece or faults on the flue. In any case, if an anomaly occurs, the pellets are immediately stopped from falling and the switch off phase activates.
The corresponding alarm is shown on the display. It is possible to see the details in the chapter dedicated to alarms.

Technical standards and Directives

All Ravelli srl products are manufactured according to the directives:

- ***89/106 CEE*** manufacturing materials
- ***73/23 CEE*** electrical safety
- ***2006/42/ CEE*** machines
- ***2004/108 CEE*** Electromagnetic Compatibility

And according to the standards:

- ***EN 14785***
- ***EN 60335.1 EN 50165***
- ***EN 292 EN 294 EN 349***
- ***EN 55014.1 EN 61000-3-2 EN 61000-3-3***
- ***EN 55014.2***

Stove installation

Advice for installation
Because of the frequent accidents caused by the malfunctioning of the flues in residential buildings, this chapter has been draftet in collaboration with Assocosma (association of stove/sweepping technicians and specialists of the field) in order to facilitate the installer to build a system able to evacuate fumes in accordance with the regulations in force.

- Marking standard Directive CE 89/106 D.P.R. 246 regarding the exclusive use of CE certified material;
- UNI 10683/2012 for the installation of a biomass fire box;
- UNI/TS 11278 regarding the selection of material (only for pellet stoves different than V2)
- UNI 10845:2000 (standard regarding gas use regulations) for piping and the relative check of skylight well (material used, wear condition, etc.) and safety distances to be observed from flammable materials;
- UNI 10847:2000 Flue systems for individual generators powered by liquid and solid fuels - Maintenance and Control - Guidelines and Procedures
- UNI 7129/08 (standards regarding depressurized chimneys, excerpt from gas-related regulations) regarding the type, height and positioning of the chimney cap;
- UNI/EN 1443 regarding the installation with the minimum essential chimney requirements met (followed by the compilation of fume dataplate to be affixed to the same).

Approved installations
Fireplaces, stoves and barbecues cannot be installed in areas in which are present and functioning equipment fueled by liquid and gas type A and type B (for classification see UNI 10642 and UNI 7129).
It is forbidden to install the stove in rooms used for cooking, if there are:
- collective type ventilation ducts;
- blowers/vacuums connected to the outside and/or equipment that can depressurize the room. It is forbidden:
to install the stove in rooms at risk of fire such as garages and garages, bedrooms (only watertight installation) or studios (unless installed in a hermetically sealed combustion chamber).

EXCERPT OF STANDARD UNI/EN 1443

System compatibility check
Compatibility check of the system should be carried out before any installation or commissioning intervention.
The adjacent, side and rear walls and the supporting surface must be made of non-combustible and non sensitive to heat material.
The stove can be installed next to flammable materials or materials sensitive to heat as long as the required safety conditions are met by interposing an insulating and non-flammable material; this operation is provided in the instructions supplied by the manufacturer. When the installation instructions are not available, the installer will have to secure the appliance and shall be liable for its commis-sioning.
Before installation you should check the position of the stove, flue or exhaust terminal devices to make sure the following are complied with:
- Installation restrictions
- Legal distances
- Limitations provided by local administrative regulations or specific provisions of the local bodies.
- Conventional limitations imposed by the residence regulations, easement or contracts.

After surveying the installation place, the installer should check the following: - the type of appliance;
- the compatitbility of the installation place with the appliance in terms of minimum installation volume indicated by the
- the instructions of the manufacturer of the heat generator regarding the requirements of the fume exhaust system for the deactivation of the heat generator;
- the internal cross section of the fume duct, the composing materials, the evenness of the cross section, the absence of obstructions;
- height and length on vertical plane of the chimney;
- the existence and compliance of chimney terminal;
- the possibility to fit external air vents and the dimensions of existing vents.

The complete flue exhaust system must be supplied and installed in compliance with the regulations issued by the standardization bodies and should be installed according to state-of-the-art standards.

Air vent:
It is used to fuel the fire box and input air into the room; it should be fitted directly from the outside (not through other rooms, garage etc.; its cross section should be equal or 1/4 higher than chimney section by minimum 80 sq.cm for stoves and thermo-stoves (UNI1475) and 100 sq. cm for boilers (UNI303-5).
Manufacturer's and designer's instructions should be however complied with at all times. Also check that the drilling position of the wall allows the intake of fresh air, making sure that no harmful exhausts fumes return into the room (radon gas, ect.).

Fume duct and fittings:
For heat generating devices equipped with an electric fume exhaust fan you must follow the installation instructions of the manufacturer regarding the maximum length and number of bends of the exhaust ducts.
In case the maximum values are not available , you should follow the provisions below:
- Horizontal sections should have a minimum slope of 3% upwards (45° bends are recommended)
- The length of the horizontal section should be minimum and its plan projection should not exceed 3 metres
- The number of direction changes including the one required to use the T fitting and insert the chimney should not be higher than 3.
- This section should have constant diameter and equal at fire box outlet up to the fitting into the flue.
- It is forbidden to use flexible metal and cement fibre tubes and pressurization should be ensured at all times

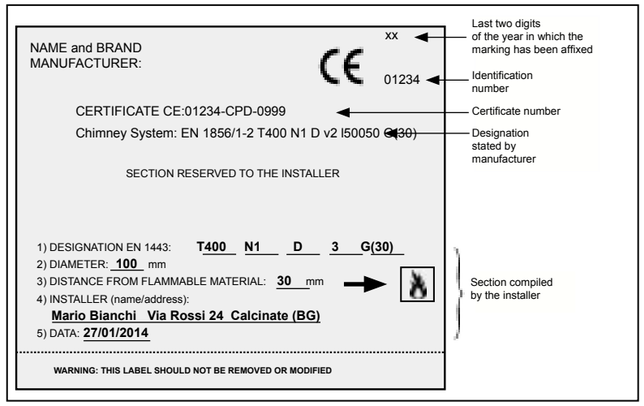
In any case, the fume ducts should be sealed and protected against combustion products or condenstae as well as insulated if passing outside the installation room.
It is not allowed to mount manually regulated draught devices onto appliances with forced draught.

Flue:
- It should be made of suitable materials to ensure resistance to normal mechanical and chemical stress,

and should be properly insulated to prevent condensate; therefore, it should be provided with thermal insulation (product standard for flue UNI 1856 |1|2 and standard for materials used UNI/TS 11278).
- Be free of narrowing throughout its length;
- Be properly spaced by means of air gaps and insulated with non flammable materials.
- Maximum bends allowed are at 45°.
- the flue installed inside the house should be insulated and can be inserted into a chimney terminal as long as the piping standards are being complied with (UNI 10845).
- The fume duct should be connected to the chimney by means of a T fitting with a collection chamber fitted with inspection glass to check the combustion residues and condensate collection.

Flue dataplate:
Supplied with the chimney, it identifies:
- The manufacturer;
- The CE marking;
- designation of the product as per standard UNI 1856(xx)

There is also a part to be completed by the installer which certifies the suitability of the chimney to the product (stove) installed,



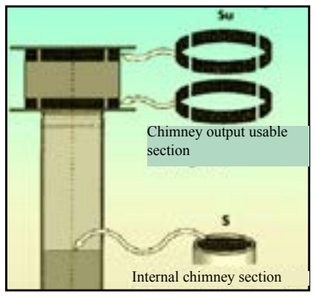
LEGEND:

T: Indicates the temperature class (T80 - T200 - etc.);
N/P/H: Indicates the protection class (N-->negative - P--> Positive - H-->High pressure; "x"--> indicates the loss allowed whereas 1 is the most restrictive);
D/W: It indicates the condenstae resistance class (D-->for dry use - W-->for wet use);
V: Corrosion resistance class (V1-->gaseous fuels; V2-->liquid fuels; V3-->solid fuels; Vm--> test not performed);
LX/X: Indicates the type of material used and the thickness in hundredths of millimetres (i.e.: L50050 indicates L50-->Stainless Steel AISI 316 and 050-->thickness 0.5mm);
G/O: Indicates the fire resistance class of unburnt products (G-->YES; O-->NO) and the value between brackets indicates the distance from flammable materials.

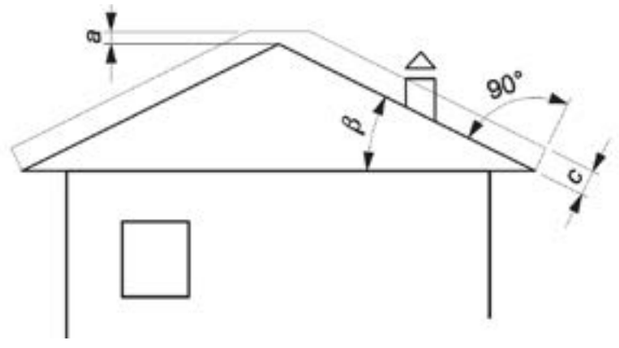
Therefore, the dataplate to be compiled following the requests for a pellet stove shall be:

DESIGNATION EN 1443: **T400 N1 D 3 G(xx)**

Chimney cap ***(UNI 7129/08)*****:**
- Fume exhaust cross section should be twice the diameter of the chimney;
- Have a structure suitable to prevent water or snow from entering;
- Be built so that in the presence of wind it still ensures fume exhaust (wind-proof chimney cap)
- Function always as a static suction system facilitating fume dispersion
- the release quota is measured between the lower covering layer and the lower point of the fume release into environment, ouside the reflux area to prevent counter-pressures;
- Be built at safe distance from antennas or parabolic antennas never be used as a support;

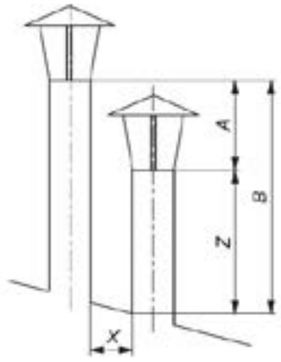


Safe distances for proper installation of chimney terminal:



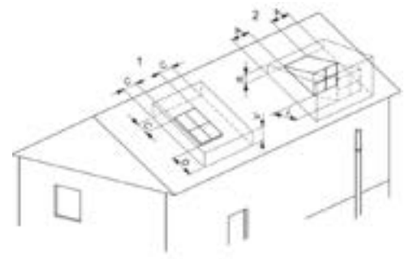
Symbol	Description	Clearance (mm)
c	Distance measured at 90° from roof surface	1 300
a	Height above roof ridge	500

The flue system of the pellet stoves operate with negative pressure (see LH of the roof) the part marked with gray is the reflu area and the chimney terminal should therefore release the fume above these area.

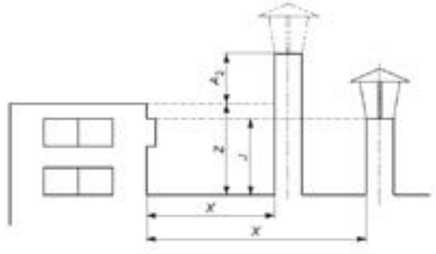


Symbol	Description (mm)	Outlet area (mm)
Z	Height measured in vertical plane	(See figure 8)
B	X ≤ 500	Z + A
A	Height above the obstacle	200

Symbol		Description	Clearance (mm)
Dormer window (2)	A	Sideways distance from the dormer window	1 500
	B	Height above the dormer window ridge	1 000
	L	Front distance from the dormer window	3 000
Skylight (1)	C	Distance from the top or side row of openings or windows	1 000
	D	Distance from the smaller row of openings or windows	3 000
	V	Height above openings or windows	1 000



IT IS FORBIDDEN TO DISCHARGE FLUES THROUGH A DIRECT SYSTEM OR ANY OTHER DRAIN SYSTEM NOT PROVIDED BY THE STANDARDS MENTIONED ABOVE



Distance (mm)	Outlet height
$X \leq 2\,000$	$Z + A_2$
$X > 2\,000$	B

The symbol Z represents the height (mm) of the obstacle or technical compartment; with regard to heights A2 and B, check the layout 10.

Distances depending on the distance of the terminal from the obstruction without openings (roof with slope β ≤ at 10° (17.6%)).

Distance (mm)	Outlet height
$X \leq 3\,000$	$Z + A_2$
$X > 3\,000$	B

The symbol Z represents the height (mm) of the obstacle or technical compartment; with regard to heights A2 and B, check the layout 10.

Distances depending on the distance of the terminal from the obstruction without openings (roof with slope β ≤ of 10°

Symbol	Description	Clearance (mm)
A_2	Height above the virtual layer stretched between buildings or obstacles or adjacent technical compartments in the absence of openings/windows	500
$B^{*)}$	Height above flat roofs or close walls	1 000

*) If the terrace or flat roof is walkable, you should observe the relative distances to the floor, laid down in layout 8

Release quotas depend on the distance of chimney terminal free of openings.

Distance (mm)	Outlet height
$X \leq 5\,000$	$Z + A_2$
$5\,000 < X \leq 10\,000$	J

The symbol Z represents the height (mm) of the obstacle or technical compartment; with regard to heights A2 and B, check the layout 10.

Release quotas depend on the distance of chimney terminal of opening obstacle.

Symbol	Description	Clearance (mm)
A_2	Height above the virtual layer stretched between buildings or obstacles or adjacent technical compartments in the absence of openings/windows	1 000

Release quotas depend on the distance of chimney terminal of opening obstacle.

Testing and commissioning

Stove commissioning must be preceded by a test that involves the verification of the operation of the following elements:
- the suitability of the fumes exhaust system;
- connection to external air vents, if any;
- electric and hydraulic connections;
- check that all the materials that make up the smoke duct, flue, chimney terminal are suitable for use and compliant with standards (fume exhaust of a stove with solid fuel).

For heat generating devices powered by mechanical systems testing must be done according to manufacturer's instructions.

The test is considered successfull when all operation phases are completed without encountering anomalies.

Additional documentation and informations for the user
Upon installation completion, the installer should hand over to the user: - the user's manual of the appliance supplied by the manufacturer;
- the technical documentation of the accessories used and subject to maintenance;

- the documentation of the flue exhaust system;
-The system booklet (where applicable);
- the documentation that certifies installation completion;

The documentation required to cover installer's liability comprises:
- detailed description (including photos) of other heat generators present;
- declaration of conformity of the state-of-the-art system (D.M. 37/08);
- description of overall dimentions, layout or photos regarding the modifications brought to the layout in case it was necessary to intervene during installation;
- The use of certified material with CE marking (89/106 D.P.R. 246);
- any information regarding the warranty;

Maintenance frequency
Maintenance should be carried out periodically, as shown in the table below, and in the manner prescribed by standards and performed by qualified personnel; upon completion a regular intervention report should be issued.

The installer should ask for the receipt of delivered documentation and preserve it together with the technical documentation regarding the installation performed.

Type of appliance installed	< 15kW	(15 - 35) kW
Pellet appliance	1 year	1 year
Open firebox appliance	4 years	4 years
Close firebox appliance	2 years	2 years
Water-operated appliances (fireplace, stoves, cookers)	1 year	1 year
Boilers	1 year	1 year
Fume exhaust system	4 t of fuel used 4 t of fuel used	4 t of fuel used 4 t of fuel used

REFERENCE KEY OF SYSTEM DECLARATION OF CONFORMITY

1. Like in the case of gas plants, by "other" we may mean the replacement of a device installed in a fixed manner .

2. Indicate: name, surname, qualification and (when there is an obligation as per Art.5, paragraph 2) registration data to the relative Professional association of the technician that drafted the project.

3. Specify the technical standards and regulations in force, classifying them per design, execution and inspection.

4. Should the system executed according to the design be modified during work, the project submitted at the end of the works should include the versions made. The project also includes the fire prevention protocol (where applicable).

5. For products subject to standards, the report should contain a complete statement of compliance to the same, where applicable, with reference to marking, test certificates etc. issued by authorized bodies.
For the other products (to be listed) the signatory should declare that it regards materials, products and parts compliant with the provisiong og Articles 5 and 6. The report should state the compliance with installation area.
When this is relevant for the proper operation of the system, indications on the number or features of appliances installed or about to be installed should be provided (e.g. for gas: 1) number, type and power of appliances; 2) features of the parts that make up the ventilation systems of the area; 3) features of the system that feeds the fuels; 4) information on appliance wiring, where applicable).

6. The layout of the system executed includes the description of the works done (with simple reference to the project when the lat -ter was drawn up by an authroized professional and variations during works have not been approved). In the case of: modification, enlargement and non-routine maintenance, the intervention should be integrated, if possible, into the layout of the existing system. The layout shall include the fire prevention protocol (where applicable).

7. The reference data include the name of the company that carried out the works and the date of the statement. For plants or parts of plants built before the entry into force of this decree, the reference to declarations of conformity may be replaced by a reference to declarations of conformity (Article 7, paragraph 6). If part of the system is executed by another company (such as ventilation and fume exhaust in gas installations), the declaration should include reference data for the said parts.

8. If the installation includes products or systems legitimately used for the same job in another Member State of the European Un -ion or party to the Agreement on the European Economic Area, for which there are no
technical standards for the product and installation, the declaration of conformity should be annexed to the project drafted and signed by a registered professional engineer in accordance with the specific technical skills required, certifying that the risk assess -ment associated with the use of the product or production system was performed, and the fact that he had adopted all necessary measures to achieve levels of safety equivalent to those guaranteed for the installations carried out, according to sate-of-the-art standards and to have supervised the proper execution of the installation in all its phases in compliance with all technical standards provided by the manufacturer of the system or the product.

9. Example: any certificates containing the outcome of the checks performed on the system before commissioning or cleaning, sanitizing treatments etc..

10. Upon completion of works, the company that installed the system should issue the client a declaration of conformity of the systems in compliance with the standards in Art.7. The client or the owner should entrust installation, modification, enlargement and maintenance tasks of the system in Art. 1 exclusively to authorized companies as per Art. 3.

DECLARATION OF CONFORMITY OF THE STATE-OF-THE-ART SYSTEM

As per para.I of Art. 7 of Ministerial Decree 37 of January 22, 2008 no. 20

The undersigned _____ owner or legal representative of the company _____ (company's name)_____ operating in the handcraft sector with premises in _____ municipality _____ prov. (___) phone _____ VAT no _____

□ registered in the Registry of Companies (DPR 7/12/95 no.581 of CCIAA of TV no. xxx
□ registered in the Provincial Handicraft Enterprises (L. 8.8.1985, no.443) of TV no. xx

system executed by (schematical description, project layout):_____

_____

_____

_____

intended as: □ new system □ makeover □ upgrade □non-routine maintenance □ other(1) .....

Commissioned by_____ installed at the premises in the municipality of _____ prov. (___)

street_____ floor ____internal, owned by _____(name, surname or name of the company and address)_____

in the building designated as: □ industrial □ civil □ trade □ other uses

DECLARES

under its sole responsibility that the machine was built in compliance with state-of-the-art standards in accordance with the provisions of Article 6, taking into account the operating conditions and the designated uses of the building, having in particular:
□ observed the project drafted as per Art.5 by (2) .....
□ followed the technical standard specific to its use as (3) UNI10683/05 UNI10845 UNI/TS11278 UNI/EN1443 UNI7129/08
□ installed parts and materials suitable for the place of installation (Art.5 and 6)
□ inspected the system for safety purposes and the functionality with positive outcome, having carried out the checks required by the standards and the provisions of the law.

Mandatory annexes:
□ designed according to articles 5 or 7 (4)
□ report of the types of materials used (5)
□ layout of the installation made (6)
□ reference to previous or partial declarations of conformity, already existing (7): executed by the company .... date ..... □ copy of the certificate of acknowledgement of technical and professional requirements
□ certificate of conformity for the system executed with non-standard materials or systems (8).

Optional annexes: Photographic Documentation. Use and maintenance manual of the fireplace, the Fume dataplate and booklet of the generator , declaration of insulation compliance, combustion analysis, draught test, local ventilation and CO verification and chimney seal test

DENIES

all liability for injuries or damages to property arising from tampering with the system, by third party or due to lack of maintenance or repair (9) .

Date _____ The technical manager _____ The undersigned _____

WARNINGS FOR THE BUYER: liability of the buyer or the owner,art.8(10)

The undersigned _____ buyer of the works/owner of the building declares to have received _____

Examples of installation of a pellet stove

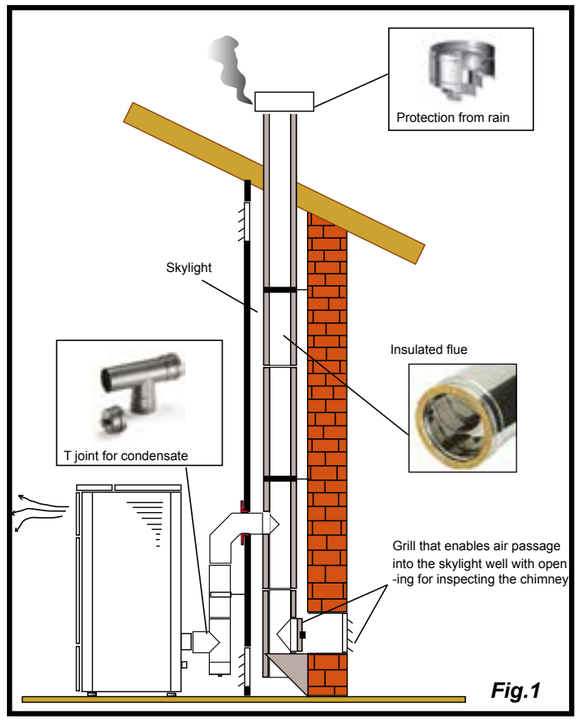


Fig.1

This type of installation (See Figure 1) requires the chimney to be insulated despite the fact that the entire duct is installed inside the building. Moreover, the structure should be inserted into a properly ventilated skylight well.

At the bottom of the chimney is provided an inspection cover suitably isolated from wind and rain.

It is not recommended to install a 90° curve as the first initial piece, since the ash could quickly obstruct the smoke passage, causing problems for stove suction. (See fig. 2)

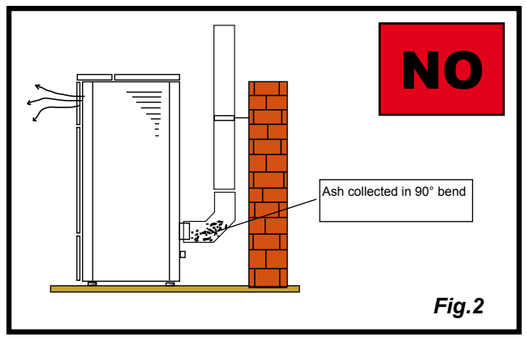


Fig.2

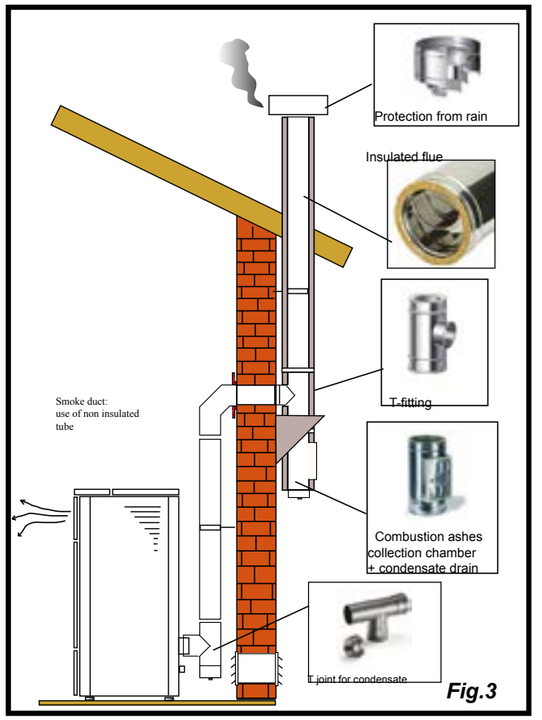


Fig.3

This type of installation (See Fig. 5) does not need an insulated flue for the section inside the home, while the section placed outside must have insulated tubing. In the lower part of the flue, inside the house, was nstalled a T fitting with an inspection cap; another one was mounted outside to enable inspection of the external section.

It is not recommended to install two 90° curves since the ash could quickly obstruct smoke passage, compromising stove's draught. (See fig. 2)

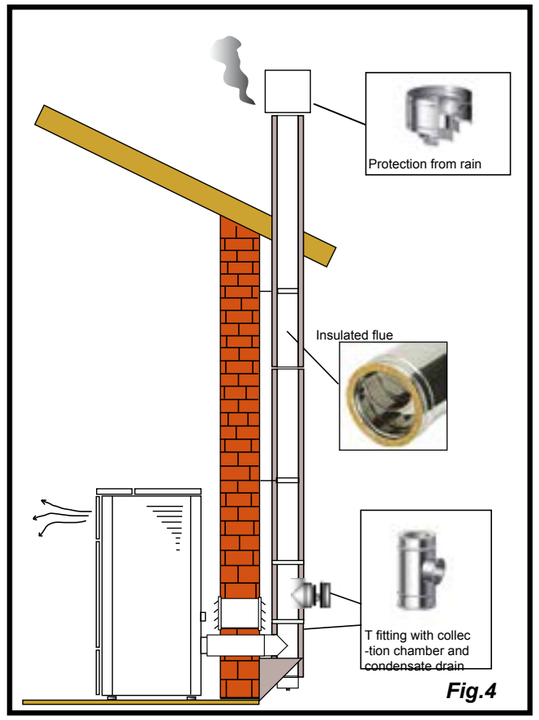


Fig.4

This type of installation (see Figure 4) requires insulated chimney since the entire smoke duct was assembled inside the house.

The lower part of the flue has an assembled "T" joint with an inspection plug.

It is not recommended to install a 90° curve as the first initial piece, since the ash could quickly obstruct the smoke passage, causing problems for stove suction. (See Fig.2)

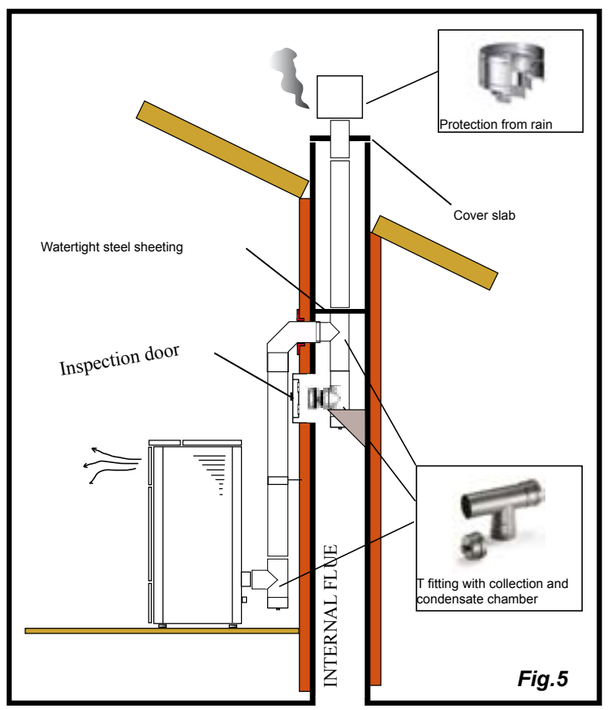


Fig.5

This type of installation (See Fig. 5) does not require an insulatd flue duct because the latter is installed inside the building and a part of it is located inside an already existing flue duct.
In the lower part of the stove was intalled a T fitting with inspection plug, like for the inner part of the flue.

It is not recommended to install a 90° curve as the first piece, since the ash could quickly obstruct the smoke passage, compromising
stove draught. (See Fig.2)

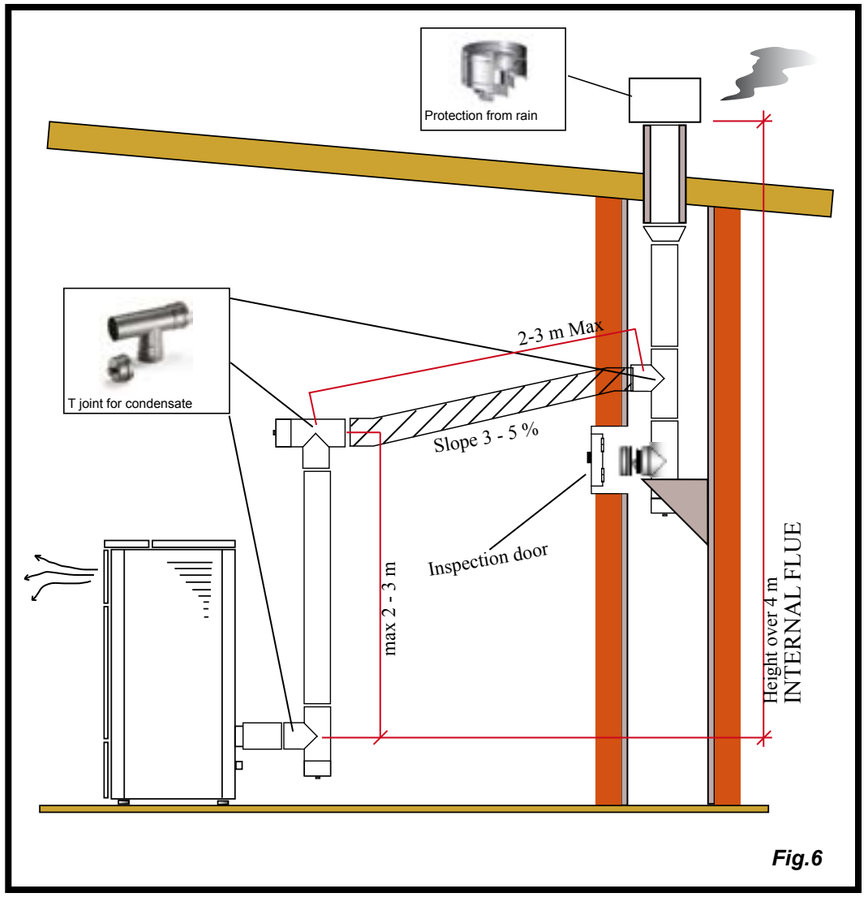


Fig.6

This type of installation (See Fig.6) requires a horizontal section for connection to an existing flue.
Comply with the slope indicated in the figure, to reduce depositing ash in the horizontal tube section.
In the lower part of the flue duct was installed a T fitting with inspection plug like for the flue inlet.

It is not recommended to install a 90° curve as the first piece, since the ash could quickly obstruct the smoke passage, compromising stove draught. (See Fig.2)

⚠ IT IS MANDATORY TO USE WATERTIGHT PIPES WITH SILICONE SEALS.

Examples of installation of a pellet insert

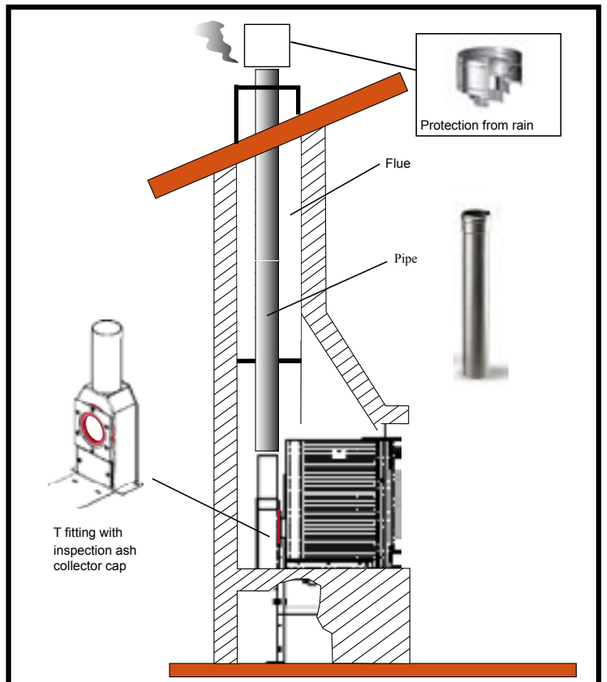


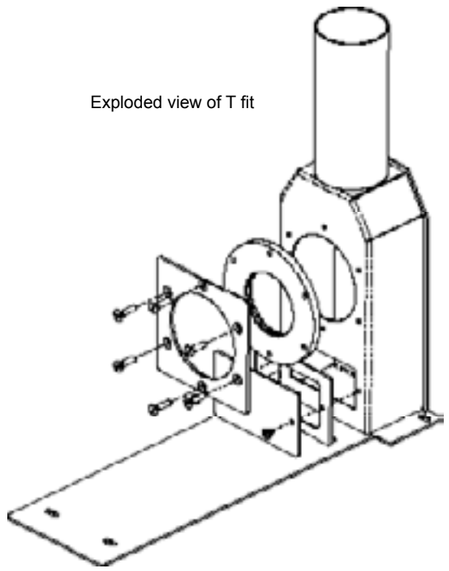
Fig.7

In this type of installation we can notice that the fitting was used to enable connecting the insert to the chimney (so-called "bayonet" mount).

For safety reasons and to ensure proper operation, we recommend you fit pipes into the chimney. (Fig.7)

It is recommended to perfectly match the insert with the fitting, to prevent leaks of smoke during the work phase.

Exploded view of T fit



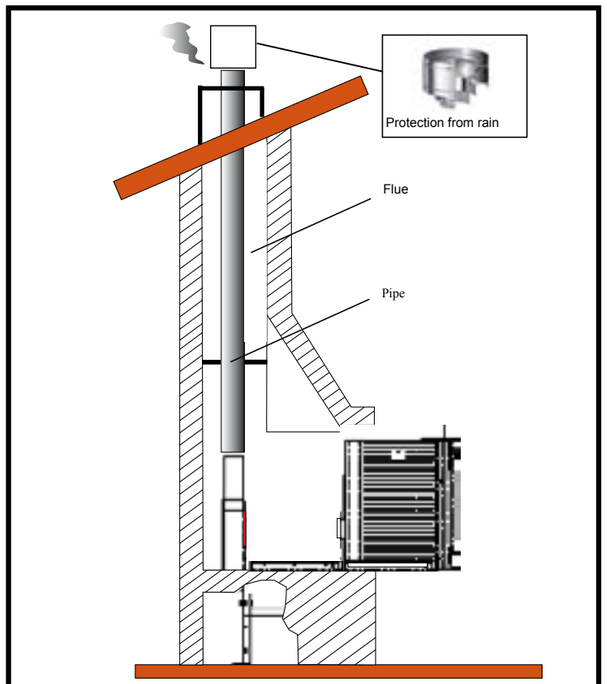


Fig.8

Here you can see the possibility to slide the insert; this operation can only be performed with the stove turned off for loading pellets or during regular checks. (Fig.8)

⚠ IT IS STRICTLY FORBIDDEN TO REMOVE THE STOVE DURING THE WORK PHASES; THE FUME MAY DISPERSE INTO THE

Preliminary Operations

Wiring

Connect the power cord to the back of the stove and then to a wall socket. The I/O switch in the figure should be set to I to power the stove. If voltage is not supplied check the state of the fuse installed in the box below the switch (4A fuse). During the periods of inactivity, we recommend you disconnect the power cord of the stove.

What to check befor turning on the stove

Make sure you have removed all parts that pose the risk of burns from the combustion chamber or glass (various instructions or stickers).
Before turning on the stove, make sure you have fitted the grate on the support base and check that the door and the ash drawer are properly close.

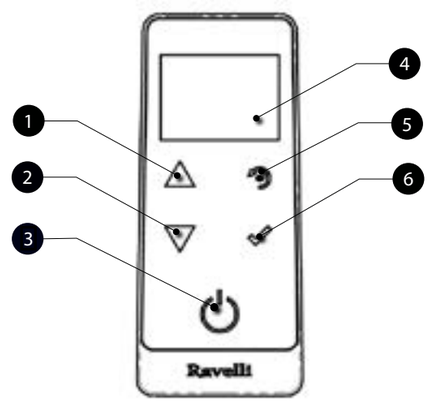
How to load the pellets

Fuel supply consists in the insertion of pellets from the top of the stove, by opening the door. During pellet loading prevent the pellet bag from coming into contact with hot surfaces.

⚠ NEVER INSERT INTO THE TANK OTHER KIND OF FUEL OTHER FROM THE PELLETS COMPLYING WITH THE SPECIFICATIONS BELOW

Description of the handheld set:

The handheld set is shown in the picture below:



1	Increase button "UP" (selection key)
2	Decrease key "DOWN" (selection key)
3	ON/OFF or reset from "Sleep" mode key.
4	Display
5	Key for accessing the MENU and back
6	Confirmation key

ⓘ *In "Sleep" mode, the handheld set screen is obscured, keeping however active the radio communication with the stove to reduce battery consumption.*

The information below will allow you to become familiar with the product and achieve the best performance.

How to insert the batteries in the handheld set:

Remove the protective cover of the battery on the back of the remote control as shown in Figure A, and insert the 3 batteries (mini pen style battery AAA 1.5V) in the housing of the handheld set and observe the poles. Install the battery protective cover as shown in figure B

Figure A

Figure B

The handheld set, after a short screen showing the Ravelli logo, will list the languages available in the menu.

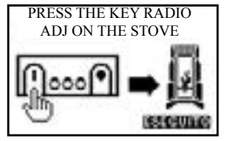
Select the desired language using the scroll keys and confirm your selection with the confirmation button.

Handheld touch radio initialization

In order to operate correctly, the handheld set should be interfaced with the electronic board installed inside the stove. For this reason, on display appears the following message:

If the handheld set is used for the first time, select **YES** using the selection keys and confirm with the dedicated key.

On the display of the handheld set appears the following:



Hold down for a few seconds the button of radio communication (RADIO ADJ) of the PCB, located on the back of the stove, to initialize the device.

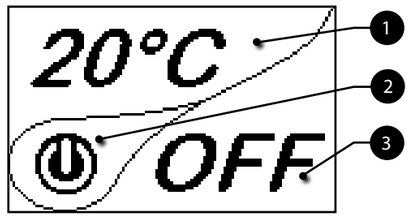
The flashing yellow LED indicates that the circuit board is waiting to receive the signal from the handheld set.

By pressing the enter key on the handheld set, the components start communicating with each other. A check sign on the display, accompanied by a sound signal, shows that the initialization of the handheld set has been completed sucessfully .

When you replace the batteries, you do not have to run the initialization procedure of the handheld set. In this case, when on display appears the message "FIRST INSTALLATION ?", select **NO** *and press the confirmation key.*

Description of the display

The display of the handheld set is described below (in stand-by mode):



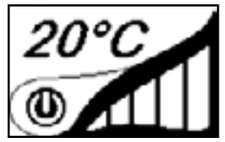
After 5 minutes of inactivity, the display of the handheld set turns dark, switching to "SLEEP" mode, while maintaining the radio connection with the stove. By pressing the key ON/OFF, the display becomes active again.

The first pressure of any key with the display active, lights up its backlight, but it is not, however , considered a command.

The display is subdivided into three parts:

1 It shows the current room temperature measured by the handheld set. Moreover, if you press the DOWN scroll key you will display the temperature settings that can be changed using the two UP/DOWN keys. Any change made is confirmed automatically within 3 seconds from the change or by pressing the confirmation key. A sound signal indicates that the change has been confirmed.

2 In the inactive phases (combined with the 3rd part of the display) indicates the state of the stove.
In the active phases, it indicates the operating power of the stove.
In addition, by pressing the DOWN scroll button, you can display the power settings, that can be edited using the two scroll keys
UP/DOWN: The confirmation of any change takes place automatically within 3 seconds from the change or by pressing the confirmation key. A sound signal indicates that the change has been confirmed.

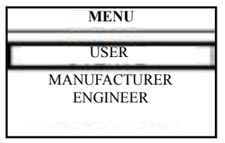


3

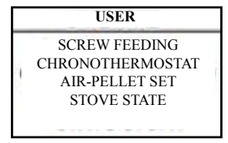
Time and date setting

Below are given the steps for accessing the relative menu.

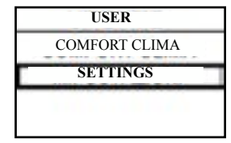
Press the key "access menu" to access the MENU page



Press the key "confirm" to access the USER page

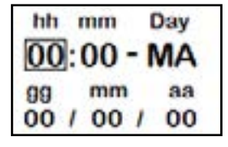


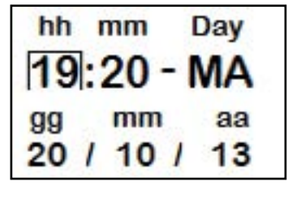
Press the key "selection" for "selection" to switch to the second page of USER MENU and select SETTINGS.



Press the key "confirm" to access the SETTINGS page

Press the key "confirm" to access the page DATE-TIME





Press the increase key to change every single value

Press the increase key to change every single value

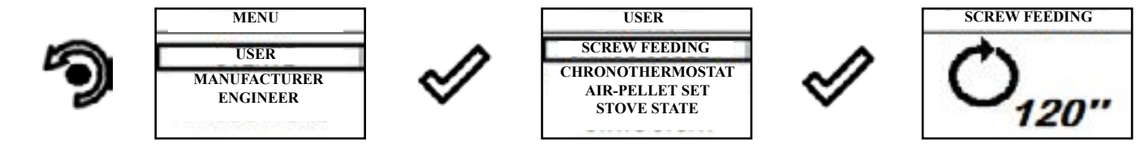
Press "confirm" to confirm the settings and switch to the next value.

By pressing the key "back" for several times you will display the stand-by page.

Loading the auger

Carry out this operation to facilitate stove's first start operations; You should also check that you have introduced pellets into the hopper and wait until the stove is in "SHUTDOWN" or "FINAL CLEANING" mode. The number expressed in seconds indicates the rotation time of the infeed screw during the first loading cycle. Once this time has elapsed, the infeed screw stops immediately and then pellets are emptied from the grate before turning on the equipment.

Below are given the steps for accessing the relative menu.



Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press CONFIRM to enable the rotation of the auger

At the end of the auger loading, the display shows 0 "and automatically switches to the USER menu page.

Press the key for several times until the Stand-by page is displayed.

ALWAYS EMPTY THE BRAZIER BEFORE TURNING THE STOVE ON AND ALWAYS CHECK THAT ALL NONE OF ITS HOLES IS CLOGGED NEVER EMPTY THE RBAZIER INSIDE THE HOPPER. FIRE HAZARD.

Setting operating temperature and power:

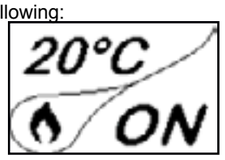
Set the two values following the indications given in the chapter "Description of thr display"

Turning the device on

Keep the key ON/OFF pressed for a few seconds to turn on the stove.

The appearance of the message "ADJUST THE RDS SYSTEM" indicates that the initial parameter testing procedure and calibration has been unsuccessfully. This indication does not cause stove blockage (see the SIGNALLING POP UP section).

On the display of the handheld set appears the following:

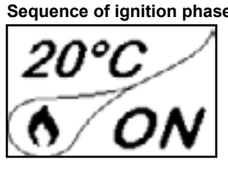


Press and hold the ON/OFF button to turn off the stove door, and reset any alarms triggered.

In case the infeed screw operations described avobe have not been executed, the stove may fail to turn on. In this case, carry out the operations described above and empty the brazier and reset the alarm.

If the stove still fails to turn on, check that the grate is properly installed and perfectly adherent to the base, and also check that there are no deposits that prevent the smooth passage of air to enable ignition. If the problem persists, contact the support service.

Sequence of ignition phases

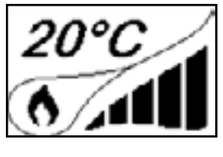


SWITCH-ON- initial pellet loading phase;
WAIT FLAME - flame development wait phase;

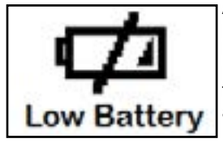
FLAME PRESENT - flame stabilization phase and reduction of combustible inside the brazier;

WORK - operation phase described in the dedicated chapter;

What happens if the batteries are empty?



If the battery is discharged, within the "drop" is shown a symbol that indicates that the battery is empty, while maintaining active the features of your device.

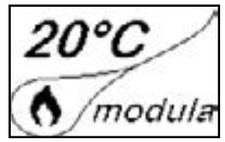


As soon as the level of the battery prevents the radio communication the handheld set displays on full screen the picture of empty battery and all device functions are locked until the batteries are replaced

Operating phases of the appliance

Modulation

During the work phase, the appliance should reach the room temperature set; when this condition is met, the stove switches to MODULATION mode in which fuel consumption and ventilation are minimum.



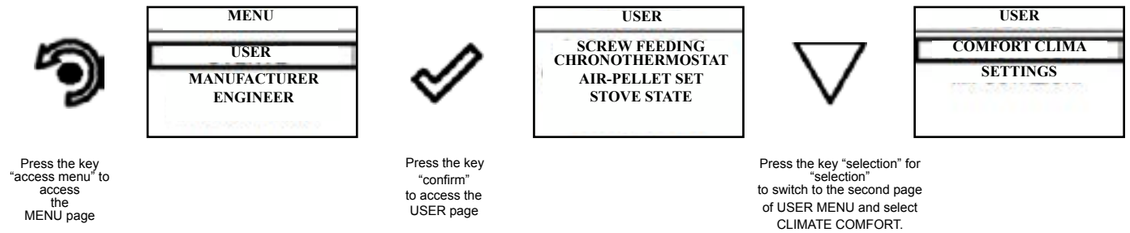
If you wish to detect the ambient temperature by means of an external thermostat (optional), this must be connected to the appropriate connector on the rear side of the stove; and you will have to activate the reading in "SETTINGS - ENABLE THERMOSTAT." On display appears the writing TON / TOFF based on thermostat request.

CONNECT AN EXTERNAL THERMOSTAT WITH A SIMPLE DRY CONTACT, THEREFORE, NOT POWERED. MOREOVER, WE RECOMMEND YOU USE A THERMOSTAT WITH A MINIMUM OFFSET OF 3°C IF YOU INTEND TO USE THE COMFORT CLIMA FUNCTION.

Comfort climate

The activation of this function enables the stove to reduce pellet consumption by activating the modulation phases, after the desired temperature has been reached. Subsequently, the stove checks that the temperature is maintained steady for a preset time. If this condition is met, it automatically switches off, and on display appears the writing ECO.
The stove turns on again when the temperature drops below the set threshold.

Below are given the steps for accessing the relative menu.

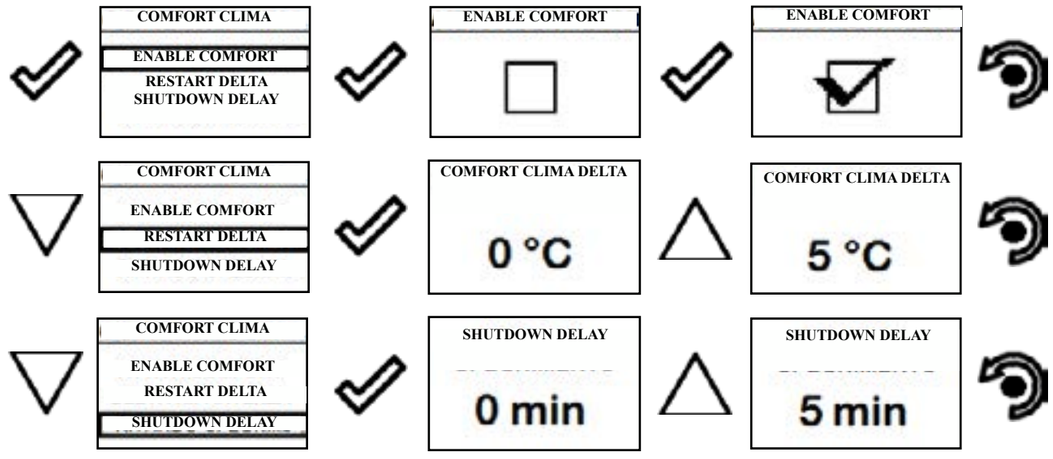


Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "selection" for "selection" to switch to the second page of USER MENU and select CLIMATE COMFORT.

Once you have accessed the Climate Comfort menu, it is possible to operate on the 3 types of settings dedicated to the function:



Press the key for several times until the Stand-by page is displayed.

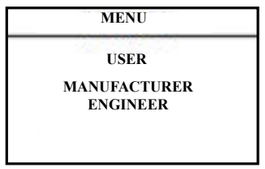
The first setting allows the activation of the CLIMATE COMFORT function. This function is intended to ensure that the room tem -perature set is maintained steady upon setting the maximum period of "X" minutes (SWITCH-OFF DELA
Y: 5 MIN) before switch-ing to ECO STOP phase. The STOVE maintains this state until the temperature drops below the set value (CLIMATE COMFORT DELTA : 5□).
For example, with the room temperature at 21 ° C, the stove switches of f when this temperature is reached and restarts when the temperature reaches 15°C (21°C - 5°C - 0,5°C tolerance).
You can also activate the function using an external thermostat, keeping in mind that this does not include the value of the hyster -esis.

We recommend you use an external thermostat with a histeresys value that can be set to maximum 3°C. The operation of the stove could activate the switch ON/OFF phases for several times during the day; this may affect the service life of the ignition coil.

USING THIS METHOD, IT IS NECESSARY TO VERIFY THAT AFTER EACH AUTOMATIC SHUTDOWN THE GRATE IS ALWAYS VERY CLEAN TO GUARANTEE CORRECT AUTOMATIC SWITCH ON.
AUTOMATIC SWITCH ON.

Description of menu functions

Press the key to access the MENU page

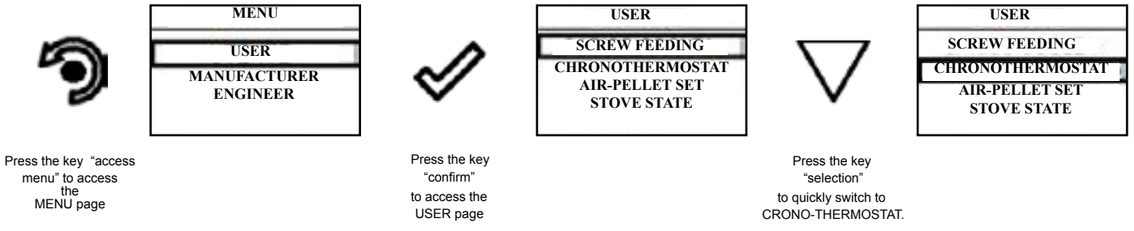


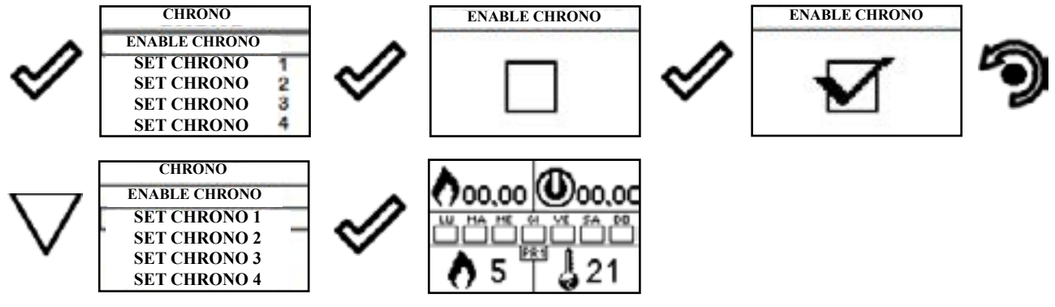
The TECHNICIAN and MANUFACTURER menus are protected by password.

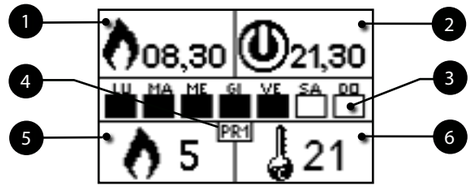
Chronothermostat

With the Chrono-thermostat function you can program the automatic switch ON/OFF of the stove for each day of the week in 4 independent time intervals (SET CHRONO 1-2-3-4)

Below are given the steps for accessing the relative menu starting from Stand-By mode.







1	Settable switch-on program
2	Settable switch-off program
3	Day of the week with active program
4	Number of "chrono" program (1-2-3-4)
5	Setting the power upon programming
6	Setting ambient temperature

By pressing the Increment key you can change each value and, at step 3, enable the days of the week;

By pressing the Increment key you can change each value and, at step 3, enable the days of the week;

Press "confirm" to confirm the settings and switch to the next value;

Press the "back" button to return to the CHRONO-THERMOSTAT page.

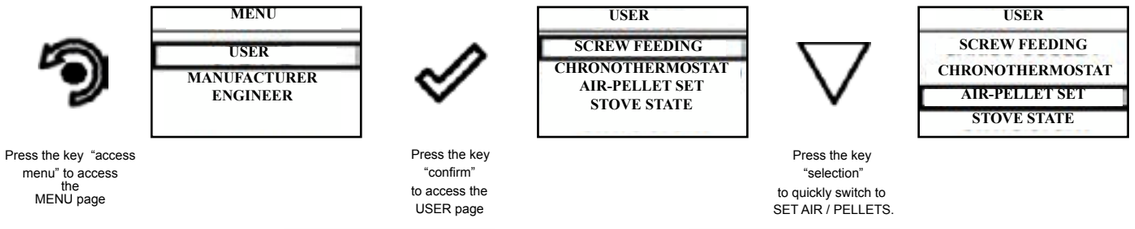
As per the above example, it has been set as CHRONO 1 an ignition from 08.30 to 21.30 from MONDAY to FRIDAY at the oper-ating power 5 with a room temperature set at 21 ° C. Programmes 2-3-4 can be set in the same manner.

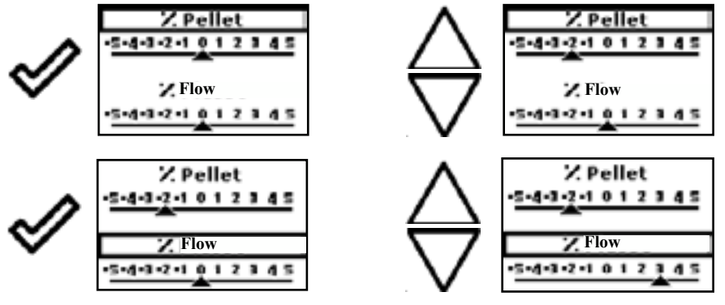
To exit the CHRONO-THERMOSTAT function and return to Stand-by page, press the button repeatedly.

AIR / PELLETS setting

Setting of the PELLET-FLOW mix enables you to immediately change the quantity of pellet loaded in the brazier and the air inflow. The stove is tested and inspected with DIN PLUS certified pellets. If using another type of pellets or uncertified pellets, fuel may need adjustment. Usually, the variation involves the FLOW percentage to adjust the input air and, therefore, the combustion; should the regulation of flow be insufficient, it may be necessary to also change the percentage of PELLET load.

Below are given the steps for accessing the relative menu starting from Stand-By mode.





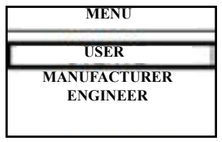
As per the above example, you have set a percentage of -2 for PELLETS and +3 for the FLOW , an indication that a setting like this is a consequence of the fact that the oxygen needed for combustion is insufficient and pellet size is smaller than the average size of 2 cm.

To exit the SET AIR - PELLET function and return to Stand-by page, press the button repeatedly.

NOTE: The number indicated during the change of parameters refers only to a percentage value that acts on the default parameters set on the electronic board (exclusively in the WORK phase). These values should be changed in the event of poor combustion, due in many cases to the purchase of pellets differing from those used during stove testing.

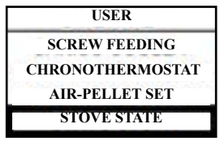
Stove State

Below are given the steps for accessing the relative menu starting from Stand-By mode.

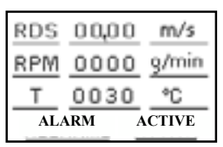


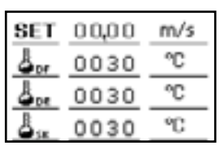
Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page



Press the key "selection" to quickly switch to STOVE STATE.





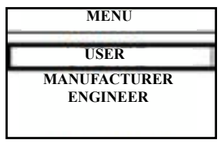
In this mode you can check the proper operation of the most important parameters of the appliance. Below is a list of real data of the stove useful for service during inspection.

- Actual flow
- Fume extractor revolutions;
- Fume temperature;
- Stove state:
- Actual flow set;
- Inlet flow meter temperature;
- Heated flow meter temp.;
- Electronic board temperature;

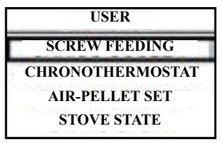
To exit the STOVE STATE page and return to Stand-by page, press the button repeatedly.

Settings > Enable thermostat

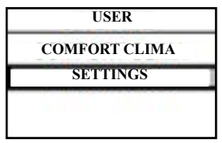
Below are given the steps for accessing the relative menu starting from Stand-By mode.



Press the key "access menu" to access the MENU page



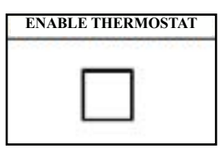
Press the key "confirm" to access the USER page



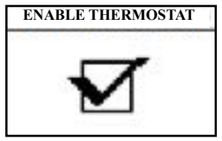
Press the key "selection" to quickly switch to the second page of the menu SETTINGS.

Press the key "confirm" to access the SETTINGS page

Press the key "selection" to switch to the function



Press the key "confirm" to access the function



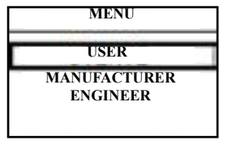
Press the key "confirm" to enable the function.

ENABLE THERMOSTAT. By repeadely pressing the key ou will go back to the "STAND BY"

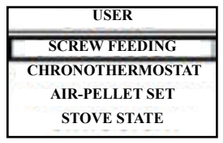
In Stand-By mode, instead of the measured and settable ambient temperature appears the line T ON if the room where the thermostat is installed has not yet reached the requested value or the writing T OFF if the room temperature set has been reached.

Settings

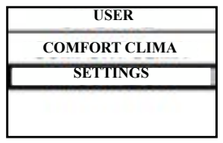
Below are given the steps for accessing the relative menu starting from Stand-By mode.



Press the key "access menu" to access the MENU page



Press the key "confirm" to access the USER page

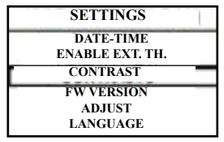


Press the key "selection" to quickly switch to the second page of the menu

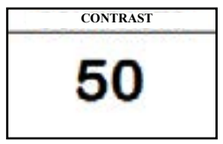
After following the procedure above step by step, you can set the following functions:

Settings > Contrast

Press the key "confirm" to access the SETTINGS page



Press the key "selection" to switch to the function CONTRAST.



SETTINGS. Press the key "confirm" to access the function

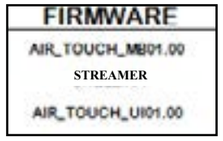
Use the UP/DOWN keys to change contrast setting and obtain a better visualisation of the information shwon on the handheld set. The value can vary from 0 to 100. 50 with respect to

By pressing the following button you will confirm the data and switch to the page within the SETTINGS menu.

Settings > Firmware version

Press the key "confirm" to access the SETTINGS page

Press the key "selection" to switch to the function CONTRAST.



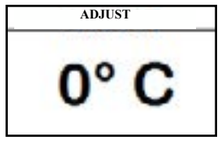
Press the key "confirm" to access the function

By pressing the following button you will confirm the data and switch to the page within the SETTINGS menu. SETTINGS.

Settings > Adjust

Press the key "confirm" to access the SETTINGS page

Press the key "selection" to switch to the function VERSION FW.



Press the key "confirm" to access the function

Use the UP/DOWN keys to change the value read by the room temperature probe installed inside the handheld set, with respect to a reference value. The value can vary from -10°C to 10°C.

By pressing the following button you will confirm the data and switch to the page within the SETTINGS menu.

The standard value is 0°C.

Settings > Language

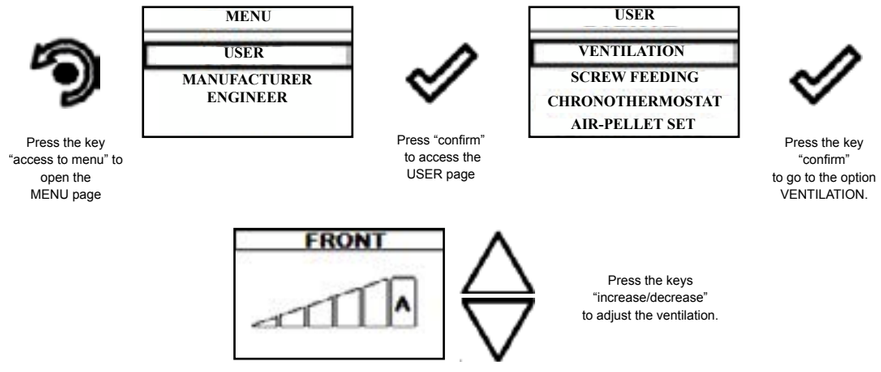
To access the next setting, follow the steps given above or simply remove and replace the batteries. The device resets and prompts you again to select the language you want to set.

Single ducting (function present only in models equipped with single ducting system)

The stoves with optional fan employ the natural convection system that ensures a considerable heat output in the environment with the total absence of noise generated by room ventilation. However, the user can activate the optional fan according to the heating power needed, using the menu below.

Below are given the steps to be followed to access the relative menu from the Standby page.

Control



The exit key opens the VENTILATION menu again to set the other operating parameters available in the menu.

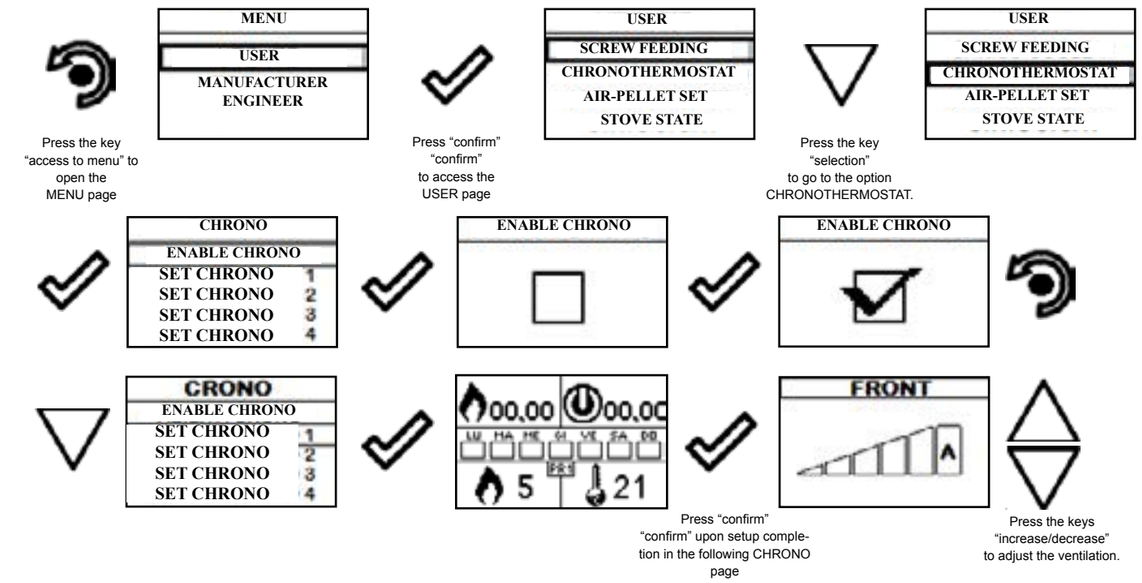
To exit the page and go back to Standby page, press the key for several times.

Control: the ventilation can be set from 0 to AUTO where 0 indicates that the same is disabled; settings from 1 to 5 enable the user to set the fan speed. If the value set is AUTO, the ventilation corresponds to the power set on the stove.

If the AUTO function is not enabled, the fan operation is not depending on stove's installed power, except for the cases in which the flame switches to modulation mode and the heat exchanger is forced to minimum.

Chrono function

By activating the chrono function, the user can control the fan speed for each program, as shown in the logic above.



The exit key opens the CHRONO menu again to set the other operating parameters available in the menu.

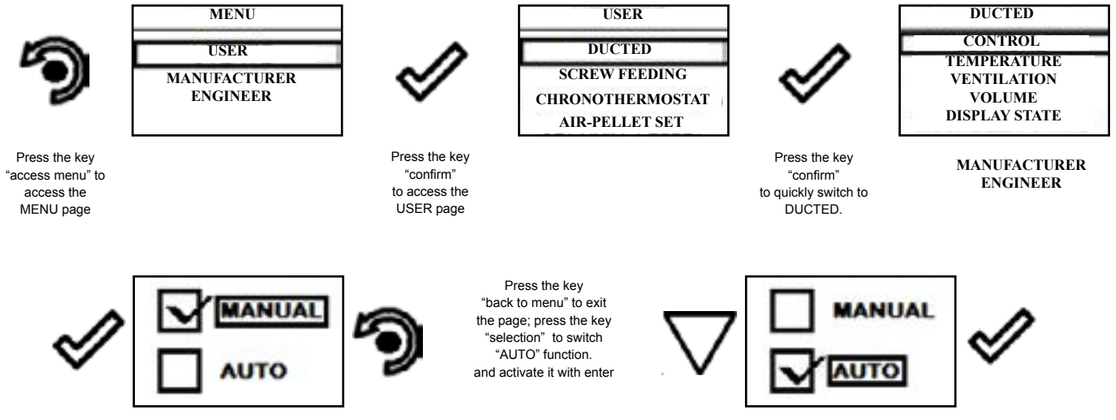
To exit the page and go back to Standby page, press the key for several times.

Single ducting (function present only in models equipped with single ducting system)

With this function you can set the level of ducting, therefore, the amount of hot air to be generated in the room where the stove is installed rather than in the room in which the ducting outlet is installed, with the option to disable it if there is no need for further heating. Ducting can be set manually or using the automatic function described in this chapter.

Below are given the steps for accessing the relative menu starting from Stand-By mode.

Recipe

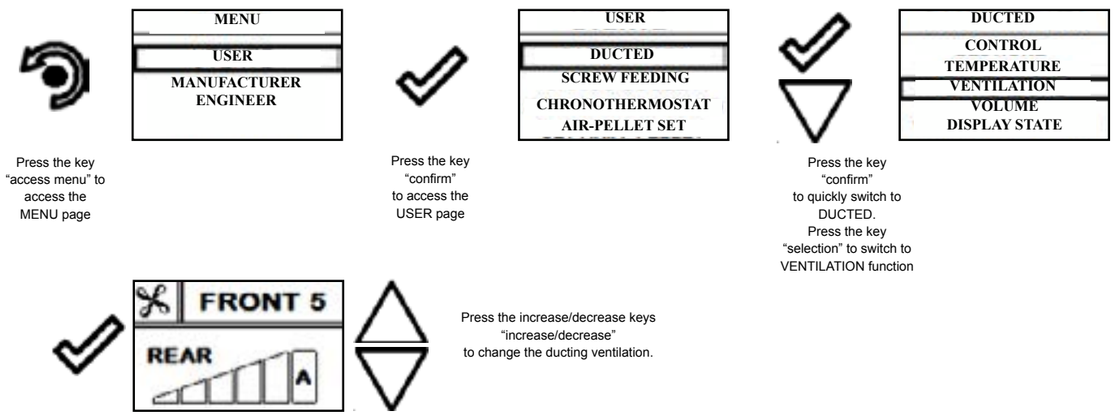


The exit key shows the DUCTED menu to set other variables related to the menu functions.

To exit the MANAGEMENT page and return to Stand-by page, press the button repeatedly.

Manual control: the front ventilation is working at the set power. The user can, through a simple operation on display, enable/disable the ventilation needed for heating the room in which the ducting outlet is installed.
The lines in the table indicate the two ventilations, while the columns indicate the five levels of positioning of the vents.

Ventilation (manual control)



Once you have accessed the function, the top line of the display shows the speed of the front ventilation linked to the power of the stove (e.g. Front 5), the ducting capacity (bottom line) can be set using the increase/decrease keys; the values can be set from 0 (ducting off) and Auto (ducting capacity adjusted according to front ventilation power); the intermediate settable values are 1 - 2 - 3 - 4 - 5.

The exit key shows the DUCTED menu to set other variables related to the menu functions.

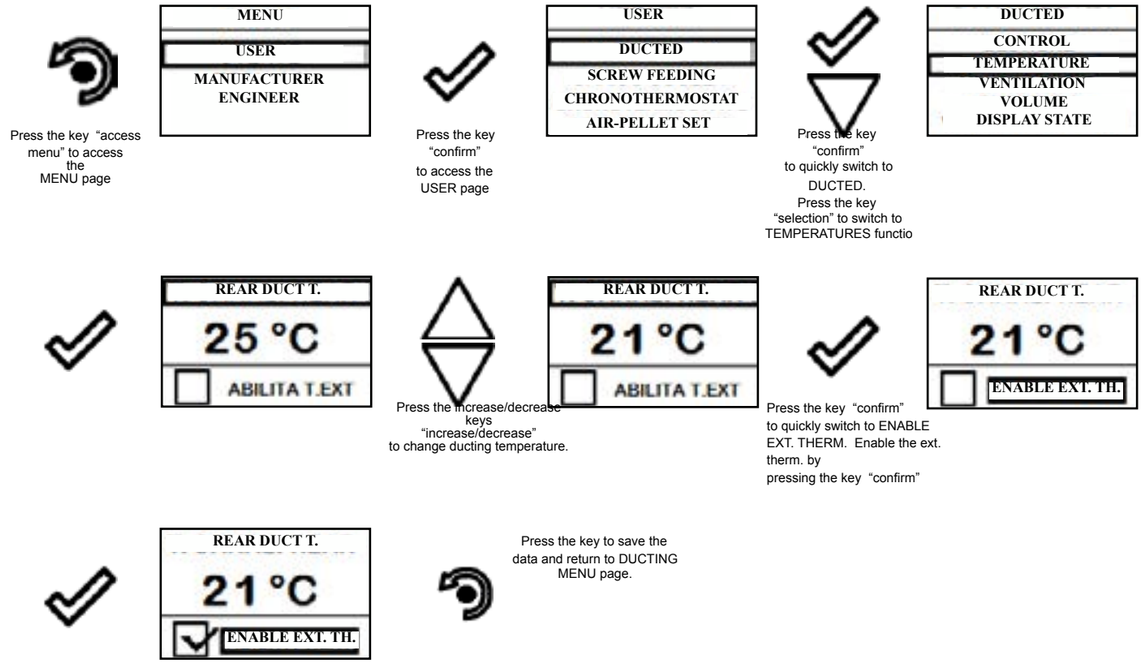
To exit the VENTILATION page and return to Stand-by page, press the button repeatedly.

If you enable the MANUAL CONTROL function, you will not have access to TEMPERATURES or CUBIC CAPACITY CUBIC CAPACITY. By enabling the AUTOMATIC CONTROL and setting the ducting temperatures you will enable the stove to automatically control the heat flow.

Automatic management: If this function is active, the stove controls the 5 ducting levels automatically. By activating the automatic function, the single condition required is to install a room temperature probe (optional) or an external thermostat in the room to be ducted.

	Front	3/4 Front	Middle	3/4 Rear	Rear
Aria Front	100%	100%	100%	60%	20%
Aria Rear	OFF	60%	100%	100%	100%

Temperatures (automatic control)



Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "confirm" to quickly switch to DUCTED. Press the key "selection" to switch to TEMPERATURES functio

Press the increase/decrease keys "increase/decrease" to change ducting temperature.

Press the key "confirm" to quickly switch to ENABLE EXT. THERM. Enable the ext. therm. by pressing the key "confirm"

Press the key to save the data and return to DUCTING MENU page.

In this mode, the two fans are working at the same power to reach the two set room temperatures. When one of the two set tem -peratures is reached, ventilation in the saturated room tends to decrease to a minimum or, even better, in the case of the rear room, it shuts off completely. The initial condition may reoccur if the temperatures in the two rooms will require more heat. Everything is done automatically.

The exit key shows the DUCTED menu to set other variables related to the menu functions.

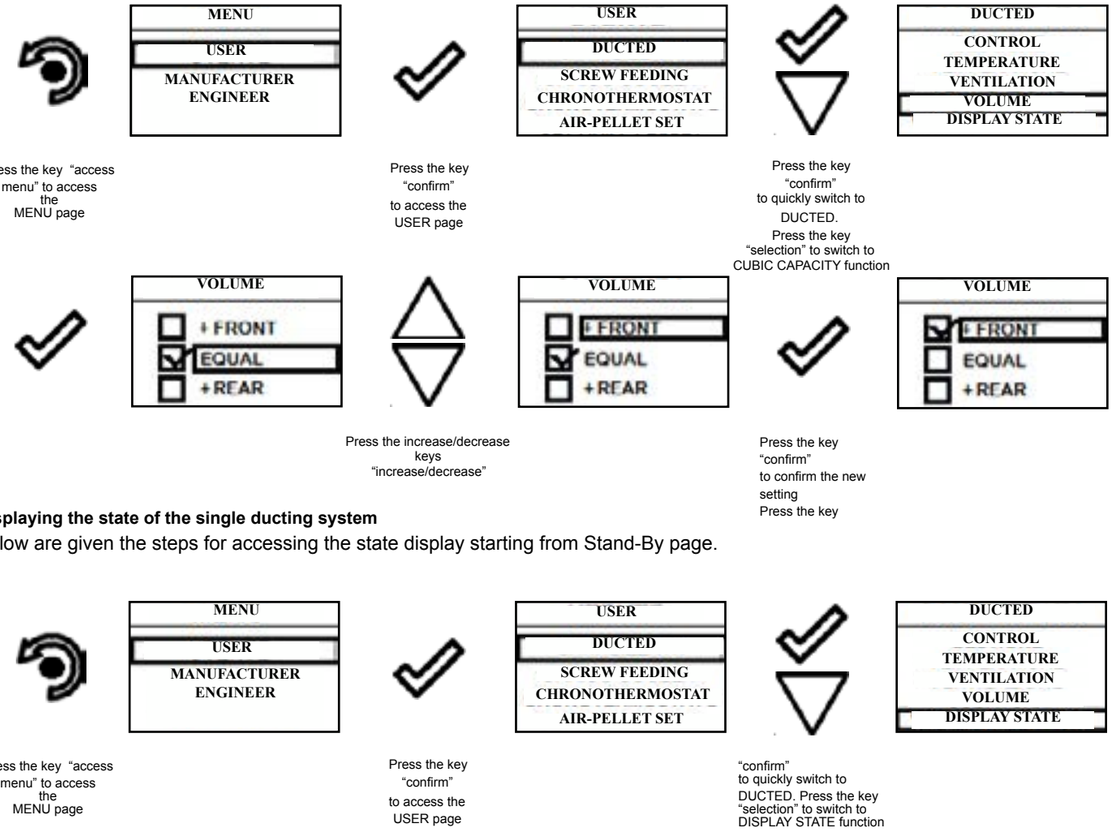
To exit the TEMPERATURES page and return to Stand-by page, press the button repeatedly.

The room temperature probe relative to the ducting is connected by coupling the two poles in the back of the stove where is provided the quick coupling identified by the writing "EXT. T"

Cubic capacity

To optimize the automatic function, set the cubic capacity difference (m^3) of the rooms during installation.
Cubic capacity can be set at three levels as shown below: = EQUAL: if the cubic capacities of the two rooms are more or less similar; + REAR: if the cubic capacity of the room in which the ducting system is installed is higher than the room in which the stove is installed;
+ FRONT: if the cubic capacity of the room in which the ducting system is installed is smaller than the room in which the stove is installed;

By setting, as in the example below, a room with cubic capcity greater than the other, equal to the power generated by the stove



Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "confirm" to quickly switch to DUCTED. Press the key "selection" to switch to CUBIC CAPACITY function

Press the increase/decrease keys "increase/decrease"

Press the key "confirm" to confirm the new setting Press the key

Displaying the state of the single ducting system

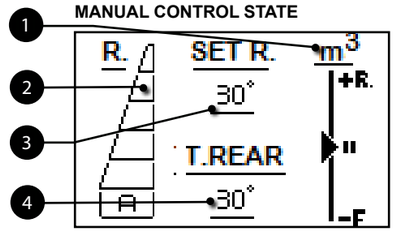
Below are given the steps for accessing the state display starting from Stand-By page.

Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

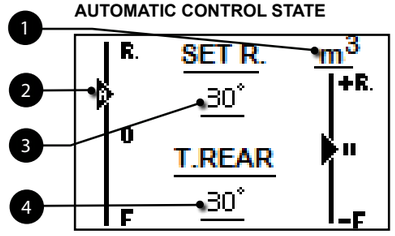
"confirm" to quickly switch to DUCTED. Press the key "selection" to switch to DISPLAY STATE function

MANUAL CONTROL STATE



1	Cubic capacity priority (active in automatic mode)
2	Set ducted ventilation
3	Set ducted temperature (controls in automatic mode)
4	Temperatura letta dalla sonda posta in canalizzazione

AUTOMATIC CONTROL STATE



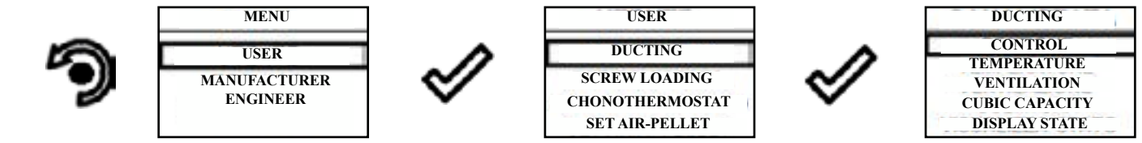
1	Cubic capacity priority
2	% of ventilation (see the automatic control table)
3	Set ducted temperature (controls in automatic mode)
4	Temperature read by the temperature probe installed on the ducting system

Double ducting (function present only in models equipped with double ducting system)

The range of stoves that use the following control system, dedicates much of its performance to ducting. This is shown by the fact that the front fan is small and can be set by the customer independently from the management of both manual and automatic duct -ing, as well as the operating power of the stove.
With regard to ducting control, this feature allows you to set the ducting level, therefore the amount of hot air to be developed in a room rather than another.

Below are given the steps for accessing the relative menu starting from Stand-By mode.

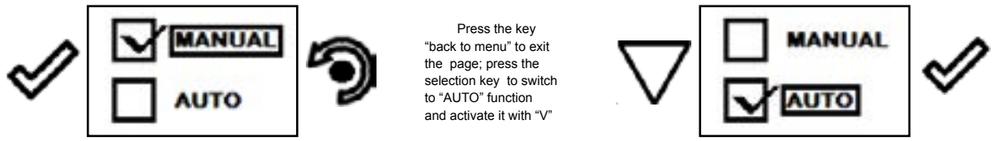
Recipe



Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "confirm" to quickly switch to MANAGEMENT.



Press the key "back to menu" to exit the page; press the selection key to switch to "AUTO" function and activate it with "V"

The exit key shows the DUCTED menu to set other variables related to the menu functions.

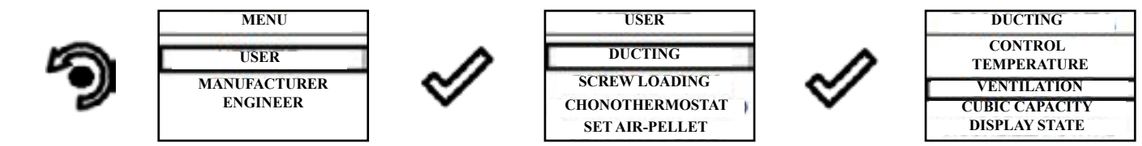
To exit the MANAGEMENT page and return to Stand-by page, press the button repeatedly.

Manual management: the user can set, through a simple operation on the display, the percentage of hot air to be dedicated to heating both rooms to be ducted. The front ventilation can be set separately from ducting management. Below is described the procedure for settingthe ventilation according to user's requirements.

	Rear Left (posteriore sx)	**Rear Left/Middle** (posteriore sx/centro)	**Middle**	**Middle/Rear right** (centro/posteriore dx)	**Rear Right** (posteriore dx)
Aria frontale	da OFF ad A	da OFF ad A	da OFF ad A	da OFF ad A	da OFF ad A
Aria posteriore dx	15%	40%	65%	85%	100%
Aria posteriore sx	100%	85%	65%	40%	15%

Ventilazione (gestione manuale)

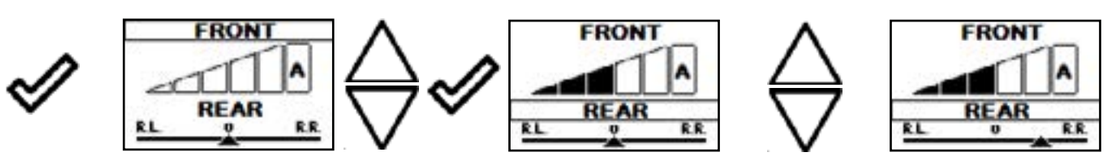
Ventilation (manual control)



Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "confirm" to quickly switch to VENTILATION.



Press the increase/decrease keys "increase/decrease" to change the front ventilation. Press "confirm" to switch to ducting setup. ducting.

Press the increase/decrease keys "increase/decrease" to change ducting position.

Once you accessed the function, the top line of the display shows the speed of the front ventilation which can be set by means of "increase / decrease" keys with values that can be set from 0 (ducting off) to Auto (ducting capacity that follows the power of the front ventilation); intermediate values can be set from 1-2 - 3 - 4 - 5. Regarding the ducting system, you can manually set the amount of heat that you want to be directed towards the vents.

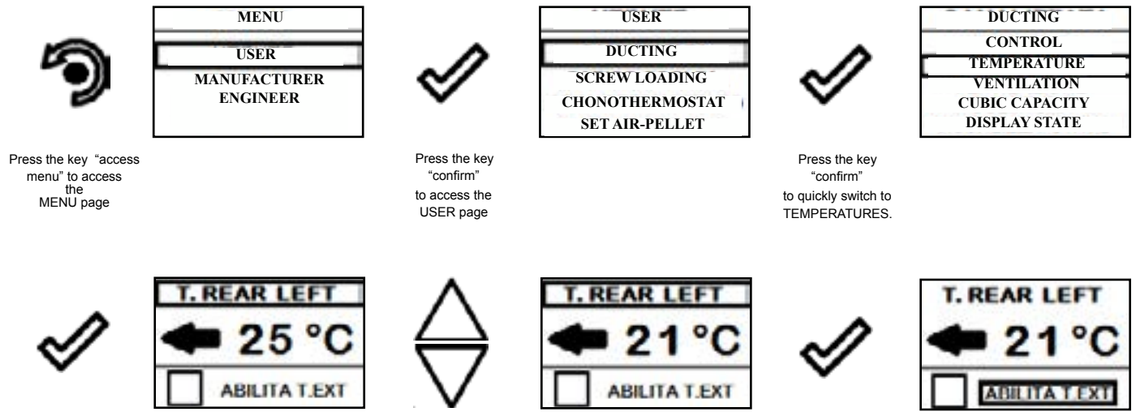
The exit key shows the DUCTED menu to set other variables related to the menu functions.

To exit the VENTILATION page and return to Stand-by page, press the button repeatedly.

If you enable the MANUAL CONTROL function, you will not have access to TEMPERATURES or CUBIC CAPACITY CUBIC CAPACITY. By enabling the AUTOMATIC CONTROL and setting the ducting temperatures you will enable the stove to automatically control the heat flow.

Automatic management: If this function is active, the stove controls the 5 ducting levels automatically .
It should be noted that, by enabling the automatic function, it is required to install two room temperature probes (optional) or external thermostats

Temperatures (automatic control)



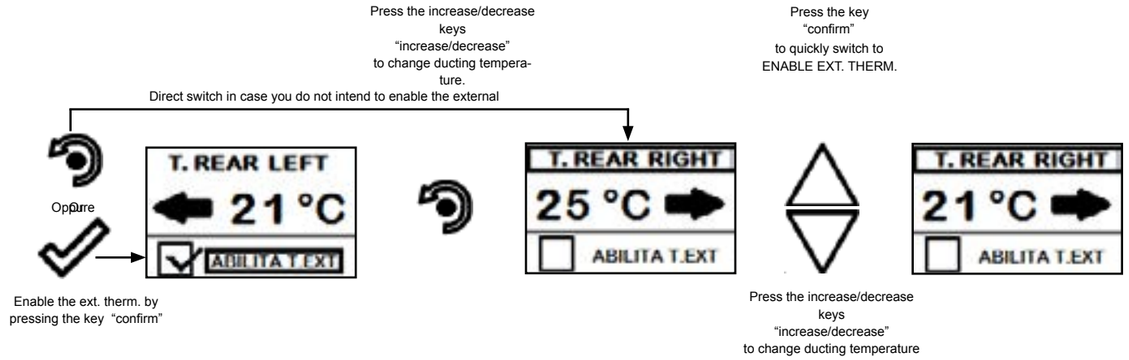
Press the key "access menu" to access the MENU page

Press the key "confirm" to access the USER page

Press the key "confirm" to quickly switch to TEMPERATURES.

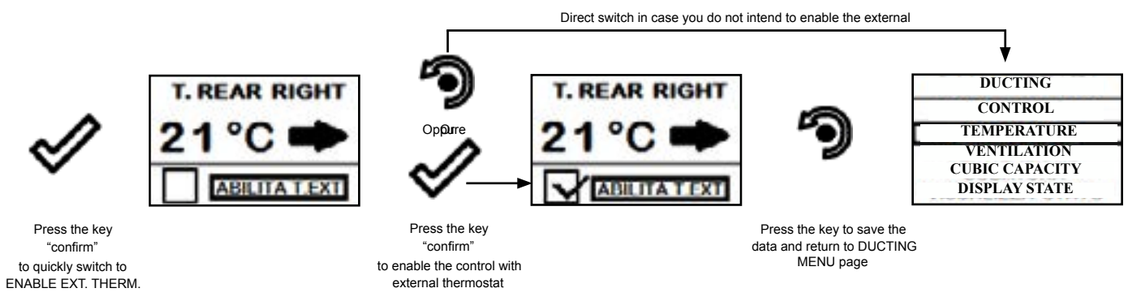
Press the increase/decrease keys "increase/decrease" to change ducting tempera-ture.

Press the key "confirm" to quickly switch to ENABLE EXT. THERM.



Enable the ext. therm. by pressing the key "confirm"

Press the increase/decrease keys "increase/decrease" to change ducting temperature



Press the key "confirm" to quickly switch to ENABLE EXT. THERM.

Press the key "confirm" to enable the control with external thermostat

Press the key to save the data and return to DUCTING MENU page

In this mode, the two fans are working at the same power to reach the two set room temperatures. When one of the set tempera -tures is reached, the ventilation in the saturated room tends to decrease to a minimum, increasing the ventilation of the room in which temperature still needs to be increased. The initial condition may reoccur if the temperatures in the two rooms will require more heat. Everything is done automatically.

The exit key shows the DUCTED menu to set other variables related to the menu functions.

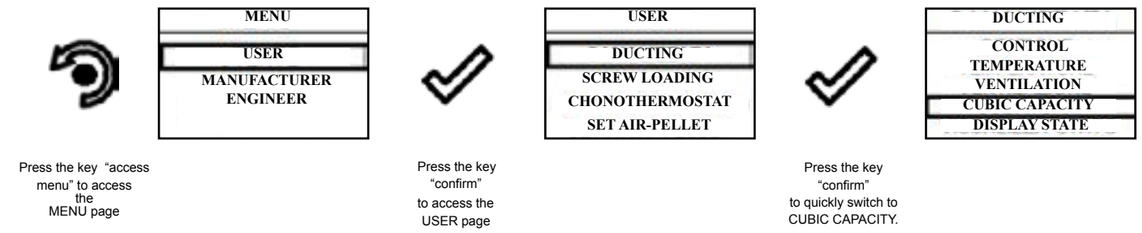
To exit the TEMPERATURES page and return to Stand-by page, press the button repeatedly.

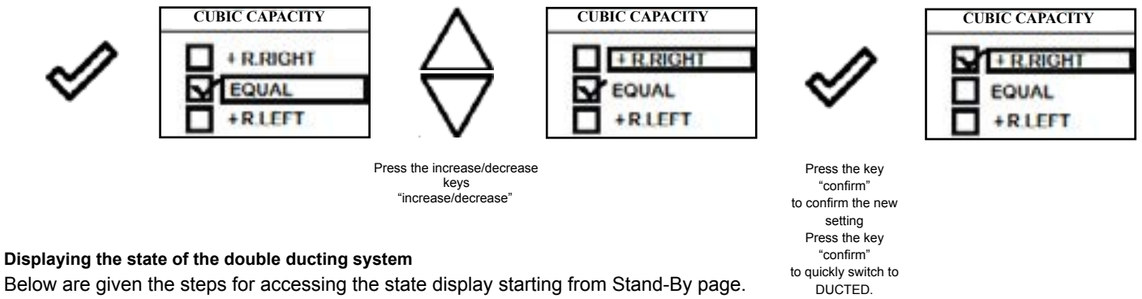
The room temperature probe relative to the ducting is connected by coupling the two poles in the back of the stove where is provided the quick coupling identified by the writing "EXT. T" and "T.EXT R.R."

Cubic capacity

To optimize the automatic function, set the cubic capacity difference (m^3) of the rooms during installation.
Cubic capacity can be set at three levels as shown below: = EQUAL: if the cubic capacities of the two rooms are more or less simi-lar; + REAR RIGHT: if the cubic capacity of the room where the RH ducting system is installed is greater than the LH ducting system (referred to the stove in the front view);
+ REAR LEFT: if the cubic capacity of the room where the LH ducting system is installed is greater than the RH ducting system (referred to the stove in the front view);

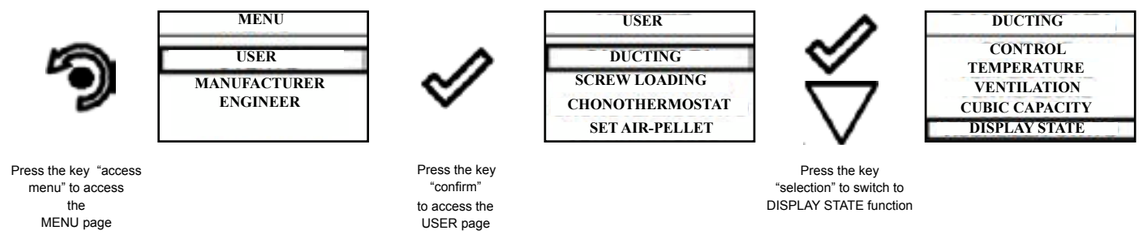
By setting, as in the example below, a room with cubic capcity greater than the other, equal to the power generated by the stove and the ambient temperature lower than the set temperature on both outlets, the heat input will be mainly directed towards the larger room.



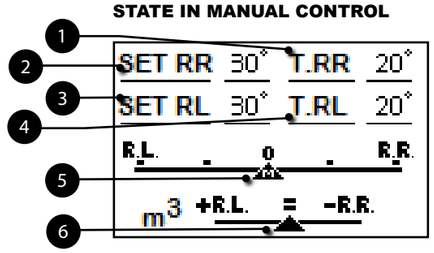


Displaying the state of the double ducting system

Below are given the steps for accessing the state display starting from Stand-By page.

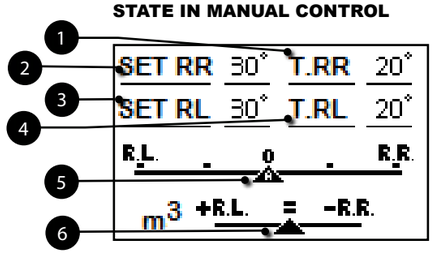


STATE IN MANUAL CONTROL



1	Temperature read by the temperature probe installed on the (RH) ducting system
2	Set RH ducted temperature (controls in automatic mode)
3	Set LH ducted temperature (controls in automatic mode)
4	Temperature read by the temperature probe installed on the (LH) ducting system
5	% of ventilation (see the MAN and AUT control table)
6	Cubic capacity priority among rooms (active in automatic mode)

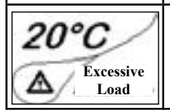
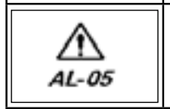
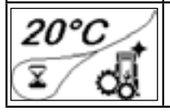
STATE IN MANUAL CONTROL



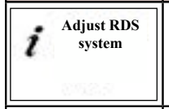
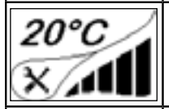
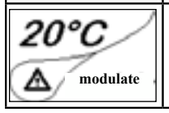
1	Temperature read by the temperature probe installed on the (RH) ducting system
2	Set RH ducting temperature
3	Set LH ducting temperature
4	Temperature read by the temperature probe installed on the (LH) ducting system
5	% of ventilation (see the MAN and AUT control table)
6	Cubic capacity priority among rooms

Stove phase synthetical layout

	PHASE	DESCRIPTION
20°C OFF	***FINAL CLEANING***	The stove is in the switch off phase and the cooling phase has not been completed yet.
20°C ON	***SWITCH ON***	The heater pre-heating phase has started and the pellets start to fall into the grate.
20°C ON	***WAITING FOR FLAME***	The pellets ignite and take advantage of the heat in the intake air that passes through the incandescent heater tube.
20°C ON	***FLAME PRESENT***	The flame is visible in the grate.
20°C	***AREAS***	The stove has completed the switch on phase and runs at maximum set capacity.
20°C modula	***WORK MODULA***	The room temperature set has been reached.
20°C	***THE GRATE***	Brazier cleaning phase is active (periodic function).
20°C Eco	***ECO STOP***	With Climate Comfort active, the stove switches to automatic switch-off mode when the room temperature set is reached (see the dedicated section).

	PHASE	DESCRIPTION
	***START/RESTART WAIT***	Switch-on is requested but with the stove in cooling phase; once this condition is met, it restarts automatically.
	***SWITCH ON RESTART***	The HOT restart phase is activated. Functioning is similar to the SWITCH ON phase
	***HOT SMOKE***	The maximum fume temperature threshold has been reached. To facilitate cooling, the stove brings the capacity to a minimum with ventilation at power level 5, leading to a decrease in fume temperature.
	***OFF***	The stove is off
	***WAIT FOR PELLETS OUT OF***	When the switch-on request from ECO-STOP mode coincides with an automatic switch-off condition (from the TIMER), the stove turns on ensuring total cleaning of the brazier before switching to FINAL CLEANING.
	***INFEED SCREW OVERFLOW***	CONDITION: when the pellet setting (set pellets +5) is near the continuous load condition. SOLUTION: Set the value back to 0.
	***GENERIC ALARM***	The stove is in alarm state; refer to the throubleshooting chapter.
	***ANOMALY (general)***	The stove has detected an anomaly; refer to the throubleshooting chapter.
	***AUTOMATIC CLEANING SYSTEM ACTIVE***	For models with semiautomatic cleaning it indicates the state of the same.

Warning Pop-Up

	FLAME	DESCRIPTION
	***RDS SYSTEM ADJUSTMENT REQUEST*** ***(only if the RDS system is provided)***	It shows that the testing procedure and initial parameter calibration have not been completed or have been performed incorrectly. This indication, however, does not block the stove.
	***SERVICE REQUEST***	The threshold value of set work hours has been reached. The symbol displayed remains active throughout the work phase. Non-routine maintenance is required on the stove.
	***AIR FLOW METER FAILURE*** ***(only if the RDS system is provided)***	It shows a failure of the air flow meter and the stove switches to minimum capacity disabling the RDS system.

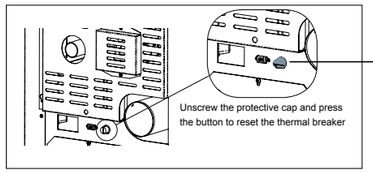
SIGNALLING	*REASON*	*SOLUTION*
RUN BRAZIER CLEANING (only if the RDS system is provided)	• The door and the ash box are not closed correctly	• Make sure they are properly closed.
	• Poor combustion in grate.	• Switch off the stove, clean the brazier and check the cleanliness of the support bench, clean the tube bundle by activating the turbolators. and adjust the combustion through Pellet/Air settings.
	• Presence of foreign body in air intake tube.	• Check for any foreign body and remove it
	• The air flow meter may be dirty.	• **Clean the flow meter with the stove in "Switched off" state**
		• **Contact the Support Service**

The appearance of the message "ADJUST THE RDS SYSTEM" indicates that the initial parameter testing procedure and calibration has been unsuccessfully. This indication does not block the stove.

Alarms (table with reference codes)

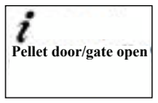
TRIAL	TITLE	REASON	SOLUTION
AL 01	BLACK OUT	- No voltage during work phase	- Press the switch off key and switch on boiler switch-on.
			- If the problem persists, contact the Support Service
AL 02	FUME PROBE	- The fume probe is malfunctioning	- Contact the Support Service
		- The fume probe is disconnected from the electronic board	- Contact the Support Service
AL 03	FUME OVERTEMP.	- Combustion in the brazier is not optimal due to clogging or obstructions of internal stove ducts	- Switch off the stove, clean the brazier and the tube bundle and adjust the combustion setting the Pellet/Air values
		- The tangential fan (if provided) is malfunctioning or damaged	- Contact the Support Service
			- If the problem persists, contact the Support Service
AL 04	FUME EXHAUST DAMAGED	- Fume exhaust encoder is not working or is connected incorrectly	- Contact the Support Service
		- No power to fume exhaust system	- Contact the Support Service
		- The fume exhaust system is blocked	- Contact the Support Service
AL 05	NO SWITCH-ON	- The pellet tank is empty	- Check for the presence of pellets in the container. Top up, if necessary.
		- Pellet calibration and suction during switch on phase is incorrect.	- Contact the Support Service
		- The igntition coil is faulty or positioned	- Contact the Support Service
AL 06	PELLETS FINISHED	- The pellet tank is empty.	- Check for the presence of pellets in the container. Top up, if necessary.
		- The gear motor is not loading pellets	- Empty the tank to see if there are any objects inside that may prevent the proper operation of the auger.
		- Not enough pellets loaded	- Regulate pellets setting from "SET AIR/PELLETS"
			- If the problem persists, contact the Support Service Support
AL 07	RESET THERMAL BREAKER / PELLET DOOR OR GATE OPEN	- The manual reset thermostat has tripped connected to the hopper (RESET THERMAL BREAKER / Pellet door or gate is open	- Reset the thermostat by pressing the button on the back of the stove or close the doors.
		- Combustion in the grate is not optimal due to the fact that the grate is clogged or the inner stove ducts are clogged. (RESET THERMAL BREAKER)	- Switch off the stove, clean the brazier and the tube bundle and adjust the combustion setting the Pellet/Air values
			- Contact the Support Service
AL 08	DEPRESSURIZATION	- The flue is blocked.	Check the flue is free and clean
		- The vacuum meter is faulty.	- Contact the Support Service
AL 12	FUME EXHAUST SYSTEM FAILURE	- T he fume exhaust system has a loss of performance due to fan obstruction or voltage drop.	- Contact the Support Service
AL 14	SCREW PHASE	- No cable connection to power the gear motor of the auger	- Contact the Support Service
AL 15	AUGER TRIAC	- An internal part of the electronic board that controls the pellet infeed screw is faulty.	- Contact the Support Service
		- Possible voltage drops or incorrect input voltage stove inlet	- Check the mains voltage.
AL 17	NO FLOW ***(only if the RDS system is provided)***	- The flow meter does not measure inlet air flow	- Check if the ash pan and door are closed correctly and check if the air inlet pipe is obstructed.
			- If the problem persists, contact the Support Service
AL 19	CLEANER FAILURE (for models equipped with cleaner)	- The cleaner did not complete the movement and is not in the correct position	- Reset the alarm and wait for the stove to switch to SHUTDOWN mode. Cut off and power again, the system reactivates the cleaner trying to search the correct position again.
			-- If the problem persists, contact the Support Service

In the case of alarm 07 THERMAL BREAKER below shows the location where to operate to reset the thermal switch with manual reset.



Manual reset thermal breaker

Unscrew the protective cap and press the button to reset the thermal breaker



Cleaning should be provided by the user

Before any cleaning operation on the stove, implement the following precautions:

- switch off the stove and disconnect the power cord with the stove in "Switched OFF" state;
- make sure all the parts of the stove are cold;
- make sure the ash is completely cooled.

PLEASE READ CAREFULLY THE FOLLOWING INSTRUCTIONS TO PERFORM PROPER CLEANING.
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY LEAD TO MALFUNCTIONS OF THE STOVE.

Clean the surfaces

To clean the surfaces of the coated metal parts, use a cloth soaked in water or water and soap.
Attention! Use of abrasive detergents or diluents can damage the surface of the stove.

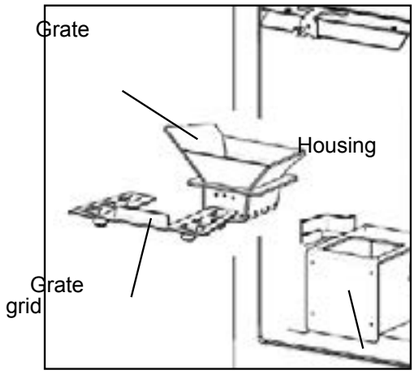
Grate cleaning should be carried out before each switch on

To ensure proper cleaning before switching on the stove, it is necessary to check that the brazier is clean and so that they are always excellent combustion, thus avoiding any overheating that may cause changes in the color of the paint or peeling of the door coating. Furthermore, poor cleaning of the grate can cause stove switch on problems.

Before removing the grate and check for any dirt inside it, remember to remove the "grill grate".
Once the brazier grill is clean it should be fitted in its housing ALWAYS AFTER having installed the brazier.

Clean basket

Basket that needs cleaning



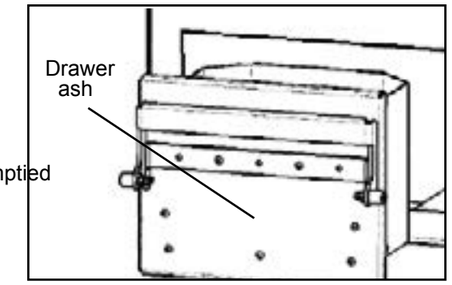
If you use another type of pellets, even of the same brand, this may lead to differences in combustion that may result in greater ash deposits inside the grate. Correct cleaning, carried out on a daily basis, allows the stove to burn pellets omptimally with a good and steady heating output, preventing malfunctions that over time may call for the intervention of a technician to restore stove's operation.

Cleaning the ash pan

Remove the drawer from the stove and remove the ash collected using an ash vacuum; be very careful if the grate is still hot as this can damage the cleaning equipment.

Cleaning operations of the stove depend on the quality of the pellets used and the frequency of use.
It may be necessary to carry out these operations on a daily basis.

Ash pan that needs to be emptied



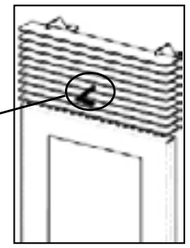
Cleaning glass

The glass of the door should be cleaned with the stove cooled down using a cotton cloth or paper towel.
Usually, we recommend you clean the glass with a damp (water) cloth and ash collected after burning (having an abrasive function).

DO NOT SWITCH ON THE STOVE IF YOU NOTICE ANY DAMAGES ON GLASS SURFACE.
CONTACT THE TECHNICAL SUPPORT SERVICE TO HAVE IT REPLACED.

Manual tube bundle cleaning **(where applicable)**

Operate the L-shaped pin forward and backward to keep the tube bundle clean and thus ensure optimal heat exchange.



Cleaning the internal vermiculite (Firex 600)

The FIREX 600 products stand out due to the fact that they are heat resistant, lightweight and have excellent insulation capacity, with consequent improvement of combustion and performance of the stove. During combustion, the FIREX 600 whitens due to Pyrolysis, making the flame light and bright. Therefore, if combustion is suitably regu-lated, the original colour of the internal part of FIREX 600 remains unchanged.

This means that the colour of vermiculite during combustion indicates whether the latter is correct or not:
FIREX 600 LIGHT = OPTIMAL COMBUSTION
FIREX 600 DARK = BAD COMBUSTION

Firex 600 does not require any specific maintenance. you must only remove the dust with a brush if you intend to clean the ash built up during combustion.

- You should not use abrasive sponges to clean the more stubborn residues as it could compromise the thickness of the FIREX 600, creating critical breaking points.
- It is not advisable to use the vacuum cleaner hose in direct contact with FIREX 600.
- It is not advisable to use damp clothes to clean the FIREX 600.

FIREX 600 is resistant to heat but not to shocks: handle it carefully after removal.

After a few hours of operation FIREX 600 may show slight abrasion: this is absolutely normal, as the flame creates micro-grooves in the panel, without compromising the latter.
The service life of FIREX 600 depends exclusively on the way in which maintenance is performed.

Below are summarised the checks and/or maintenance interventions required for the proper operation of the stove.

PARTS / FREQUENCY	1 DAY	2-3 DAYS	30 DAYS	60-90 DAYS	1 SEASON
Grate	●				
Ash pan		●			
Glass		●			
Suction duct*				●	
Door gasket*					●
Turbulators		●			
Flue*					●
Combustion chamber		●			
Vacuum pellet tank			●		
Electrical-mechanical parts*					●

** Operations to be carried out by authorized technical staff.*

Warranty

Warranty Certificate

Ravelli srl would like to thank you for agreeing to buy one of our pellet stoves and invites you, the customer, to:
- read the instructions for installation, use and maintenance of the stove.
- note the warranty conditions reported below.

The warranty form attached to the stove must be compiled and stamped by the installer to activate the warranty.
Otherwise the warranty shall not enter into effect.

Warranty conditions

The warranty covers manufacturing material defects, provided the product was not subject to breakages caused by improper use, negligence, incorrect connection, tampering or installation errors. Not covered by the warranty:
- vermiculite (firex 600)
- the door glass;
- the fibre seals;
- the paint;
- the combustion basket in stainless steel or cast iron;
- the resistor;
- the coloured majolica;
- any damage due to inadequate installation and/or tampering with the stove and/or negligence on the customer's part.

Use of poor quality pellets or any other material which could damage the components of the stove cause the warranty to become invalid, as well as the relevant liability of the manufacturer.

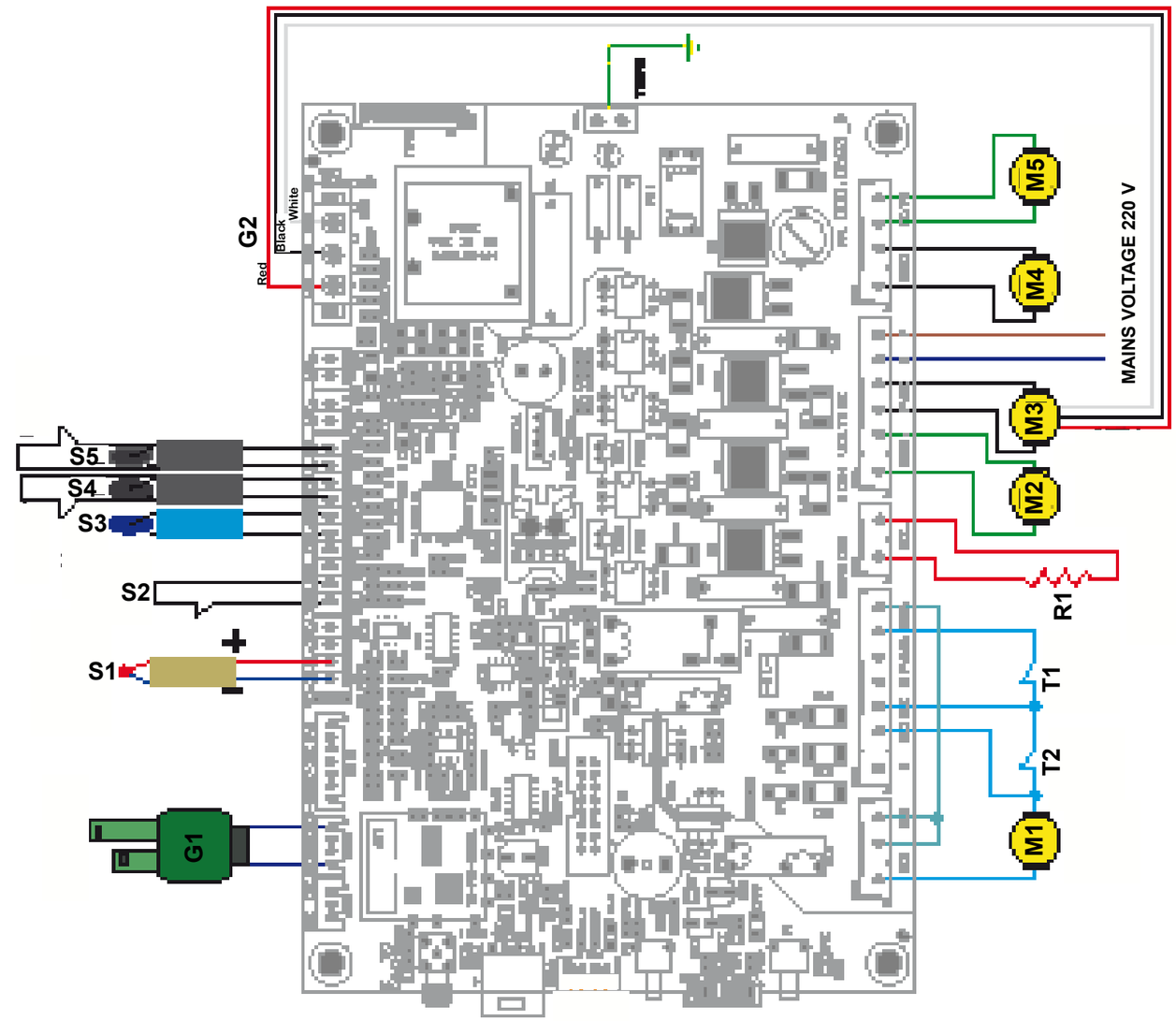
Therefore, we recommend you use pellets that meet the requirements in the specific chapter. All damages caused by transport are not recognised, therefore we recommend you carefully check the goods on receipt, immediately advising the dealer of any damage.
The warranty form must be detached and sent within 8 days of purchase to the following address:

Ravelli srl Via Kupfer, 31
25036 Palazzolo s/O
Brescia (ITALY)

Info and problems

For any information support request, please contact the local dealer or support centre as they are authorized to provide solutions to all requests and intervene directly, when necessary.

Mother board wiring diagram



G3

LEGEND:

Safety devices
T1 - Pellet safety
T2 - Vacuum switch

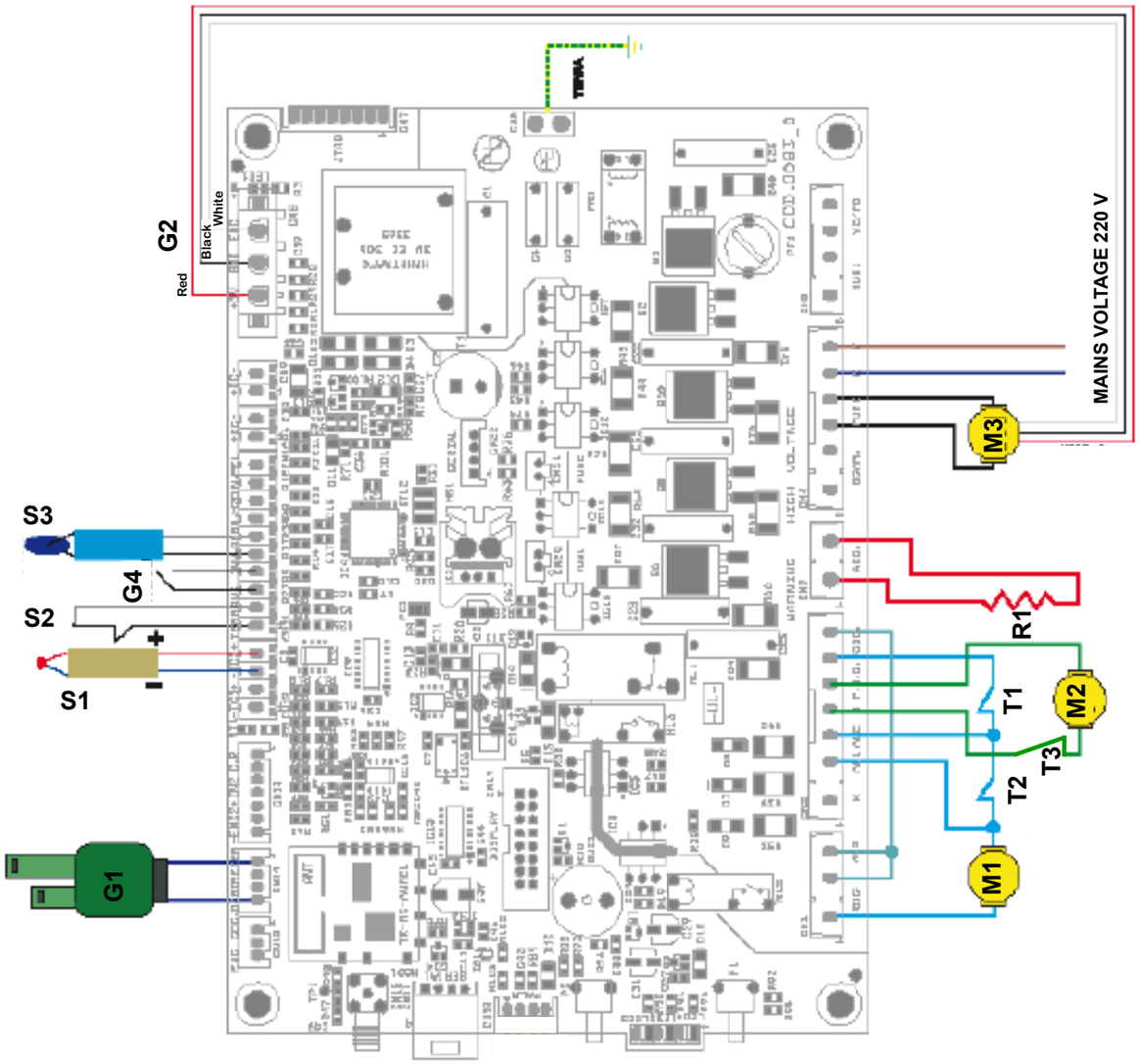
Motors
M1 - Infeed screw gear motor
M2 - Room fan
M3 - Fume exhaust system
M4 - Heat exchanger 1 fan
M5 - Heat exchanger 2 fan

Resistance
R1 - 250watt heater

Probes
S1 - Fume probe
S2 - External thermostat
S3 - Room probe
S4 - Rear or RRight Probe/EXT. T.
S5 - RLeft Probe/EXT T.

General
G1 - Flow meter
G2 - Extractor revolution reading encoder

Mother board wiring diagram (mod. BLOW)



LEGEND:

Safety devices
T1 - Pellet safety
T2 - Vacuum switch

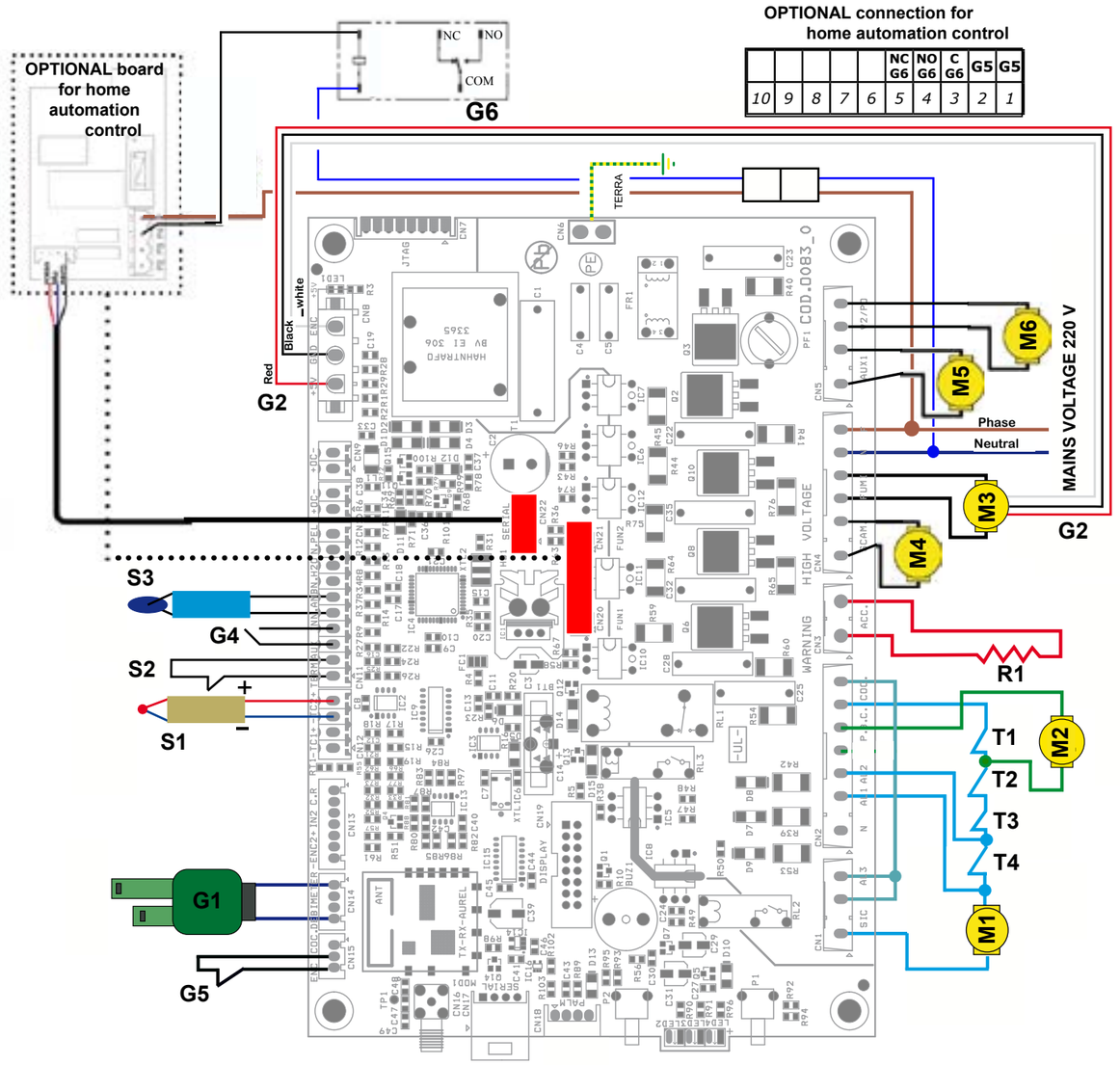
Motors
M1 - Infeed screw gear motor
M2 - Room fan
M3 - Fume exhaust system
M4 - Heat exchanger 1 fan
M5 - Heat exchanger 2 fan

Resistance
R1 - 250watt heater

Probes
S1 - Fume probe
S2 - External thermostat
S3 - Room probe
S4 - Rear or RRight Probe/EXT. T.
S5 - RLeft Probe/EXT T.

General
G1 - Flow meter
G2 - Extractor revolution reading encoder

Mother board wiring diagram (models 2015)



LEGEND:

Safety
T1- Fire Door contact
T2- Pellet tank contact
T3 - Pallet safety device
T4 - Vacuum switch

Motors
M1 - Feed screw gear motor
M2 - Automatic cleaning system
M3 - Smoke exhaust system
M4 - Heat exchanger (natural convection or optional fan ventilated stoves)
M5 - RH heat exchanger (stoves with double ducting)
M6 - RH or LH heat exchanger (stoves with single ducting or double ducting)

Heater
R1 - Heater

Probes
S1 - Flame probe (K)
S2 - External thermostat
S3 - Room probe (opt)

General
G1 - Flow meter
G2 - Extractor revolution reading encoder
G3 - Handheld set "RADIO" Touch
G4 - Mechanical cleaner counter
G5 - Home automation control contact
G6 - GAS switch-on contact- Home automation output alarm (TRF 39)

Gas boiler contact (Optional)

The stoves belonging to range 2015 feature (optional) a contact that switches on the gas boiler if the stove goes in alarm state.

- The output must be connected to the terminal on the stove – G6 (on the relay NC contact)
- The output behaves as follows: when the stove passes in alarm state, the control deactivates the relay on the NC contact to which should be connected the gas boiler switch-on contact. Contact that is activated as soon as the stove goes to switch-on state.

Home automation (Optional)

The stoves belonging to range 2015 feature (Optional) a control for one contact at the input of the board and an output that signals the STOVE STATUS in order to interface the product with an evolved home automation system. Here is description of the operation of the home automation system that allows you to interface it with programmable home automation systems.

- The input must be connected to the terminal on the stove – G5
- The output must be connected to the terminal on the stove – G6 (on the relay NO contact)
- To switch on the stove, send a pulse of at least 1 sec at the input G5 (contact closure for at least 1 s); there must be a pause of at least 1s between one pulse and the other.
- The output behaves as follows: upon every switch-on, it turn on for 2 sec, upon each shutdown, it turns on for 4sec, in alarm it remains on (between one activation and the next is a pause of 1 s; for example, if the system is switched on and then turned off immediately, the output will behave as follows: ON for 2s / OFF for 1s / ON for 4s).
- If there is an alarm, the home automation system cannot reset it (to reset the alarm please refer to ALARMS section.

MAINTENANCE

DATE	INTERVENTION CARRIED OUT

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Ravelli®

il fuoco intelligente

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