



EN Installation, use and maintenance page 2

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The undersigned EDILKAMIN S.p.a. with head office headquarters at Via Vincenzo Monti 47 - 20123 Milan - Italy - VAT IT00192220192

Declares under its own responsability as follows: The pellet Boiler-stoves illustrated below conforms to Regulation EU 305/2011 (CPR) and to the harmonised European Standard EN 14785:2006

WOOD PELLET BOILER-STOVES, trademark EDILKAMIN, called MITO IDRO

Year of manufacture: Ref. Data nameplate Declaration of performance (DoP - EK n° 129): Ref. data tag plate

In addition, it is hereby declared that: The wood pellet Boiler-stoves MITO IDRO is in compliance with the requirements of the European directives: 2014/35/CE - Low voltage directive 2014/30/CE - Electromagnetic compatibility directive

EDILKAMIN S.p.a. will decline all responsability of malfunctioning or damage to the equipment in case of unauthorized

substitution, assembly or modifications of any sort on the said equipment on the part of non-EDILKAMIN personnel.

#### Dear Sir/Madam

We thank you for and congratulate you on choosing our product. Before using it, we ask you to read this manual carefully, in order for you to be able to make the most of all its functions in total safety.

This manual is an integral part of the product. We ask you to keep it for the entire lifetime of the product. If you lose it, you can request a copy from your dealer or download it from www.edilkamin.com

#### **Readers of this manual**

This manual is addressed to:

• those who will use the product at home ("USER");

• the technician who will install the product ("INSTALLER") The target person of each page is indicated in a band at the bottom of the page (USER or INSTALLER).

#### **General information**

After unpacking the product, check the condition and completeness of the contents.

In the event of error, immediately contact the retailer where the purchase was made, providing them with a copy of the warranty booklet and the sales receipt.

The appliance must be installed and operated in compliance with local and national law and European regulations. For the installation, and for anything not specifically indicated in the manual, observe local regulations.

The diagrams provided in this manual are for illustration purposes only: they do not always strictly refer to your specific model, and are not binding in any way.

#### **MEANING OF SYMBOLS**

In some parts of the manual the following symbols are used:



#### PLEASE NOTE:

carefully read and understand the message in question, since failure to follow the instructions in it could cause serious damage to the product and put the safety of those using it at risk.



#### **INFORMATION:**

failure to comply with these requirements will compromise product use.



OPERATING SEQUENCE:

follow the instructions for the operations described.

# Identification of the product and warranty.

The product is uniquely identified by a number, the "counterfoil", which is indicated on the warranty certificate.

Please keep:

- the warranty certificate accompanying the product
- the purchase receipt given to you by the retailer
- the declaration of conformity given to you by the installer.

The warranty conditions are given in the warranty certificate accompanying the product.

**First ignition (commissioning)**, in Italy, by an authorised technician is required by UNI 10683, and is recommended in all countries to ensure best results from the product.

This consists of:

- checking the installation documents (declaration of conformity) and the quality of the installation itself
- calibrating the product to suit its actual application
- providing explanations to the end user and issuing the complementary documentation (first ignition commissioning certificate)

Having the appliance commissioned properly ensures that it will operate to best effect and in complete safety.

Commissioning is required for activation of the Edilkamin manufacturer warranty. The warranty is only valid in the country where the product was bought.

If the appliance is not commissioned by an authorised technician, Edilkamin will not provide warranty service. See the warranty booklet for details. The above terms do not affect the dealer's legal responsibility for the legal warranty.

The warranty, however, covers only demonstrable manufacturing defects and not, for instance, problems resulting from improper installation or calibration.

- The product is not designed for use by people, including children, with limited physical, sensory and mental abilities.
- The appliance is not designed for cooking purposes.
- The appliance is designed to burn wood pellets from category A1 in the UNI EN ISO 17225-2 standard, in the amounts and manner described in this manual.
- The appliance is designed for indoor use and in areas with normal humidity conditions.
- Keep the product in a dry place out of the weather.
- For the legal and company warranties, refer to the warranty certificate inside the product: specifically, neither Edilkamin nor the retailer are liable for damage resulting from incorrect installation or maintenance.

Safety risks may be caused by:

- installation in non-suitable settings, in particular those that are subject to fire risks. DO NOT INSTALL THE PRODUCT IN AREAS SUBJECT TO THE RISK OF FIRE.
- contact with fire and hot parts (e.g. glass panel and pipes). DO NOT TOUCH HOT PARTS and, when the stove is switched off and still hot, always wear the glove supplied.
- contact with live electrical equipment (internal). DO NOT ACCESS THE INTERNAL ELECTRICAL EQUIPMENT WHILE THE APPLIANCE IS POWERED ON. Electrocution hazard.
- use of improper ignition aids (e.g. alcohol). DO NOT IGNITE OR BOOST THE FLAME WITH FLUID SPRAYS OR A FLAME TORCH. Serious risk of burns, damage and injury.
- use of fuel other than wood pellets. DO NOT BURN WASTE MATTER, PLASTIC OR OTHER MATERIALS THAN WOOD PELLETS IN THE COMBUSTION CHAMBER. The product may become soiled, the flue may catch fire, and environmental damage may ensue.
- cleaning the combustion chamber when hot. DO NOT CLEAN THE

HEARTH WITH A VACUUM CLEANER WHILE IT IS HOT. You could damage the vacuum-cleaner and risk the emission of smoke in the room.

- cleaning the smoke duct with cleaning products. DO NOT CLEAN THE PRODUCT WITH FLAMMABLE PRODUCTS. Risk of fire or blowback.
- cleaning the glass pane while hot or with unsuitable cleaning products. DO NOT CLEAN HOT GLASS WITH WATER. ONLY USE RECOMMENDED GLASS CLEANING PRODUCTS. Risk of cracking and permanent, irreparable damage to the glass.
- the storage of flammable materials at a distance which is less than the safe distances listed in this manual. DO NOT PLACE LAUNDRY ON THE APPLIANCE. DO NOT PLACE DRYING RACKS WITHIN THE SAFETY CLEARANCE. Keep flammable fluids away from the appliance. Fire hazard.
- blocking the aeration vents and air intakes in the room. DO NOT BLOCK THE AERATION VENTS OR FLUE. Risk of smoke returning into the room with consequent damage and injury.
- use of the product as a support or ladder. DO NOT CLIMB ONTO THE PRODUCT OR USE IT AS A SUPPORT. Risk of damage and injury.
- use of the stove with the combustion chamber open. DO NOT USE THE PRODUCT WITH ITS DOOR OPEN.
- incandescent material projected from the open door. DO NOT throw incandescent material outside the appliance. Fire hazard.
- use of water in case of fire. CALL THE AUTHORITIES if a fire breaks out.
- never operate the product without water in the circuit.
- running it dry can damage it.

If you have doubts, please do not take any action, but contact the retailer or the installer.

For reasons of safety, read the user instructions included in this manual.

MITO IDRO dimensions (cm)









# **TECHNICAL DATA**

<b>TECHNICAL DATA as per EN 14785</b>			
	Nominal power	Reduced power	
Thermal power output	13	3,9	kW
Thermal power transferred to the water without fan	10	3	kW
Thermal power transferred to the environment	3	0,9	kW
Yield / Efficiency	91,6	97,6	%
Emissions CO 13% O <sub>2</sub>	0,010	0,025	%
Fume temperature	129	56	°C
Fuel consumption	3	0,8	kg/h
Draught	12 - 5 10 - 3		Pa
Hopper capacity	30		kg
Water content	12		Litres
Maximum operating pressure of the water	1	,5	bar
Maximum operating temperature of the water	ç	00	°C
Autonomy	9 34		hours
Heatable volume *	3	40	m <sup>3</sup>
Smoke outlet pipe diameter (male)	80		mm
Air intake pipe diameter (male)	4	0	mm
Weight including packaging (ceramic/steel)	250	/ 230	kg

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\* The heatable room dimensions are calculated on the basis of home insulation in compliance with Italian law 10/91, and subsequent changes together with an expected heat output of 33 Kcal/m<sup>3</sup> per hour.

# TECHNICAL DATA FOR SIZING THE FLUE

which must in any case satisfy the requirements of this sheet and the installation instructions for the product

	Nominal power	Reduced power	
Thermal power output	13	3,9	
Temperature of fumes on exit from the discharge pipe	155	67	°C
Minimum draught	0 -	- 5	Pa
Fume flow capacity	10,6	3,6	g/s

ELECTRICAL CHARACTERISTICS				
Power supply	230Vac +/- 10% 50 Hz			
Average power consumption	120 W			
Power consumption during ignition	400 W			
Protection on electronic circuit board	T2A, 250 Vac, 5x20 Fuse			

The above data is for guidance only and was measured during certification by a notified body.

**EDILKAMIN** s.p.a. reserves the right to modify the product without notification in the interests of improvement.

#### **PREPARAZIONE E DISIMBALLO**

I materiali che compongono l'imballo non sono né tossici né nocivi, pertanto non richiedono particolari processi di smaltimento.

Lo stoccaggio, lo smaltimento o eventualmente il riciclaggio è a cura dell'utilizzatore finale in conformità delle vigenti leggi in materia.



Si raccomanda di effettuare ogni movimentazione in posizione verticale con mezzi idonei prestando attenzione alle norme vigenti in materia di sicurezza.

Non rovesciare l'imballo e usare ogni cautela per i particolari da montare.

#### **IMBALLO**

L'imballo contiene due colli:

- uno (1)con la struttura della stufa;
- uno (2) con le ceramiche

Di seguito la descrizione per la versione in ceramica e per la versione in acciaio

#### DISIMBALLO

Per rimuovere il prodotto dal bancale:

- smontare il frontalino inferiore;
- svitare le viti di fissaggio al bancale
- riposizionare il frontalino

Il materiale dell'imballo (per esempio plastiche, fogli a pellicola) può essere pericoloso per i bambini. C'è rischio di soffocamento. Tenere gli imballaggi lontano dai bambini.



# **COVERING INSTALLATION**

## EDILKAMIN

# **1) CERAMIC VERSION**

# Fig. 1

The stove is delivered (Fig. 1) with the following external components already installed:

- aluminium profiles (A)
- upper grille (B)
- lower panel (C)

The pieces indicated below are packaged separately.

- 6 side ceramic panels (D)
- 1 lower horizontal ceramic element (E)
- 1 upper horizontal ceramic element (F)
- 1 ceramic top (G)
- 4 milled pins M4
- 4 washers
- 4 rubber stoppers (M)
- 4 flat washers D 10
- 4 brass washers D 8

# To fit proceed as follows:

# Fig. 2

Remove the upper grille together with the frame (B) screwed onto the structure and the interlocking lower panel (C), after removing the fixing screw.

# Fig. 3

Attach the lower horizontal ceramic element (E) using the relevant slots, M4 knurled bolts and washers provided.







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# Fig. 4

Attach the upper horizontal ceramic element (F) to the upper grille (B) using the two M4 knurled bolts and washers provided.



# Fig. 5

Insert the side ceramic panels (D) into the relevant guides.

#### N.B.

In the event of vibration, an  $8 \mathrm{x1}$  adhesive gasket is provided

to place between the profi les and ceramic side panels.

# Fig. 6

Place the ceramic top (G) above the structure.

NB: it the ceramic top does not fit evenly over the structure, use the rubber stoppers (M) and washers provided, inserting them into the housings on the cast iron top.

# **COVERING INSTALLATION**

# 2) STEEL VERSION

# Fig. 1

The stove is delivered (Fig. 1) with the following external components already installed:

- metal sides (A)
- upper grille (B)
- lower panel (C)

The pieces indicated below are packaged separately.

- 1 lower horizontal ceramic element (E)
- 1 upper horizontal ceramic element (F)
- 1 ceramic top (G)
- 4 milled pins M4
- 4 washers
- 4 rubber stoppers (M)
- 4 flat washers D 10
- 4 brass washers D 8

# To fit proceed as follows:

# Fig. 2

Slide out the metal sides upwards to remove the upper grille together with the frame (B) screwed onto the structure and the interlocking lower panel (C),

After removing the fixing screw. Re-position the previously removed metal sides.

# Fig. 3

Attach the lower horizontal ceramic element (E) using the relevant slots, M4 knurled bolts and washers provided.







# Fig. 4

Attach the upper horizontal ceramic element (F) to the upper grille (B) using the two M4 knurled bolts and washers provided.



# Fig. 5

Place the ceramic top (G) above the structure.

NB: it the ceramic top does not fit evenly over the structure, use the rubber stoppers (M) and washers provided, inserting them into the housings on the cast iron top.

# **GENERAL NOTES**

#### The smoke discharge and plumbing connections must be carried out by qualified personnel who can issue an installation declaration of conformity complying with national law.

In Italy it is necessary to refer to the standard declaration of conformity conforming to Ministerial Decree 37/2008 (pursuant to Law 46/1990) and standards UNI 10683 and UNI 10412-2/2009.

In the case of installation in a multiple-tenancy building, contact the building manager before installation.

# VERIFY COMPATIBILITY WITH OTHER DEVI-CES

In Italy the boiler-stove MUST NOT be installed in the same space as type B gas heating equipment (e.g. gas boilers, stoves, and equipment served by an extraction hood - ref. UNI 10683 and 7129).

In general, the stove could create low pressure in the room, affecting the operation of such appliances or being affected by them.

#### VERIFY THE POWER SUPPLY CONNECTION (the plug must be accessible)

The boiler-stove is supplied with a power cable that is to be connected to a 230V 50 Hz socket, preferably fitted with a magnetothermic switch.

The electrical system must comply with the law; particularly verify the efficiency of the earthing system.

The power line must have a suitable cross-section for the boiler power.

An inadequate earthing system can cause anomalies for which Edilkamin cannot be held liable.

In case of problems with the electrical grid, consult an electrician to evaluate the installation of a sine-wave UPS of at least 800 Va.

Power variations greater than 10% can cause problems for the product.

#### **AIR INLET (to be mandatorily implemented)**

The room where the boiler-stove is located must have an air intake with cross section of at least 80cm<sup>2</sup> to ensure-replenishment

of the air consumed by combustion.

Alternatively, the boiler-stove air may be taken directly from outside through a 4 cm steel extension of the pipe. In this case, there may be condensation problems and it is necessary to protect the air intake with a grille, which must have a freesection of at least 12 cm<sup>2</sup>. The pipe must be less than 1 metre long and have no bends. It must end with section at 90° facing downwards or be fitted with a wind guard. In any case all the way air intake duct must be a free section of at least 12 cm<sup>2</sup>. The external terminal of the air inlet channel must be protected with an anti-insect netting that does not reduce the 12 cm<sup>2</sup> through passage.

# POSITIONING AND DISTANCES FOR FIRE SAFETY

For correct operation the boiler-stove must be level. Check the load-bearing capacity of the floor. The boiler-stove must be installed in compliance with the

following safety conditions:

- flammability items must be kept at a minimum distance of 10 cm from the sides and back of the boiler-stove

- highly flammable items must be kept at a minimum distance of 80 cm if placed in front of the boiler-stove

- if the boiler-stove is installed on a flammable floor, a sheet of heat insulating material must be placed between the boiler-stove and the floor, which protrudes by at least 20 cm at the sides and 40 cm at the front.

Flammable objects must not be placed above the boilerstove or at a distance that is any less than the stipulated safety distances. If connected to wooden walls or other flammable materials, the smoke exhaust pipe must be appropriately insulated with ceramic fibre or other similar material.

#### FLUE SYSTEM(Smoke duct, flue and chimney pot)

This chapter has been drawn up pursuant to European standards EN 13384, EN 1443, EN 1856 and EN 1457. The installer must observe both these and any other local regulations. This manual does not in any way substitute such regulations.

The product must be connected to a flue system which ensures that the smoke produced by combustion is discharged in complete safety.

Before positioning the appliance, the installer must check that the flue is suitable.

# **SMOKE DUCT, FLUE**

The smoke duct (which connects the smoke outlet of the combustion chamber with the flue) and the flue itself must, among other regulatory requirements:

- receive the smoke from a single product (outlets from multiple appliances may not be conveyed into a single flue)
- be routed vertically for the most part
- have no downwards sloping sections
- preferably have a circular internal cross section, or with a ratio of the sides of less than 1.5
- terminate at roof level with a proper chimney pot: the flue may not discharge directly onto the wall or into an enclosed space, even if the space in question is open to the sky
- be made of material with rated fire reaction class A1 as per UNI EN 13501 or analogous national regulations
- be certified, with a chimney plate if metal
- be of uniform cross section or vary in cross section only immediately after the outlet, not at some mid point of its length

# **TYPICAL EXAMPLES**

Fig. 1



Further to the general prescriptions for the smoke duct and flue, the smoke duct:

- may not be made of flexible metal material
- must be insulated, if routed through unheated areas or outdoors
- must not be routed through rooms where the installation of combustion heat generators is prohibited, where there is risk of fire, or which cannot be inspected
- must enable the recovery of soot and be open for inspection
- must have at most 3 bends with a maximum angle of  $90^{\circ}$
- if there is a horizontal section, it must be a single one with a maximum length of no more than 3 metres, depending on the draw. Note, in any case, that long sections promote the accumulation of dirt and are harder to keep clean.





# THE FLUE:

Further to the general prescriptions, the flue must

- only be used to discharge smoke
- be correctly sized to satisfy the requirements of smoke discharge (EN 13384-1)
- must preferably be insulated, in steel with a circular internal section. If rectangular, the corners must have a radius of not less than 20 mm, with a ratio of the internal dimensions of <1.5
- must normally be at least 1.5 metres in vertical length
- must have a constant cross section
- must be waterproof and thermally insulated to ensure a good draw
- must preferable have a collection chamber for non-combusted matter and condensation.
- if pre-existing, it must be cleaned to prevent any fire hazard
- in general, we recommend fitting a tube inside the existing masonry chimney if its diameter is greater than 150 mm. This recommendation is purely for guidance; the installer must assess wile installing, after the calculation of the draw.

# INTUBATED SYSTEM:

Further to the general prescriptions, the intubated system must:

- operate in negative pressure
- be open to inspection
- be compliant with local regulations.

# THE CHIMNEY POT must:

- be wind-proof
- have an internal cross section equivalent to that of the flue and a smoke outlet at least double that of the interior of the flue
- extend beyond the back flow zone (in Italy, refer to UNI 10683 point 6.5.8.)
- allow for maintenance of the chimney

For dual flues (which should be spaced at least 2 m apart), the chimney pot receiving the smoke from the solid fuel appliance or that from the higher storey, must be at least 50 cm higher than the other

#### **AIR INTAKE FOR COMBUSTION**

In general, we suggest two ways to ensure a proper flow of combustion air. Air must come from the outside\* It is also important to ensure a change of heating air and glass cleaning air etc.

## Indirect air intake

The boiler stove takes air from the outside through the hole on the rear.

Install an air outlet at floor level with an effective surface area (net of the mesh or other protections) of at least  $80 \text{ cm}^2$  (10 cm in diameter).

To prevent draughts, we recommend installing the intake behind the product or behind a radiator.

Installing it in front of the appliance will create unpleasant draughts.

# **Direct air intake**

Install an air intake of effective area (net of the mesh or other protective equipment) at least equal to that of the air intake at the back of the product.

Connect the air intake to the appliance's air intake with a tube (which may also be of the hose type). Increase the diameter of the pipe if it is not smooth: assess its pressure drops.

We recommend not exceeding a length of 3 m, considering the draw of the flue. For each curve, up to a maximum of two, the length must be reduced by 1 m. You should also consider increasing the diameter of the pipe.

\*The air may be drawn from an adjacent room only if:

- the flow is taken from permanent and unobstructed openings communicating with the outdoors
- the air pressure in the adjacent room is never lower than that of the outdoor pressure
- the adjacent room is not a garage. subject to fire hazard, a bathroom or bedroom
- the adjacent room is not a shared room in the condominium

In Italy, UNI 10683 provides that ventilation is sufficient even if a pressure difference between the outdoors and indoors of no more than 4 PA is guaranteed (UNI EN 13384-1). The installer who issues the declaration of conformity is responsible for ensuring these conditions.

# VERIFICA ALLACCIAMENTO ELETTRICO (posizionare la presa di corrente in un punto facilmente accessibile)

La stufa è fornita di un cavo di alimentazione elettrica da collegarsi ad una presa di 230V 50 Hz, preferibilmente con interruttore magnetotermico.

Variazioni di tensione superiori al 10% possono compromettere il funzionamento della stufa.

L'impianto elettrico deve essere a norma; verificare in particolare l'efficienza del circuito di terra.

La non efficienza del circuito di terra provoca mal funzionamento di cui Edilkamin non si potrà far carico. La linea di alimentazione deve essere di sezione adeguata alla potenza dell'apparecchiatura.

Il cavo di alimentazione elettrica non deve entrare in contattto coi tubi di scarico o altre parti calde della stufa.

Alimentare la stufa portando l'interruttore da 0 a 1.

FUSIBILE sulla presa con interruttore posta sul retro della termostufa, sono inseriti due fusibili, di cui uno funzionale e l'altro di scorta (2AT).

#### **PLUMBING CONNECTION**

The plumbing connection depends on the type of system. However, there are some "common rules":

• The plumbing connection must be carried out by qualified personnel who can issue documentation declaring correct installation conforming to current law in each country (for example, in Italy according to Ministerial Decree 37/2008 and standard UNI 10412-2)

• The plumbing system must operate at a pressure between 1 and 1.5-2 bar on a hot closed-vessel circuit. Note: DO NOT install the stove in place of, for example, a thermocooker installed with an open vessel without an adequate expansion system making it a closed vessel.

• The separation of the primary from the secondary circuit is ideal and, in some countries, it is also mandatory in case of the installation of a heating plant (for example, in Italy, the reference is the Circular from ISPESL, now INAIL, of April 2011).

This separation is easily carried out using KIT A2 from Edilkamin.

• The presence of a puffer (inertial storage tank) is recommended but not mandatory. Its presence has the advantage of freeing the stove from "sudden" demands from the heating system and allowing the integration of other heat sources. It reduces consumption and increases the efficiency of the system.

• The hot water exiting from the output of the stove must be "directed" differently depending on the objective (heating, radiators, exchanger, whether or not there is a puffer, etc.)

• The return temperature of the water at the stove must be at least 50-55°C to avoid condensation. Depending on the system, the installer must determine if anti-condensation valves or pumps are necessary.

• A puffer (inertial storage tank) is needed for heating any installed low-temperature under-floor heating panels according to the guidelines of the manufacturer of the panels. The under-floor panels should not receive water directly from the stove.

• The material used in the circuit must be suitable to withstand any overheating.

• The discharge of the safety valve must be accessible and visible.

The discharge water must be channelled into a vertical pipe using a funnel with backflow air intakes, appropriately spaced from the discharge point.

The conveying pipe must have the following characteristics:

- Must not originate more than 50 cm from the discharge of the valve and must be positioned in the same room where the KIT is positioned.

- Must have a vertical expansion of not less than 30 cm. After which the pipe can continue horizontally with a gradient that fosters the flow of water.

- The diameter of the pipe must be at least one measurement larger than the nominal measurement of the discharge of the valve.

The end of the pipe must discharge into the sewer system.

# IT IS FORBIDDEN TO SHUT OFF THE DI-SCHARGE

• Verify that the hydraulic system is correctly installed and is equipped with an expansion tank that is sufficiently large to guarantee safety.

The presence of a tank within the boilerstove does NOT guarantee appropriate protection from thermal expansion occurring in the whole system.

#### Therefore the installer must assess whether an additional expansion tank is needed, depending on the type of system installed.

• Fill the system using the filling tap (it is recommended not to exceed a pressure of 1,5 bar). When filling, 'bleed' the pump and the relief tap.

• It is possible that it will be necessary to open the vent (V - fig. 2) during the initial days of operation to release air in the system.



# • HYDRAULIC CONNECTIONS: HEATING SYSTEM WITH THE THERMO STOVE AS THE ONLY HEAT SOURCE



EGENI	)
F:	Cold Water
L:	Water supply
:	Filling/Topping up
iR:	Filling unit
11:	Outlet to system
<b>'</b> :	Pump (circulator)
A:	Radiators
R .	Inlet from system
:	Drain
T:	Temperature Detector
C:	Boiler-stove
':	Ball valve
Ά:	Automatic bleed valve
ec:	Closed Expansion Tank
SP:	Safety Pressure Valve
ST:	High Temperature
	Drainage Valve

# HEATING SYSTEM WITH THE THERMO STOVE COMBINED WITH A BOILER



# HEATING SYSTEM WITH THE THERMO STOVE AS THE ONLY SOURCE OF HEAT, WITH SANITARY HOT WATER BEING PRODUCED BY A BOILER



#### LEGEND

ACS:	Household hot water		
AL:	Water supply input		
B:	Boiler		
C:	Fill/Top up		
EV2:	2-way electro-valve		
EV3:	3-way electro-valve		
NA	Normally Open		
NC	Normally Closed		
GR:	Pressure reducer		
MI:	System in		
P:	Pump (circulation)		
RA:	Radiator		
RI:	System return		
S:	Drain		
TC:	Boiler-stove		
V:	Spherical valve		
Vec:	Closed surge tank		
VSP:	Safety valve		

This layout is purely indicative. Have a plumber design and install the system.

## FIRST IGNITION (COMMISSIONING) PHASES

- Make sure you have read and understood this manual.
- Remove all flammable materials from the appliance (manuals, labels, etc.). In particular remove any labels from the glass.
- Make sure that the technician performs the first ignition and the first loading of the pellet tank. Refer to the "Various Menus" chapter, paragraph "pellet loading".



On first ignition, there may be a slight smell of paint, which will disappear in a short time.

# FUEL

Use UNI EN ISO 17225-2 category A1 wood pellets or similar regulatory products with the following characteristics.

diameter 6 mm

length 3-4 cm

humidity <10 %

For reasons of safety and environmental compatibility, DO NOT burn plastic, painted wood, coal, bark or other such materials in the stove.

Do not use the stove as an incinerator.



Caution Using fuels other than those specified can damage the appliance

#### LOADING THE PELLETS INTO THE TANK.

To access the tank, open the lid.



When the boiler stove is hot, DO NOT MAKE CONTACT between the pellet bag and the top grille.

Use the provided gloves when loading the stove while it is operating and hence hot to the touch.

Make sure not to touch the smoke discharge pipe if hot.



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# **CONTROL PANEL (P)** located beneath the pellet loading door, see previous page



# **DISPLAY INDICATIONS**

OF	Shut-off phase in progress, duration ap-			
pump continues off temperature (usually 40°C)	to work is reached	until the set shut-		
ON AC let	Boiler-stove in th loading	e first ignition phase: pel- and waiting for the flame		
ON AR	Boiler-stove in the heating the boile	e second ignition phase: or body and start-up of		
com Burn	Boiler-stove in c	bustion leaning phase start-up		
ON PH water	Boiler-s	tove in heating phase		
P1-P2-P3 5080°C	exchanger Level of power, i Level of water te tem out	modulated automatically mperature desired for sys put		
Pu	Automatic clean	ing of chamber in pro-		
gress PROG SET SF	Timer menu for Menu for setting Stop Flame: sto	weekly programming the clock ps functioning for prob-		
able AF	Ignition Failed: s	lack of pellets tops functioning for failed		
CP-TS-PA	Control menu av	vailable only to Technical		
́Н1Н9	System in alarm cause c	, the number indicates the of the alarm		
Air	ventilation adjust	tment menu		

When the boiler-stove is in stand-by mode, the display shows the wording OF and the set temperature.

#### **SCREW FILLING.**

The pellet transport duct (screw) has to be filled when the boiler-stove is new (on first ignition) or if the boiler-stove has completely user all the pellets.



To activate reloading, simultaneously press the keys , the display will show the wording "RI".

The reloading function stops automatically after 240" or when the



is pressed.



ON/OFF key this also serves to confirm/exit



Selection key: access to regulation menu (press for 2 seconds)



Key to DECREASE temperature and to scroll back from the selected data



Key to INCREASE temperature and to scroll forward from the selected data



This indicates the functioning of the circulator (pump).



This indicates the functioning of the pellet loading motor



This indicates that the boiler is functioning within the parameters of the menu (technical assistance centre only)



This indicates that the timer is active, and that an automatic time programme has been chosen



Indicates the fan's operation

#### IGNITION

With the boiler-stove in stand-by mode, (after having checked

that the chamber is clean), press the key  $\bigotimes$ , and the ignition procedure will start.

On the display the wording "**ON AC**" (start combustion) will appear; after certain control cycles and after checking that the pellets are burning, the display will show the wording "**ON AR**" (heating on).

This phase will last a few minutes, to allow the ignition procedure to complete correctly and for the exchangers in the boiler-stove to heat up.

After a few minutes, the boiler-stove will enter the heating phase, indicating the wording "**burn**" and later, during regular functioning, the temperature of the output water, set by the user, is indicated and the power chosen by the automatic modulation system.

# SWITCHING OFF

Pressing the key W, when the boiler-stove is on, will start the switching off phase, which involves:

- Stopping the delivery of the pellets
- Burning any pellets left in the chamber, keeping the fume fan on (usually for about 10')
- Cooling the boiler's body while the pump remains on until the shut-off temperature is reached
- The indication "OF" on the display together with the minutes remaining until shut-off

During the switching off phase, the boiler-stove cannot be turned on again; when the switching off phase is completed the system automatically goes into stand-by mode.

#### **AUTOMATIC FUNCTIONING**

The user must set the output water temperature, which must be assessed according to the type and dimensions of the system, and considering the atmospheric temperature linked to the season.

The boiler-stove automatically modulates power according to the difference between the set temperature (set on the display) and the temperature measured by the water sensor; on reaching the desired temperature, the burner will function at minimum, going to power level 1.

The output water temperature can be increased by pressing the



, or decreased by pressing the key

The display alternatively shows the desired temperature and the power which is automatically chosen by the electronic modulating system.

#### **ECONOMY FUNCTION**

Function suitable for boilers installed in small-scale systems, or whenever minimum power operation causes excessive heating.

This function, managed automatically, allows for switching the boiler off once the set delivery temperature is exceeded.

When the delivery temperature falls below the set value, the boiler switches back on automatically. Request activation of this function, if required, from the Technical Assistance Centre during initial start-up.

When the ECONOMY function is activated, the display will visualise 'Econ' after the other information.

#### **REMOTE ACTIVATION FUNCTION**

By means of a special connection wire (code 640560), the boiler-stove can be switched on/off by a remote control device such as a GSM telephonic activator, an environment thermostat, a zone valve, or in any case a device with clean contact with the following logic:

**Contact open** = boiler-stove off **Contact closed** = boiler-stove on

Activation and deactivation takes place 10" after the transfer of the last command.

If the remote activation of the door is connected, the boiler-stove can be switched on and off in any case by the control panel; the boiler-stove will always act according to the last command received, whether for switching on or off.

#### PLEASE NOTE:

If the remote activation function is used, decouple the remote connection cable, using a relay, if the distance between the remote device and the boiler exceeds the length of the cable code 640560 (1.5 m).

Consult the instruction sheet of the connection cable for more detailed information.

#### **ROOM VENTLATION**

The boiler stove is equipped with a room ventilation system; for setting the desired ventilation level, follow the instructions indicated below.

Briefl y press the SET button to access the AIR menu; use the

+/- buttons to select the following ventilation modes:

**AUTO:** ventilation adjusts automatically depending on the boiler stove's power output

**OFF:** the fan is always in use to have a minimum air flow which prevents the fan from any overheating situation

**FAN1:** manual ventilation adjustment to 20% **FAN2:** manual ventilation adjustment to 40% **FAN3:** manual ventilation adjustment to 60% **FAN4:** manual ventilation adjustment to 80% **FAN5:** manual ventilation adjustment to 100%

After selecting the desired setting, if no button is pressed for 5 seconds the system automatically exits the AIR menu and saves the last setting visualised on the display.

#### SETTING: CLOCK AND WEEKLY PRO-GRAMMING

Press the key SET for 2": this takes you into the programming menu and the display will show the wording "**TS**".

Press the keys until the wording "**Prog**" appears, then press SET.

By pressing the keys the following settings can be selected:

• **Pr OF**: This enables or completely disables the use of the timer.

To activate the timer, press the SET key and then choose " $\mathbf{On}$  "

with the keys , set "**OFF**" to deactivate it, confirm the setting with the SET key, then press the ESC key to leave the programme.

• Set: this lets you set the current time and day.

To set the current time, select the wording "**SET**" on the display, confirm the selection with the SET key, set the current time; every

time the key  $\bigvee$  is pressed the time will increase by 15', and it

will decrease by 1' every time the key 💟 is pressed.

Confirm the setting with the SET key, set the current day of

the week by means of the keys (e.g. Monday=Day 1), confirm the programming with the SET key, after entering the day/time, the display will show the wording '**Prog**', press SET to continue programming for Pr1/Pr2/ Pr3 or press 'ESC' to leave the programming.

# - Example of programming

#### Pr 1:

On 07:00 / OF 09:00: red=active green=not active

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
On	On	On	On	On	Off	Off

#### Pr 2:

This lets you set a second timetable; for the programming procedure, follow the same instructions as for Pr 1. Example of Pr 2 programming On 17:00 / OF 23:00: red=active green=not active

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
On	On	On	On	On	Off	Off

#### Pr 3:

This lets you set a third timetable; for the programming procedure, follow the same instructions as for Pr 1 and Pr 2. Example of Pr 3 programming On 09:00 / OF 22:00: red=active green=not active

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Off	Off	Off	Off	Off	On	On

• **Pr 1**: This is programme no. 1; this is for setting the 1st ignition timetable, the 1st shut-off timetable and the days on which to apply the timetable **Pr 1**.

To set the **Pr 1** timetable, with the keys select "**Pr 1**", confirm the selection with the SET key the display will briefly

show "**On P1**", with the keys **Set the ignition** time of the **Pr 1** timetable, confirm with the SET key, the display will

briefly show "**OFF P1**", then with the keys **Set** set the shut-off time of the **Pr 1** timetable, confirm with the SET key.

Continue to assign the same timetable to the various days of the week, with the SET key the days will scroll from day 1 to day 7,

where y 1 is Monday and day 7 is Sunday, with the keys

the programme **Pr 1** is activated on the days selected on the display (e.g. On d1 = active or Of d1 = not active).

After completing the programming, the display will show the wording '**Prog**', to continue programming **Pr 2/Pr 3** press '**set**' and repeat the above described procedure, or press 'ESC' to leave the programming.

# PUMP

# **PUMP SPECIFICATIONS**



# CONTROL MODES AND FUNCTIONS

# Variable differential pressure Δp-v (I, II, III)

Recommended for two-pipe heating systems with radiators to reduce the flow noise at thermostatic valves.



The pump reduces the delivery head to half in the case of decreasing volume flow in the pipe network.

Electrical energy saving by adjusting the delivery head to the volume flow requirement and lower flow rates.

There are three pre-defined pump curves (I, II, III) to choose from.

# Constant differential pressure Δp-c (I, II, III)

Recommended for underfloor heating or for large-sized pipes, applications without a variable pipe network curve (e.g. storage charge pumps) or single-pipe heating systems with radiators.



The control keeps the set delivery head constant irrespective of the pumped volume flow.

There are three pre-defined pump curves (I, II, III) to choose from.

#### Constant speed (I, II, III)

Recommended for systems with fixed system resistance requiring a constant volume flow.



The pump runs in three prescribed fixed speed stages (I,II, III).



NOTICE Factory setting: Constant speed, pump curve III

# VENTING

Activate the pump venting function via the operating button: press and hold for 3 seconds, then release.

• The pump venting function is initiated and lasts 10 minutes.

• The top and bottom LED rows flash in turn at 1 second intervals.

To cancel, press and hold the operating button for 3 seconds.



NOTICE After venting, the LED display shows the previously set values of the pump.

# SETTING THE CONTROL MODE

# Select control mode

The LED selection of control modes and corresponding pump curves takes place in clockwise succession.Press the operating button briefly (approx. 1 second).LEDs display the set control mode and pump curve.

The following shows the various possible settings, beginning with the factory setting (constant speed / pump curve III):



Press the BUTTON	LED display	Control mode	Pump curve
1.		Constant speed	II
2.		Constant speed	I
3.		Variable differential pressure Δp-v	
4.		Variable differential pressure Δp-v	11
5.		Variable differential pressure Δp-v	1
6.		Constant differential pressure Δp-c	
7.		Constant differential pressure Δp-c	11
8.		Constant differential pressure Δp-c	1
9.		Constant speed	

Pressing the button for the 9th time returns to the factory setting (constant speed / pump curve III).

# Lock/unlock the button

To activate the key lock, press and hold the operating button for 8 seconds until the LEDs for the selected setting briefly flash, then release.

•LEDs flash constantly at 1-second intervals.

•The key lock is activated: pump settings can no longer be changed.

The key lock is deactivated in the same manner as it is activated.





# NOTICE

All settings/displays are retained if the power supply is interrupted.



# **FAULT SIGNALS**

- The fault signal LED indicates a fault.
- The pump switches off (depending on the fault) and attempts a cyclical restart.

LED	FAULTS	CAUSES	REMEDY
Lights up rod	Blocking	Rotor blocked	Activate manual restart or
Lights up red	Contacting/ winding	Winding defective	contact customer service
	Under/ overvoltage	Power supply too low/ high on mains side	
Flashes red	Excessive temperature of module	Module interior too warm	Check mains voltage and operating conditions, and request customer service
	Short-circuit	Motor current too high	
Flashes red/ green	Generator operation	Water is flowing through the pump hydraulics, but there is no mains voltage at the pump	
	Dry run	Air in the pump	Check mains voltage, flow rate/ pressure and
	Overload	Sluggish motor, pump is operated outside of its specifications (e.g. high module temperature). The speed is lower than during normal operation.	ambient conditions

#### **MANUAL RESTART**

The pump attempts an automatic restart upon detecting a blockage. If the pump does not restart automatically: Activate manual restart via the operating button: press and hold for 5 seconds, then release.

- The restart function is initiated, and lasts max. 10 minutes.
- The LEDs flash in succession clockwise.

To cancel, press and hold the operating button for 5 seconds.





Before performing any maintenance, disconnect the appliance from the mains.

Regular maintenance is required for the boiler-stove to function correctly.

Any problems resulting from lack of maintenance will immediately void the warranty.

#### N.B.

- Any unauthorised modification is forbidden

- Use spare parts recommended by the manufacturer - The use of counterfeit parts results in the guarantee becoming null and void

# DAILY MAINTENANCE

# Operations must be performed when the boiler-stove is off, cold and unplugged from the power supply.

Cleaning should be carried out with the aid of a vacuum cleaner (see optional page. 58), the whole procedure takes up a few minutes.

Open the door, remove the combustion chamber (1 - fig. A) and empty the residue out into the ash pan.
Scrap the combustion chamber with the spatula provided, removing any obstructions in the openings.

# • DO NOT EMPTY THE RESIDUE OUT INTO THE PELLET HOPPER.

• Take out and empty the ash (2 - fig A) pan into a fireproof container (the ash may still contain hot parts and/ or embers).

• Vacuum clean the inside of the fireplace, the fire surface, the compartment around the chamber where ash falls, and the ash pan.

• Vacuum the combustion chamber holder, clean the edges where the combustion chamber is lodged into its seat.

• Clean the glass, if necessary (when cold).

#### AT LEAST ONCE A DAY ACTION THE CLEA-NING BRUSHES OF THE EXCHANGERS (\*), EVEN WHILE THE STOVE IS LIT, USING THE GLOVE PROVIDED:

- Proceed shaking the cleaning handle under the ceramic top (\* • fig. B).

## **NEVER SUCTION HOT ASH, as this could damage the suction device and possibly cause a fire.**



#### **ATTENTION:**

MAKE SURE THE ASH PAN IS COR-RECTLY POSITIONED IN ITS HOUSING (2 fig. A)



fig. A



fig. B

# AZIONARE ALMENO UNA VOLTA AL GIORNO GLI SCOVOLI PER LA PULIZIA DEGLI SCAMBIATORI (\* - fig. B), ANCHE A TERMOSTUFA ACCESA, UTILIZZANDO IL GUANTO IN DOTAZIONE:

- Procedere scuotendo la maniglia di pulizia posta sotto il top in ceramica (\* - fig. B).

#### SEASONAL MAINTENANCE

# (to be carried out by the technical assistance centre)

This consists of cleaning the stove inside and out.

# If the product is used intensively, we recommend cleaning the smoke duct and flue every 3 months.

You should clean the chimney system at least once a year (check local regulations for details).

If you fail to regularly clean and inspect the system, there is an increased risk of the chimney pot catching fire.

We recommend against using compressed air to clean the combustion air inlet.

#### **SUMMER SHUTDOWN**

During the period of disuse, keep the stoves doors, hatches and lids closed.

We recommend emptying out the pellet tank. Place the package of dessicating salts inside the combustion chamber.

#### **SPARE PARTS**

for any spare parts, contact your retailer or technician. Using non-original spare parts may damage the appliance and relieves Edilkamin of all liability for damage that may arise from doing this.

Do not make unauthorised modifications.

# DISPOSAL

At the end of its service life, dispose of the product as required by regulations.



In accordance with art. 26 of Legislative Decree no. 49 of 14th March 2014, "Implementation of Directive 2012/19/UE on the disposal of electrical and electronic devices (RAEE)".

The crossed-out dustbin symbol displayed on equipment or its packaging indicates that the product at the end of its life must be collected separately from other waste.

At the end of its useful life, the user should therefore deliver the product to a suitable local sorted collection centre for electrical and electronic devices.

Sorted collection for recycling, treatment and environmentally compatible scrapping contributes to the prevention of negative effects on the environment and health, and promotes the re-use and recycling of the materials of which the equipment is made.

	TROUBLESHOOTING	EDILKAMIN
In the event of cess and the alarms below	of problems the boiler-stove stops automatically and ru display shows text regarding the motivation of the shu v).	ans the shutdown pro- atdown (see the various
Never pull th	e plug during shutdown on account of malfunction.	
To start the k minutes mar	poiler-stove up again after a shutdown, let the shutdow ked by a beep) tand	n procedure end (10
then press th	ne button	
Do not turn t CLEANING/ E	he boiler-stove on again before checking the cause of t MPTYING the crucible.	the malfunction and
INDICATION (shown only 1) Signalling: Problem: nected.	OF POSSIBLE CAUSES OF MALFUNCTION AND INDICATI on the control panel on board the boiler-stove): : H1 (take action if the water temperature sensor is out of order or Shuts down due to the water temperature sensor be	ONS AND REMEDIES disconnected). eing broken or discon-
Actions:	<ul> <li>Check connection of the sensor to the control board.</li> <li>Verify functionality by means of a cold test</li> </ul>	
2) Signalling detects a fault) Problem: Actions:	<ul> <li>H2 Failure of fume expulsion motor (this trips if the smole Shutdown for smoke extraction speed fault detection • Check smoke extractor function (devolution sensor connection)</li> <li>• Check smoke channel for dirt</li> <li>• Verify the electrical system and earthing system.</li> <li>• Check eletronic circuit board (DEALER).</li> </ul>	ke extraction speed sensor <b>on</b> ) and board (DEALER).
3) Signallings than the value se Problem: Actions:	<ul> <li>SF (H3) Stop/Flame: (this trips if the thermocouple detects a which it interprets as the absence of Turns off due to drop in smoke temperature Flame may fail for any of the following reasons:         <ul> <li>lack of pellets</li> <li>too many pellets have suffocated the flame, check pellet quality (DE</li> <li>Check whether the maximum thermostat has caused the problem</li> </ul> </li> </ul>	a smoke temperature lower f flames) EALER) (rare circumstance since this
would	correspond to over heated fumes (technical assistance centre) • Check whether the pressure switch has cut off electricity to the gea	r motor because of a blocked
flue or other	problem.	
4) Signalling tes, or if Problem:	<ul> <li>AF (H4) Failed ignition (intervenes if a flame fails to appear vignition temperature is not reached).</li> <li>Turns off due to incorrect smoke temperature durine</li> <li>Distinguish either of the following cases:</li> </ul>	within a maximum of 15 minu- <b>Ig ignition</b>
Actions:	<ul> <li>Flame does NOT appear</li> <li>Check: - combustion chamber position and cleanliness;</li> <li>- arrival of combustion air in the combustion chamber;</li> <li>- if the heating element is working (DEALER);</li> <li>- room temperature (if lower than 3°C use a firelighter) and date</li> <li>- Try to light with a firelighter.</li> </ul> Flames appear, but AF appears on the display after Ar.	mp.
Actions:	Check: (only by the Dealer) - if the thermocouple is working (DEALER); - start-up temperature setting in the parameters (DEALER).	
5) Signalling Problem: Actions:	<ul> <li>H5 black out stop (not a defect of the boiler-stove). Turns off due to lack of electricity</li> <li>Check electricity connection and drops in voltage.</li> </ul>	
6) Signalling Problem: Actions:	<ul> <li>H6 broken or disconnected thermocouple</li> <li>Turns off due to thermo coupling failed or disconne</li> <li>Check connection of thermo coupling to board: Check fur</li> </ul>	<b>cted</b> nction in cold test (DEALER).

# 7) Signalling: H7 over heated fumes (turns off due to exceeding maximum smoke temperature). Switches off because of overheated fumes.

Over heated fumes may depend on: type of pellets, anomalous fume extraction, blocked channel, incorrect installation, gear motor drift, lack of air vents in the room.

# 8) Signalling: H8 H2O temp alarm (this occurs if the water temperature sensor reads a temperature above 90°C)

## Problem: Shuts down due to water temperature being higher than 90 °C.

An excessive temperature may occur because of the following:

- system too small: ask the DEALER to activate the ECO function
- blockage: clean the exchanger pipes, the combustion chamber and the smoke outlet.

#### 9) Signalling: AL 09 (intervenes if the flow sensor detects insufficient combustion ).

#### Problem: Turns off for lack of depression

Air flow may be insufficient because the door is open, the door does not close properly (e.g. bad seal), there is an air intake or smoke extraction problem, or the combustion chamber is clogged.

# Actions: Check:

- door closure;
- combustion air intake duct (clean, paying attention to the flow sensor components);
- clean the flow sensor with dry air (like that used for PC keyboards);
- stove location: respect and check a minimum distance of 10 cm from the wall;
- combustion chamber position and cleanliness (clean regularly according to the type of pellet);
- smoke duct (clean);
- installation (if it does not comply with regulations or the smoke outlet has more than 3 bends);

If you suspect the sensor is malfunctioning, carry out cold tests. If the conditions are changed (for example by opening the door) and the value does not change, there is a sensor problem (DEALER).

**N.B.:** The no depression alarm may also occur during ignition, since the flow sensor starts monitoring 90 secon ds after the ignition cycle begins.

# 10) Signalling: "Bat. 1" Problem: The boiler-stove does not stop but the error appears on the display.

Actions: • The buffer battery of the control board needs changing (DEALER).

- **11) Signalling:** AL HC HIGH CURRENT ALARM: Activated when anomalous, excessive current is being absorbed by the gear motor.
  - Actions: Check functioning (CAT): gear motor Electrical connections and electronic board .
- **12)** Signalling: AL LC LOW CURRENT ALARM: Activated when anomalous, insufficient current absorption is detected on the gear motor.

Actions: Check functioning (CAT): gear motor - pressure switch - tank thermostat - electrical connections and electronic board

#### NOTA

**CHECK AIR ENTRY/NO DRAUGHT:** these can occur only during the start-up phase at the end of the LEO-NARDO system checks; though they do not cause the stove to shut down, we recommend contacting the Technical Assistance Centre if the signal appears frequently.

#### N.B.:

The combustion chambers and smoke ducts connected to the solid-fuel appliances must be cleaned once a year (check if your country has specific legislation covering this).

Failure to regularly check and clean increases the likelihood of a fire in the chimney pot.

#### IMPORTANT!!!

In the case of a fire in the boiler-stove, in the flue or in the chimney, proceed as follows:

- Disconnect the power supply

- Use a carbon dioxide (CO<sub>2</sub>) extinguisher
- Call the fire brigade

#### DO NOT ATTEMPT TO PUT THE FIRE OUT WITH WATER!

After the event, have the appliance checked by an authorised Service Centre and have an authorised technician check the flue.

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