



**TECHNICAL INSTRUCTION
INSTALLATION - USE – MAINTENANCE**



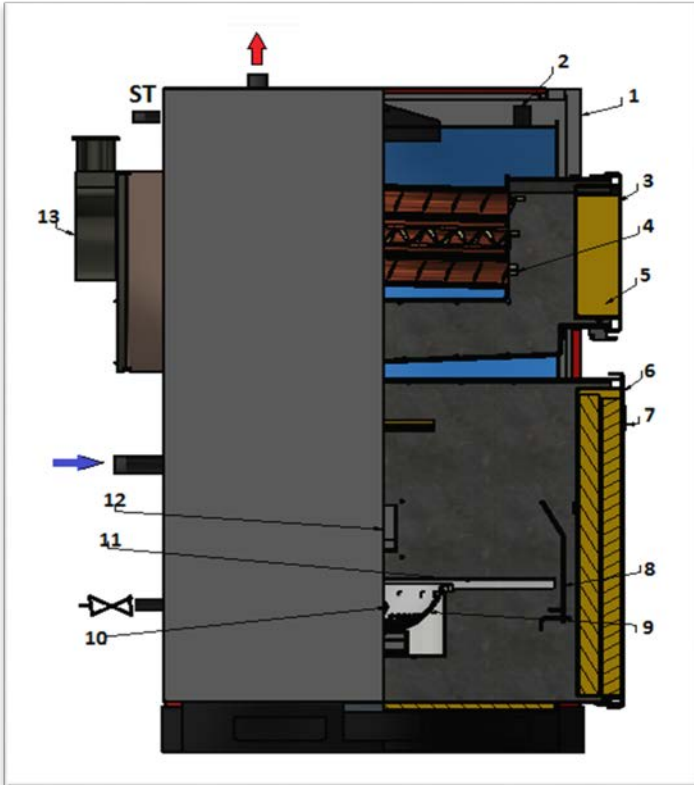
**BOILER
ECO - EDP**

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THE FIRST COMMISSIONING MUST BE PERFORMED BY AN AUTHORIZED SERVICE OFFICER, OTHERWISE THE PRODUCT WARRANTY IS NOT VALID

1. BOILER ECO-EDP



1. Control panel	6. Middle door	11. Wood grate
2. Water probe	7. Flame observ. glass	12. Pellet dispenser
3. Upper door	8. Ashtray door	13. Flue gas fan
4. Turbulators	9. Pellet container	
5. Insulation	10. Electric heater	
		ST- Overheating probe

2. TECHNICAL DATA

Type : EDP	25	35	50	65
Max. Power (kW)	27	38	55	70
Nomin Power (kW)	25	35	50	65
Min. Power (kW)	8	10	15	20
Water content (l)	75	85	120	150
Flu gas temp. (°C)	< 150	< 160	< 165	< 170
Water temp. (°C)	60-80		60-80	
Humidity (%)	Pellet max. 12			
Pellet size (mm)	Ø 6 x 30			
Tank capacity (kg)	100		125	200
Pellet consumption (kg/h)	1.7-5.6	2.5-7.5	3.5-11.4	4.0-14
Chimney draft (Pa)	10		12	
Noise (dB)	< 60		< 60	
Starting –en. (W)	100+350			
Electricity (V~)	230/50			
Working pressure	2 bar			
Testing pressure	4 bar			
Efficiency (%)	> 93			
CO (13 % O2)	<400 ppm			
Chimney -d (mm)	120		120	
Boiler class	5		5	

Technical data and calorific values are according to the standard and Euro norms EN 303-5:2012

Humidity (%)	Wood max. 20
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3. DIMENSIONS

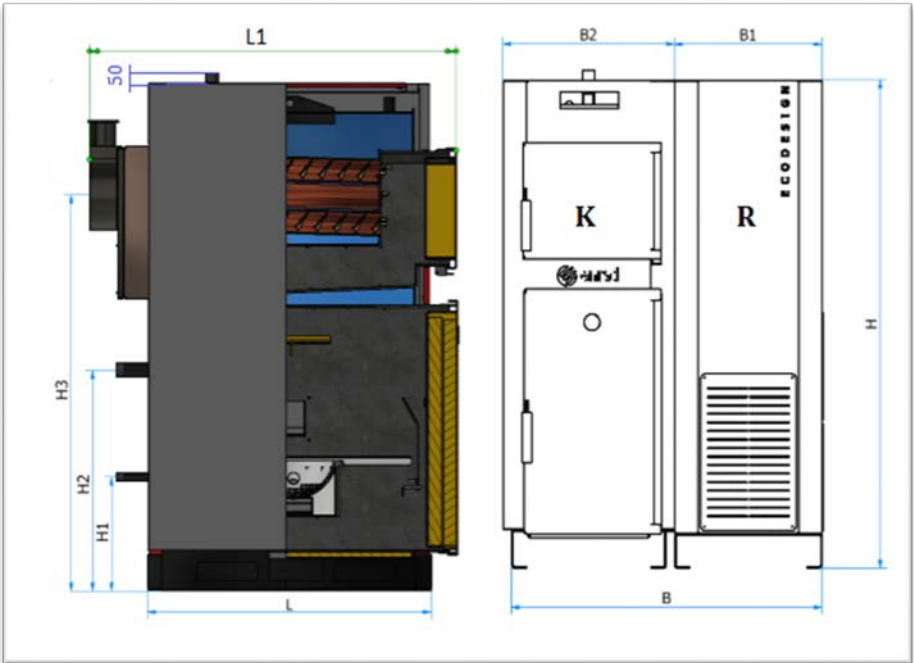


TABLE:

Type: ECO-EDP	H (mm)	B ₁ (mm)	B ₂ (mm)	B (mm)	L ₁ (mm)	L (mm)	H ₁ (mm)	H ₂ (mm)	H ₃ (mm)	R dcm ³	Masa (kg) K+R
25	1330	400	410	810	950	660	220	550	980	280	320
35	1330	400	470	870	950	660	220	550	980	280	330
50	1400	400	580	980	1010	720	220	550	1080	310	380
65	1520	400	580	980	1010	720	220	550	1200	350	430

4. DESCRIPTION OF ECO-EDP BOILER

The **ECO-EDP** boiler is a hot water boiler with the latest design combined with plate and tube exchanger construction. Designed for burning PELLETS and WOOD.

The boiler is made of quality steel, preparation and installation of parts performed with the latest technology of lasers and robots for sheet metal welding.

The boiler is certified and fully meets the environmental requirements of the European Union defined in EN 303-5: 2012 and ISO 9001: 2008 standards.

ENRAD pellet boilers ECO-EDP constructed and complies with safety regulations:

- 2014/35/EC - Low Voltage Directive
- 2014/30/EC - Electromagnetic Compatibility Directive
- 2006/42/EC – Machine Safety Directive
- 2014/68/EC – Pressure Equipment Directive

The boiler is designed with the best ratio between the furnace, tube exchanger and gas conduction so that it is very economical during operation with a high degree of efficiency.

Be sure to install a thermal safety valve when the heating system is closed

A separate boiler body and enrad-SET with tank and framework with insulation as well as boiler cleaning accessories are supplied.

5. RECOMMENDATIONS FOR THE TRANSPORT

Form of delivery

- The boiler is transported together with a cardboard box containing an outer formwork with thermal insulation and cleaning accessories;
- Enrad-SET is transported with the tank together with the metering unit and the pellet feed motor;
- The boiler and the enrad-SET with tank must always be in a vertical position
- It is strictly forbidden to stack one boiler on top of another or enrad-SET with a tank;
- Caution that turning the boiler or enrad-SET during transport is a serious risk of damage;
- The boiler and enrad-SET should only be stored indoors and in a dry moisture-free place;
- When unpacking the boiler, control panel or enrad-SET, check that the repayment or the plant is scratched somewhere;

CONDITION AT DELIVERY

The following parts and necessary documentation are delivered with the boiler:

- Set of cleaning accessories (scraper, brush, brush and accessory holder);
- Control panel for automatic boiler operation;
- Enrad-SET with tank complete with all devices (dispenser, motor, fuses)
- Warranty and technical instructions for the use of the boiler;



Accessories (only on request by the customer):

- Equipment for the construction of a closed heating system;
- Safety Thermal valve for thermal protection;

6. INTRODUCTORY NOTES

- The user should strictly adhere to the stated technical instructions, because otherwise the warranty of the boiler and any damage will not be recognized by the manufacturer;
- Strictly take care that during the operation of the boiler the valve on the distribution and return line of the boiler does not close, in order to prevent water expansion and bursting of the boiler. The warranty in this case is not recognized;
- At the first start-up of the pump as well as at the beginning of the heating season, the circulation pump must be started mechanically;
- It is very important to maintain the boiler daily. Detailed cleaning of the boiler is necessary every week, as well as regular removal of ash from the boiler. The inner part of the boiler has an accessible cleaning access is shortened;

- During boiler operation, there is a possibility of wetting and dripping in the chimney area and in the furnace. If the pressure in the system is constant, this phenomenon is condensation of the boiler. The cause of condensation is a large temperature difference between the distribution and return line;
- Incorrect boiler capacity determination;
- No meat valve is installed to protect against excessive cooling of the boiler;
- wrong gas flue;
- In case of condensation due to the stated reasons and not due to leakage, the arrival and costs of the service technician are charged.
- In case of a poorly designed system and selection of boilers, the complete responsibility and possible costs are borne by the person to whom the design and construction of the heating installation was checked and not by the manufacturer, dealer or boiler seller.

7. SAFETY FEATURES

When operating the boiler, the parts are hot, and during contact use protective gloves and take care not to burn yourself.

Children 8 years and older, people with reduced physical, motor or mental disabilities persons with inexperienced or insufficiently trained abilities may use such devices if they are provided with supervision or given instructions regarding the safe use of the device, as well as the dangers arising from it.

Children must not play with such devices.

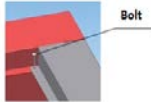
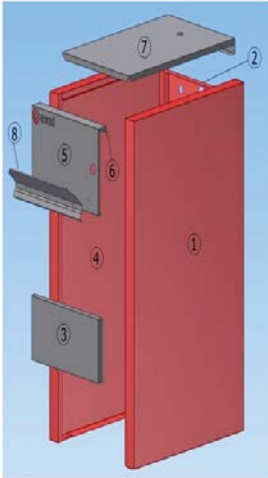
Appliances must not be cleaned or subjected to user maintenance by children, b Without proper supervision.

- It is obligatory to thermally insulate the flue pipe (boiler and chimney connection)
- It is forbidden to use the boiler if certain parts of the boiler are damaged.
- When the heating system is closed, be sure to install a safety thermal valve.

8. BOILER INSTALLATION AND PLACEMENT

Installation and mounting of the boiler and enrad -SET must be carried out by a qualified person. The boiler and enrad-SET must be placed on a solid and horizontal surface

The boiler room must be frost-free and well ventilated. Assembly of the boiler and enrad-SET is performed according to the assembly sketch which is packed with the boiler (as in the next photo).

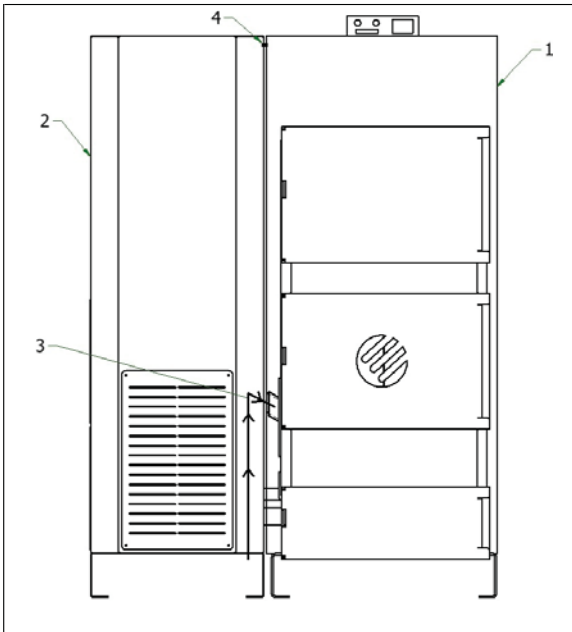


1. Cover side
2. Back side
3. Down cover front side
4. Cover side
5. Upper cover front side
6. Bolt
7. Upper cover side
8. Plate

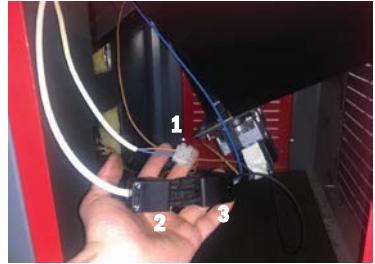


- a. Boiler side disassembly sequence 1-8;
- b. Boiler side mounting sequence 8-1;

Connecting the boiler and the tank, raise the tank as the pipes enter each other and bring the bunker closer - lower it to the base.



1. Installing the boiler on the base;
2. SET (bunker) first raised while pipe;
3. Enters inside the boiler pipe. Then bring the bunker closer to the boiler;
4. Screws for connecting bunkers and boilers



1. Electrical connection of boiler and SET
2. Connecting the heater
3. Plug from the boiler

9. CONECTION TO THE CHIMNEY

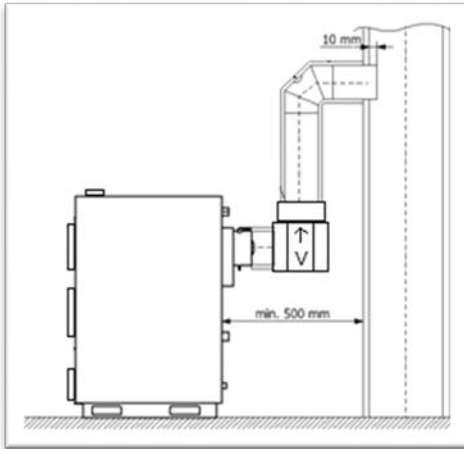
Installation of the boiler in the boiler room:

- The boiler room should have good ventilation. The required area of the ventilation opening is given by the following equation:

$$S \text{ (cm}^2\text{)} = 6.02 * Q \text{ (KW)}$$

Where Q is the rated power of the boiler in KW.

Possible way of connecting the ECO-EDP boiler to the chimney shown in the next fig.

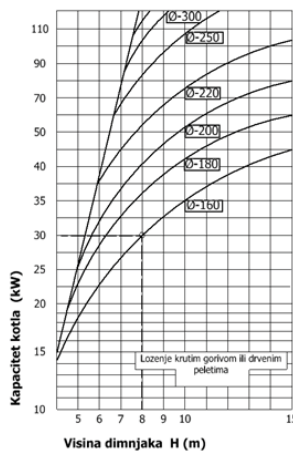


The boiler must be connected to the chimney. The chimney should be done in accordance with EN 13384-1 standard.

The chimney must be thermally insulated to prevent condensation.
The chimney must have a cleaning hole left at the bottom1

10. CHIMNEY AND CHOICE

The task of the chimney is to conduct the flue gases of combustion into the atmosphere, but in boilers with natural draft and buoyancy effect, provide the necessary draft in the boiler. Based on the required draft, the cross section and height of the chimney are determined according to the manufacturer's catalog. In (diagram 4), a diagram of the working height of the chimney in meters is shown depending on the capacity of the furnace in KW at a reference flue gas temperature of 200 C.



Primer:

- Kapacitet kotla - 30 kW
- Gorivo-kruto ili drveni pelet
- Korisna visina dimnjaka H=8 m
- Unutrasnji prečnik dimnjaka $\varnothing=160$ mm

11. INSTALLATION OF THE BOILER IN THE SYSTEM

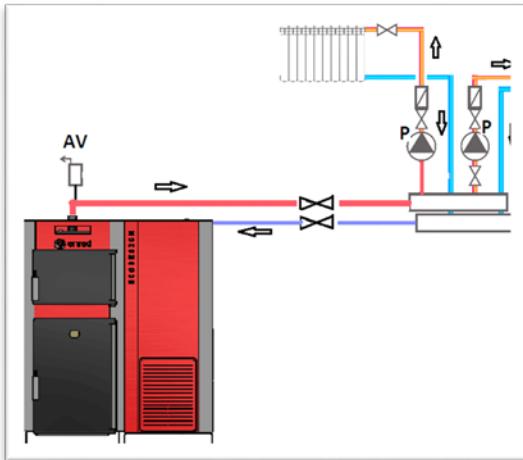
The ECO-EDP boiler can be installed in closed or open central heating systems. In both cases, the boiler can work by burning wood and wood pellets. Installation must be carried out in accordance with technical standards, by a professional who assumes responsibility for the proper operation of the boiler. Before putting the boiler into operation, rinse the system thoroughly of any dirt left after installation. The connection of the boiler to the central heating system is performed by means of a Dutch, not by welding.

- a. Boiler filling and installation with water
 - Water filling of the boiler and installation is performed by means of a filling tap mounted on the inlet connection of the boiler.
 - When filling the boiler and installation with water, take care of venting them.
 - With a closed heating system, after charging the system from 1.5 to 2 bar, the installation is deaerated by means of a deaeration valve located at the highest point of the system.
 - With an open system, the operating pressure depends on the height of the building and the position of the open expansion vessel (1 bar = 10 m).

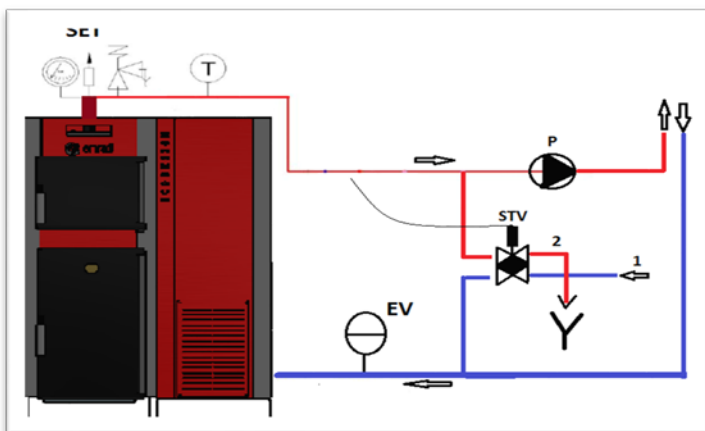
Filling the installation with water is done when the boiler is cold. Water hardness should not be higher than recommended.

12. BOILER INSTALATION - CLOSED HEATING SYSTEM

- With a closed heating system, the installation of a certified safety valve with an opening threshold of 2.5 bar and a diaphragm expansion vessel is mandatory;
- It is also necessary that the system has a thermometer and a manometer;
- The safety valve and expansion vessel must be installed according to the rules of the trade and there must be no locking element between them and the boiler;
- It is recommended to install dirt traps on the return line.



- **System only with Pellet:**
- **Boiler with wood is obligatory to install a safety thermal valve in the system:**



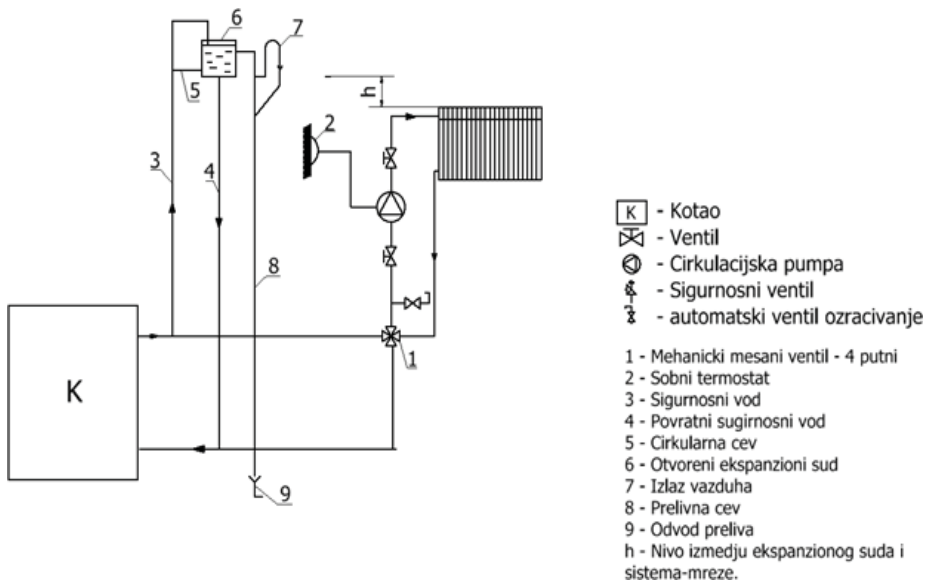
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- In case the safety thermal valve is not installed during the installation of the boiler, the entire responsibility and the damage are borne by the installer, the contractor and the warranty in this case does not apply.
- The method of installing thermal protection is given with the instruction with thermal valve and warranty.
- The above diagram shows one variant for the installation of thermal protection (thermal valve, network and connection to the water supply).

Important:

- Thermal protection must be connected to the plumbing and not from the hydrophore. Namely, in the event of a power failure, there is a possibility of the boiler overheating, and the hydrophore is then unable to supply water.

13. BOILER INSTALLATION - OPEN HEATING SYSTEM



Schema 8

- With an open heating system, the safety distribution line of the expansion vessel, boiler valve is installed on the supply line, while the safety line of the expansion vessel, boiler valve, pump, pump valve is placed on the return line of the system.
- The diagram also shows the installation method and the mixed valve.
- Immediately below the open expansion vessel (up to 10 mm) a short connection is placed between the safety return line and the vessel (shemia, pos.5), so that freezing does not occur in winter and only when the boiler is running.
- No fittings must be installed on the safety distribution and return lines.
- The volume of the expansion vessel is determined according to the following equation: $V = 0.07 * V (l)$
- Where $V (l)$ is the volume of water in the system. The diameter of the safety distribution and return pipes is calculated, the recommendation is not less than 25 mm.
- The open expansion vessel is placed vertically above the highest point in the system, they must also be insulated and protected from freezing.

14. COMMISSIONING AND USING THE BOILER

The first commissioning is performed exclusively by authorized personnel or a professional.

Connecting to the mains plug the plug into the appliance socket first, and then plug it into a socket with a grounding contact. When this operation is performed, turn the main switch - switch to position (I). The device is ready for operation and can continue programming.

- The boiler must not be operated in a flammable and explosive atmosphere.
- Before commissioning, check the pressure in the boiler and system as well as the irradiation.
- Check that the elevation and the entire heating system are filled with water.
- Children must not handle the boiler and should be supervised.
- Check that the flue pipe is well insulated.
- Check that the dampers in the boiler furnace and the grille are in place.
- By switching on the circulation pump, the boiler is ready for heating.
- It is mandatory to clean the boiler regularly and at the end of the heating season and to coat it with anti-corrosion protection, thus extending the service life.
- Recommended characteristics of wood and pellets for heating in ECO-EDP boilers are:
 - The pellets you use must be certified according to EN 14961-2, Ö-Norm M7135, DIN 51731 or ENplus-A1;
 - Moisture content less than 10% and Heating value $\geq 4.5 \text{ kw / kg}$ (18 MJ / KG);

15. CONTROL PANEL AND KEY SCHEDULE

Display with keys

The display shows information on the operating status of the boiler. By accessing the menu, it is possible to get various types of views and make the settings available depending on the access level. Depending on the operating mode, the displays may take on different meanings depending on the position on the display. Figure 20 shows an example of the display.

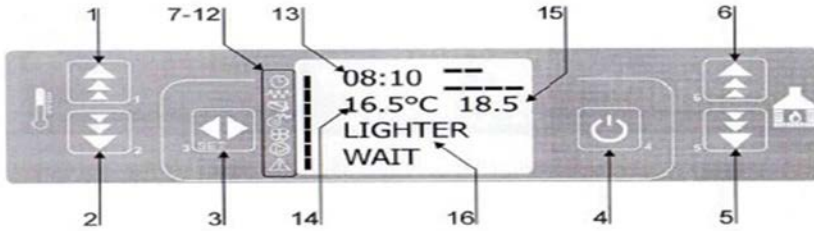


Figure 20

- 1- Increase of temperature and program function of changing day, time
- 2- Decrease of temperature and program function of changing day, time
- 3- Change of program SET
- 4- ON / OFF from the program
- 5- Reduction of heating intensity
- 6- Increase of heating intensity
- 7- to 12- Is described in the Figure.18
- 13- Hour
- 14- Room temperature indicator
- 15- Water temperature indicator
- 16- Boiler operation information



Figure 21 describes the meaning of the status symbol

What are the buttons for

Button	Description	Mode W	SOLUTION
1	Increase temperature (1)	PROGRAMMING	Adjust/increase the value in the selected menu;
		ON/OFF	Increase the temperature value of the water/room thermostat;
2	Decrease Temperature (2)	PROGRAMMING	Adjust/decrease the value in the selected menu
		ON/OFF	Decrease the temperature value of the water/room thermostat;
3	Menu	-	Accesses the menu;
		MENU	Accesses the submenu level;
		PROGRAMMING	Sets the value and moves to the next menu;
4	ON/OFF unlock	ON	Hold for 2 seconds to switch the boiler on when in off mode, or off when in on mode;
		LOCK	Unlocks the boiler and puts it into off mode;
		MENU/ PROGRAMMING	Brings you to the next menu level, any adjustments made will be saved;
5	Decrease power	ON/OFF	Adjust the power produced by the boiler;
		MENU	Takes you to the next menu level;
		PROGRAMMING	Takes you to the next submenu, any adjustments made will be saved;
6	Increase power	ON/OFF	Adjust the speed of the exchanger;
		MENU	Takes you back to the previous menu level;
		PROGRAMMING	Takes you to the previous submenu, any adjustments made will be saved;

- (1) First select SET water temperature;
 (2) First select SET ambient temperature;

16. FIRING WITH WOOD PELLET

The pellets used must be certified according to EN 14961-2, Ö-Norm M 7135, DIN 51731 or ENplus-A1.

Quality of pellet

The burner is designed to use precast wood (pellets) as a fuel.

The recommended characteristics of the pellet to be fired in the burner are:

- Caloric value 4.8-5.2 kwh / kg
- Diameter of pellet $d = 6$ mm
- Percentage moisture $<10\%$
- Length $l = 5 - 40$ mm
- Percentage of dust = $<1.0\%$



Proper operation of the burner depends

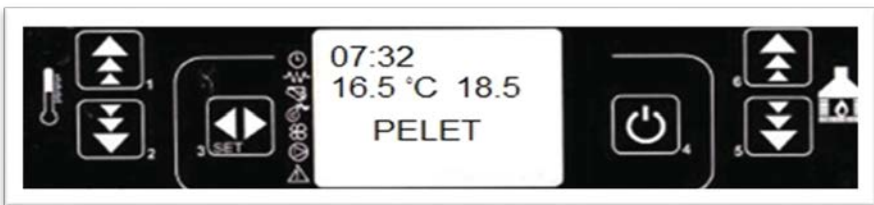
on the type and quality of the fuel pellet, since the heat obtained from different types of products can be of different intensity.

Special attention is paid to the quality of wooden pellets. Poor pellets may cause irregular fire work.

When the pellet is of poor quality, the burner must often be cleaned.

The burner maker does not bear any responsibility for operating the

On the command table, select the PELLETT program:



17. OPERATING MODE (USER)

Igniting the boiler

When the boiler is connected to the power supply, press switch button located on the back of the boiler to position 1 (figure 72.a.). The following figure appears on the display:



Fig. 22

To keep the boiler on, press and hold the button 4 for a few seconds, and immediately we get a message on the Display - START (Figure 23) - we started the boiler.



Fig. 23

Immediately afterwards, we get the LIGHTER WAIT message (Figure 24) - the lighter is lit and then appears the LOAD PELLETT messagen (Figure 25) - the pellet is started. The following message is FIRE WAIT (Fig. 26) - We wait for the pellets to ignite and when the flue gas temperature of 45°C is reached the message FLAME LIGHT (Fig. 27) appears.



Fig. 24



Fig. 25



Fig. 26



Fig. 27

After this message and when steady flame is established, the boiler goes into the working regime and receives the message WORK (Figure 28), then the boiler continues the stable process.



Fig. 28

Ignition failure

After the time expires for up to 20 minutes, if the smoke temperature does not reach the minimum permissible value of 45°C, the boiler goes to the alarm state, see section 10. ALARMS.

Boiler in operation

If the ignition phase is positively completed and if the flue gas temperature reaches 45°C in less than 20 minutes, the boiler switches to WORK mode, which is the normal mode of operation.

Setting the room and water temperature in the Boiler

To adjust the room temperature and water in the Boiler, it is enough to press the buttons 1 or 2. The display shows the current state of the set temperature (TSET). The boiler is factory-set to the temperature of the water in the boiler 65°C and to the room temperature of 20°C.

By pressing the button 1, the SET TEMP WATER message is received (Figure 29). Set water temperature value in the boiler. Then, by pressing button 1 we increase the value of the temperature, then by pressing the button 2 we decrease the temperature value, thus adjusting the desired water temperature value in the boiler. We recommend that the you cannot adjust the water temperature below 50 - 55°C due to boiler condensation, or over 75°C.

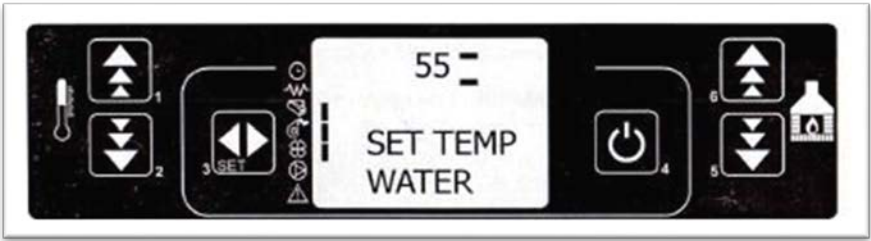


Fig. 2

By pressing the button 2, the SET TEMP ROOM message is received (Figure 30) ie. Set room temperature value. Then, by pressing 1, we increase the value of the temperature by pressing the button 2 we decrease, thus adjusting the desired room temperature value. The room temperature can be adjusted in the range of 7°C to 40°C. We recommend the room temperature to be 22°C.

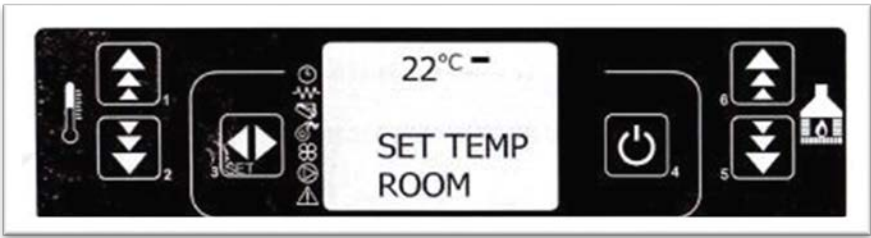


Fig. 30

The temperature of the room or water in the boiler reaches the set temperature

When the temperature of the room or water in the boiler has reached the set value (TSET), the thermal power is automatically transferred to the minimum value, the boiler is switched to a cost-effective operating mode, which saves fuel, and the message WORK MODULATE appears on the display as shown in figure 31:



Fig. 31

If after this, the temperature of the room or water in the boiler reaches a value of 4 °C higher than the set (TSET + 4°C), the STAND-BY mode is activated, and the boiler is temporarily extinguished. It resumes when the following conditions are met:

$T_{\text{room}} < (T_{\text{SET}} - 4^{\circ}\text{C})$

Setting the power of the boiler

When the boiler after the ignition phase goes into the normal operation phase (WORK phase) it is possible to adjust the output power of the boiler or the heating intensity. By pressing the buttons 5 and 6, the SET OUTPUT message is received. Adjust the output of the boiler (fig. 32). Pressing button 6 increases, and with button 5 we reduce the power of the boiler. Level 1 is minimal and level 5 is the maximum power.

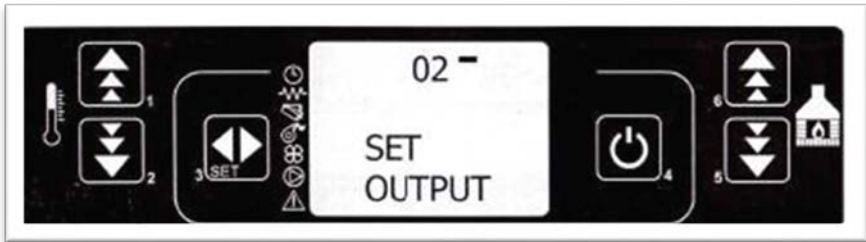


Fig. 32

Cleaning the boiler

During normal operation in the operating mode, at intervals that are set for 30 minutes, the "CLEANING BOILER" mode is activated, the duration of which is 60 seconds. Then the pellet is stopped and the burner is cleaned from unburned pellets, which is followed by a message on the CLEANING FIRE-POT display.

Switching off the boiler

To switch off the boiler it is enough to keep the button 4 pressed for about 2-4 seconds.

The pellet stops immediately and the smoke engine is switched to a higher speed. The display shows the message: CLEANING FINAL (Figure 33). This is followed by a LITTLE CLEANING phase that lasts from 10 to 20 minutes.



Fig. 33

The smoke engine activity ends after the expiration of 10 minutes from the switching off the boiler and after the smoke temperature has been lowered to below 70°C. When the boiler is turned off, the message on the display appears as in Figure 34.



Fig. 34

Re-ignition of the boiler

It is not possible to turn on the boiler again before the flue gas temperature drops below 45°C or until the boiler cools down.

18. MENU

Pressing the button 3 (MENU) opens the MENU.

It is divided into different items and levels that allow access to settings and card schedules.

Menu items that grant access only to technical programming are button-protected.

The following overview briefly describes the menu structure by retaining in this paragraph only the selections available to the user. Taster 3 accesses the Menu and

then accesses the next submenu with the same button, and at the end, Button 3 sets the value and moves to the next menu item. Taster 6 switches to the previous submenu at the set settings are memorized. The 5 button moves to the next submenu and the set settings are memorized. The 4 button moves to the higher menu level, the set settings are memorized.

Menu 01 - Setting the clock

This menu adjusts the current time and date on the display. The electronic card is equipped with lithium battery that allows the internal clock to work for more than 3/5 years. To adjust the time, you need to access the time and date setting menu. Press the button SET and the button 5 to enter Menu 01 as shown in Figure 35:



Fig. 35

Press the button SET and the buttons 1 or 2 to set the correct day to the week (MONDAY, TUESDAY ...) (Figure 36) Press the Button SET and the buttons 1 and 2 to set the hours on the timekeeper (Figure 37).

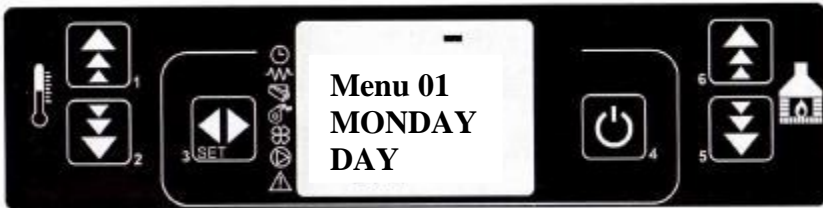


Fig. 36



Fig. 37

Press the Button SET and the buttons 1 and 2 to set the minute (Figure 38). Press the button SET and the buttons 1 and 2 to set the month of the year (Figure 39). Press the button SET and the buttons 1 and 2 to set the day in a month (Figure 40). Press the Button SET and the buttons 1 and 2 to set the year (Figure 41).

When this setting is completed, press the button 4 to return to the Home Menu.



Fig. 38



Fig. 39

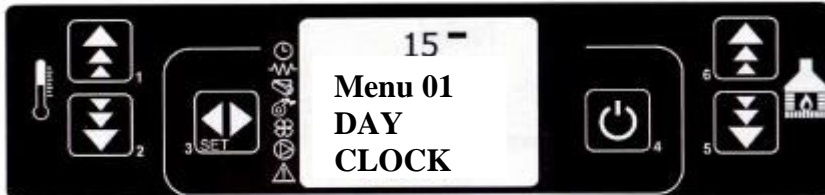


Fig. 40

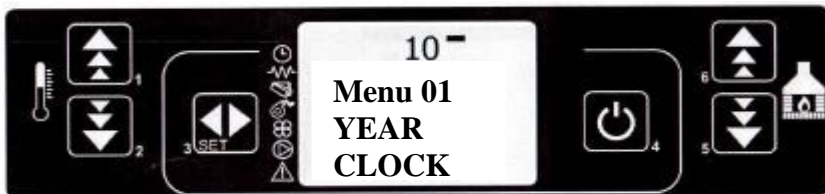


Fig. 41

Menu 02 - Programming the Boiler operation

There are three types of boiler programming:

- **Daily programming**
- **Weekly programming**
- **Weekend programming**

DAILY PROGRAMING

Allows you to adjust the daily functions of the Chrono thermostat. The boiler can be switched on and off if desired, and it is regulated by programs, with the notice that it is necessary to have enough time between the switch off and the new ignition to cool the boiler. It is necessary that the time and date are set correctly (Menu 01). This function depends on the function of turning the boiler on and off, so make sure you set the correct time.

First press the button SET and the button 5 to enter the menu 02 as shown in

Figure 42:



Fig. 42

Press the button SET as shown in Figure 43:

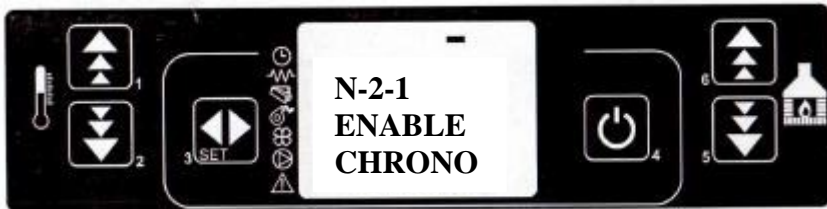


Fig. 43

Press the button SET, the display on the display is as shown in Figure 44. By pressing the button 1, the Chrono thermostat (on) is switched on as shown in Figure 45.

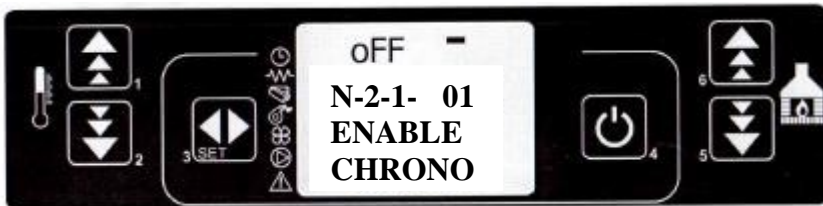


Fig. 44

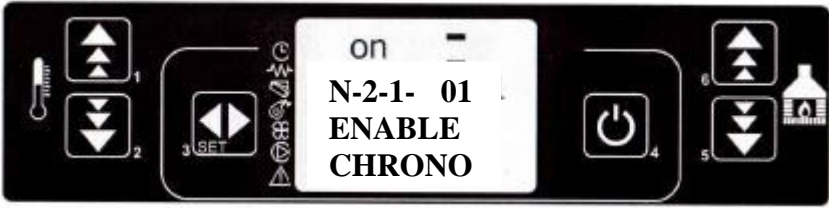


Fig. 45

Press the button 4 and then the button 5, the display then shows as shown in Figure 46:

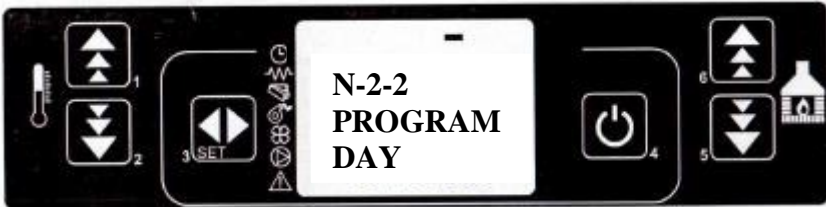


Fig. 46

Press the button SET twice and the display will look like in Figure 47. With the buttons 1 or 2, we set the first Start of the boiler during the day. Pressing the button SET will display as shown in Figure 48 and the buttons 1 or 2 will be adjusted for the first time the boiler is turned off.



Fig. 47

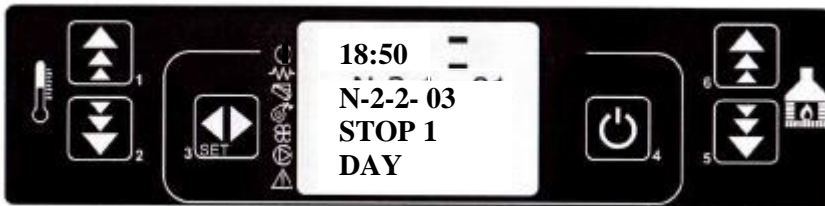


Fig. 48

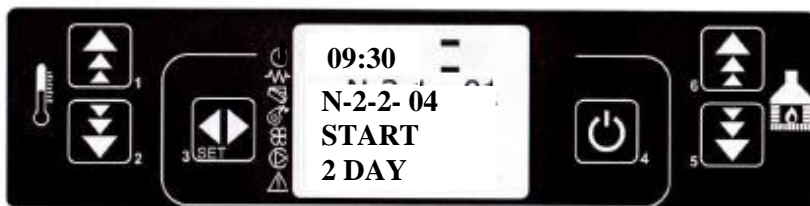


Fig. 49

Pressing the button SET changes to setting another program. With Taster 1 we set the ignition time (fig. 49). Press the button SET and set the boiler stoppage time (Figure 50). After finishing the adjustment with the button 4, we return to the basic menu, and the indicator will show that programming is active.

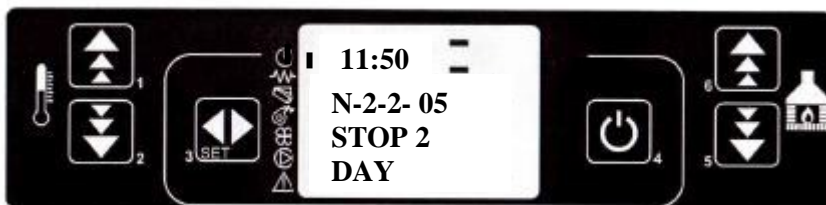


Fig. 50

WEEKLY PROGRAMING

The remote programmer has 4 independent programs (4 times off and on). For each day of the week alone, these 4 programs can be combined individually, ie whether some of them will be active or not (OFF or ON). Be careful to carefully adjust the programs to avoid overlapping the ignition and shutdown times.

Attention: carefully carry out programming, generally avoiding overlapping of the activation time and / or deactivation of the same day in different programs.

The programming process is as follows:

The first four steps in programming are the same as when setting the day program (figures 42-45). Press button 4 and then twice button 5 and the display will look as shown in Figure 51.



Fig. 51

Press the button SET and then press 1 and activate the weekly programming (On) as shown in Figure 52...

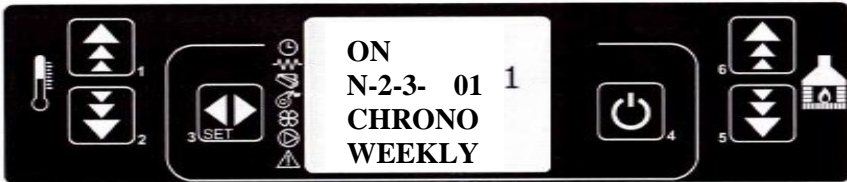


Fig. 52

Press the button SET and then press the button 1 to set the start time of the kiln in the first program, as shown in Figure 53. The same procedure is repeated to switch off the boiler at the first program as displayed in figure 54.

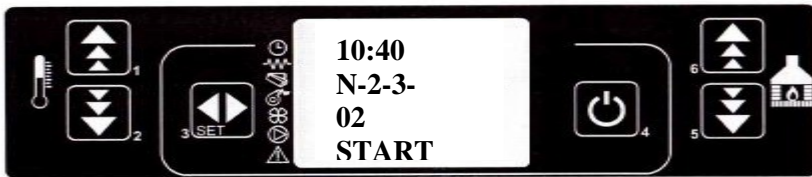


Fig. 53

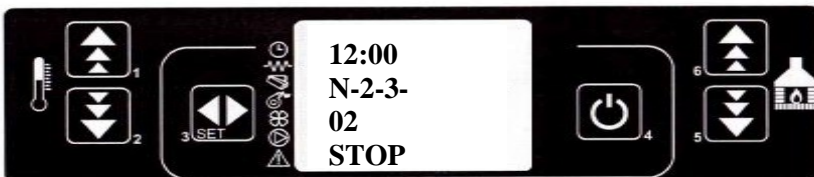


Fig. 54

Press the button SET and with the button 1 activate (ON) or deactivate (OFF) program 1 for the corresponding day of the week beginning from Monday to Sunday as shown in Fig. 55 and 56. Day-to-day switching is done by pressing the button SET.

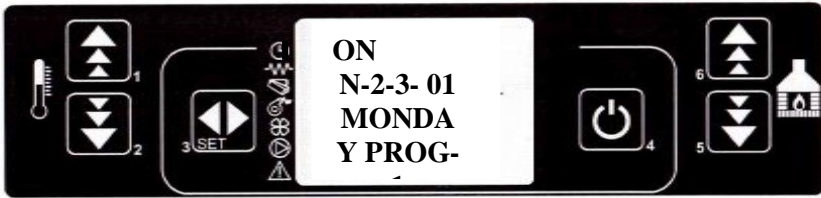


Fig.55

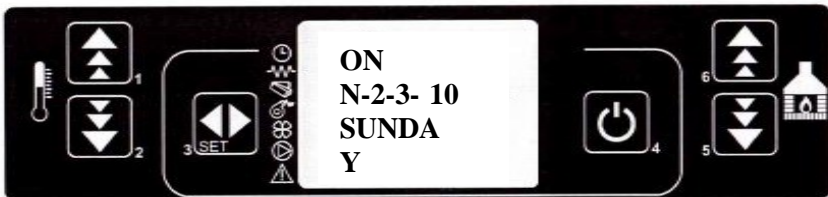


Fig.56

By pressing the SET button, it switches to the setting of another program and its activation for each day of the week individually (in the same way as it was done for program 1). The same procedure should be done for the other two programs (programs 3 and 4). The indicator that the programming is activated will be shown on the display.

PROGRAM WEEK-END

Weekend programming allows you to program, turn on and off the boiler (twice a day) during the weekend (Saturday and Sunday). **Activate weekend programming only if day and week programming are deactivated.**

The first four steps in programming are the same as for day programming (Figures 42-45). Press button 4, then three times button 5 and the display will look as shown in Figure 57.



Fig. 57

By pressing the button SET, we activate the WEEK-END program as shown in Figure 58.

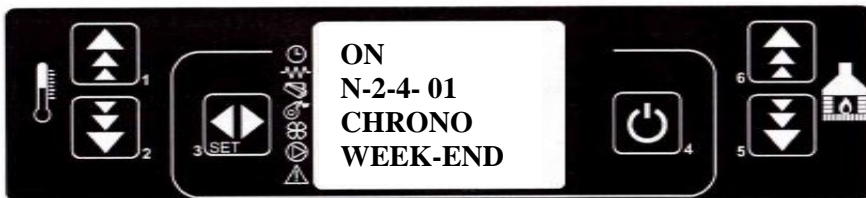


Fig. 58



Fig. 59

By pressing the button SET and then by pressing 1, we set the time for the first firing of the boiler as shown in figure 59. By pressing the button SET again and with the button 1, we adjust switching off time of the boiler, and the display will look as in



Fig. 60

The same procedure is for programming the second weekend program of figures 61 and 62.



Fig. 61



Fig. 62

After these settings, we return to the main menu by pressing the button 4.

SUGESTION: in order to avoid confusion and unwanted ignition and shut down operations, activate only one program if you do not know exactly what you want to achieve.

Deactivate the daily program if you want to include this week. The weekend program always keeps inactive if used weekly in programs 1, 2, 3, and 4. Activate programming for the weekend only after deactivating weekly programming.

Menu 03 - Choose the language

Allows you to select the available language for the dialog.

Level 1	Level 2	Set by pressing the SET button
Menu 03 - choose the Language		
	Menu 03-01 – Italian	Set
	Menu 03-02 – French	Set
	Menu 03-03 – English	Set
	Menu 03-04 – German	Set

Menu 04 - stand-by mode

Activate the “STANDBY” mode which switches off the boiler once the room temperature has exceeded the SET temperature for longer than the amount of time 2 minutes.

After the shutdown has been completed in cases as such, reigniting can occur only when the following conditions have been met:

$TSET < (T_{room} - 4^{\circ}C)$

Menu 05 - alarm mode

When “OFF” disables the sound.

Menu 06 – initial charging

It allows you to preload the pellets when the boiler is off and cold for an amount of time equal to 90”. Start with the P1 button and stop with the P4 button.

Menu 07 – Boiler status

Visualize the instant status of the boiler reporting the status of the various devices connected to it.

Menu 08 – Technical adjustment

Only for professional technicians

19. CAUSES AND ALARMS

There is a power outage (black out)

After a power outage, based on the state in which the boiler was before the black out, the following scenarios could take place:

<i>previous state</i>	<i>length of black out</i>	<i>new state</i>
off	any	off
lighting	<30 sec	lighting
pellet load	<30 sec	pellet load
await fire	<30 sec	await fire
working	<30 sec	working
clean ashpan	<30 sec	clean ashpan
off	<30 sec	off

In all cases in which the duration of the blackout is greater than $T=30$ sec, the boiler will shut down, as illustrated in the figure 63.



Fig. 63

In the case of lighting failure, the NO LIGHT (or OFF) alarm message will be visible as illustrated in figure 64.



Fig. 64

Press P4 to bring the boiler back to standard condition.

If there is a power outage, when the boiler turns back on, it will go into the FINAL CLEANING state (as illustrated in figure 65) and will wait for the flue temperature to drop to a normal set temperature.



Fig. 65

ALARMS

Origin of the alarm	Display
Flue gas temperature probe	ALARM FLUE PROBE
Flue gas over-temperature	ALARM HOT TEMP
Ignition failure	ALARM NO FIRE
Shut down during working mode	ALARM NO FIRE
Power supply failure	COOL FIRE (refer to par. 9)
Auger safety pressure switch	ALARM DEP FAIL
General safety thermostat	ALARM SIC FAIL
Exhaust malfunction	ALARM FAN FAIL
Water pressure outside the allowed values	ALARM PRES.

Every alarm causes the boiler to immediately shut down

State of alarm occurs after reaching the 30 sec and it is possible to reset it by pressing the P4 button.

Flue gas temperature probe alarm

This alarm sounds when the flue gas temperature probe malfunctions or is

disconnected. In such cases the boiler will shut down, as illustrated in figure 66 (or PROBE EXHAUST).



Fig. 66

Flue gas over-temperature alarm

This alarm sounds when the flue gas temperature probe measures temperature that is higher than 250°C. The display will portray the message illustrated in figure 67 (or HOT EXHAUST).

In such case the boiler will immediately shut down.



Fig.67

Ignition failure alarm

This alarm sounds when the lighting phase fails, as illustrated in the next fig.68.



Fig.68

In such cases the boiler will immediately begin to shut down.

Shut down during working mode alarm

If the flame goes out during working mode and the flue temperature drops below the minimum working threshold (TEMP 45°C), the alarm sounds as illustrated in figure 69.



Fig. 69

In such cases the boiler will immediately begin to shut down.

Pressure switch for auger safety alarm

If the pressure switch measures the air pressure lower than the threshold, it intervenes in order to stop the auger (when the auger is working) and, it allows the control board to acquire this change in state. On the display, the message “Alarm Depress” will appear and the system will stop. Fig.70



Fig. 70

General thermostat alarm

If a general safety thermostat measures a temperature higher than the threshold, it intervenes in order to stop the auger (when it is working) and, at the same time, through the AI1 clip in CN4, it allows the control board to acquire this change in state. On the display, the message **ALARM safety Thermal** will appear and the system will stop.



Fig. 71

This is an additional safety mechanical device. In order to return to normal operation, wait for the boiler to cool (smoke engine). This cooling lasts for twenty minutes. Then restore the function of the safety thermostat that blocked the boiler operation (unscrewing the plastic cover and pressing the thermostat knob until you hear a soft metal sound) located on the back of the boiler (Figure71.) and then press the button 4 for 2 - 3 seconds until the boiler returns to its ON position. Upper thermostat blocks the boiler operation when the boiling water in the boiler is heated to 88 ° C and the bottom when the worm gear housing is heated to 80 ° C. NOTE: If any of these two last alarms are activated, check that the chamber is not clogged with ash or that the chimney is not partially clogged.



Figure 71.(safety thermostat and switch plug)

Exhaust malfunction alarm

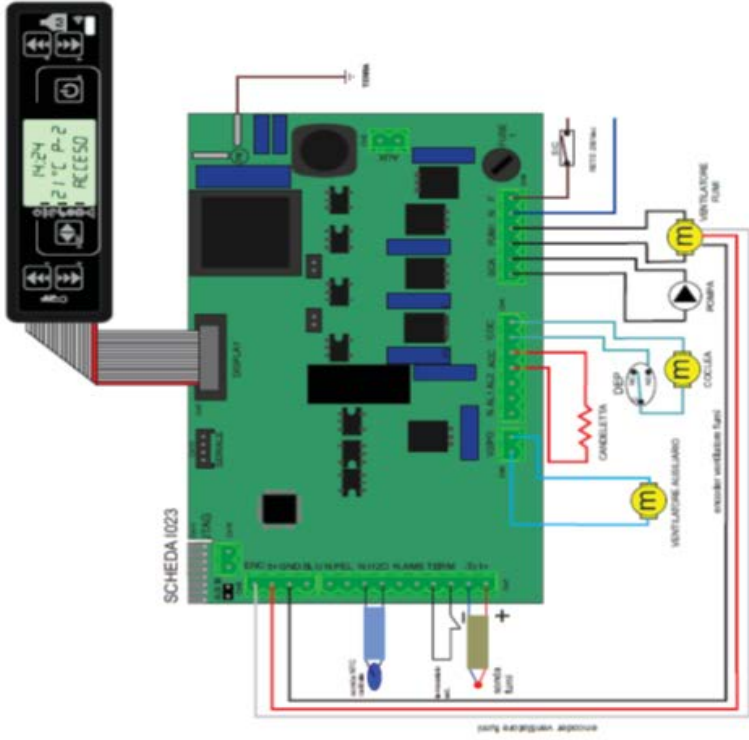
If the fume exhaust fails, the boiler will stop and the message **ALARM FAN FAIL** will appear on the display as illustrated in the following figure. The boiler will immediately begin to shut down.



Fig. 72

20. ELECTRICAL CONNECTIONS

SCHEMA CONNESSIONI ELETTRICHE I023 IDRO LEGNA-PELLET



21. FIRING WITH WOOD

Only dry wood can be used periodically (15 - 20 days)

- With the enrad-EDP boiler, it is very easy to change the type of fuel. Open the middle boiler door.
- Remove the plate outside (fig. 21.1) if it is mounted.
- Take the burning pot out (fig.21.2)
- Place the wood grate in its place (fig. 21.3)
- Be sure to install the fire protection-1 (cover on the dispenser tube) which is delivered together with the grille (fig. 21.4)

Manually carry out the process of lighting a fire and when the wood is on fire, close it from the door and switch to burning wood on the display.

In case of wood burning, a thermal safety valve or an open heating system must be installed on the boiler.



Fill the firebox on the cleaned grilles with wood (exclusively dry wood).

Close all doors and check all boiler connections.

A thermal safety valve or an open heating system must be installed on the boiler

On the control panel, select the program for burning WOOD:

Press the * SET * button once, then press the 5 buttons until MENU 09-FUEL TYPE appears as in the display (fig.21.5)

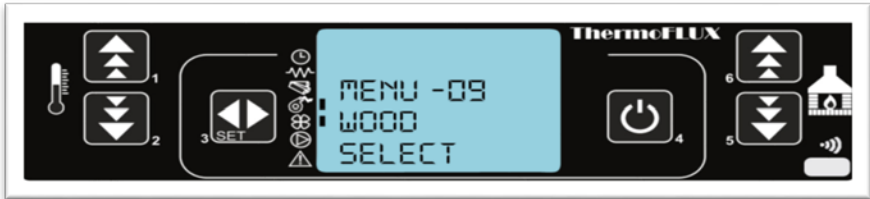


Fig.21.5

Press the SET button and then use 1 or 2 to select WOOD.

Press the SET button and press the ON / OFF button- Return to the home menu.

Light the fire manually and switch on the control on the boiler by pressing the ON / OFF button

We recommend that you use the wood boiler mode as little as possible because of the smoke in the fan.

NOTE: CLEANING AND MAINTENANCE OF THE BOILER

Cleaning must be done only when the boiler is completely cold.

Check and clean the pellet pan-2 and the ash pan-3 daily. Check and regularly clean the boiler walls from soot Check and regularly clean all TUBES inside the boiler (mandatory every week).

The wood boiler creates a larger amount of soot and tar on the walls and Tubes of the boiler, so it is possible to block the operation of the fan.

Check and clean the blades and fan housing regularly (after 20 days of operation), first disconnect the boiler from the power supply.



Cleaning turbulators

22. SAFETY MEASURES

Kota is equipped with the following safety devices:

PRESSURE REGULATOR-Checks the pressure in the flue. It stops the pellet transport spiral when the drain is clogged or when it encounters pressure (wind)

FLUE GAS TEMPERATURE SENSOR-Measures the gas temperature and approves the boiler switching on or stops the boiler switching on if the flue gas temperature drops below the programmed value.

CONTACT THERMOSTAT ON SCREW HOUSING-When the temperature exceeds the set safety value, the boiler is immediately stopped.

CONTACT THERMOSTAT IN BOILER-When the temperature exceeds the set safety value, the boiler is immediately stopped.

WATER TEMPERATURE SENSOR-When the water temperature approaches a stop temperature of (85°C) the sensor starts the elevation to perform a series of cooling cycles or

stops the boiler automatically by “ECO-STOP” to prevent the capillary temperature sensor described above from blocking.

ELECTRIC SAFETY- The boiler is protected from large current disturbances by means of standard fuses located in the main switch on the back of the boiler and on the control panel - the motherboard.

FUSION FAN- If the fan stops, the motherboard immediately blocks the pellet supply and an alarm signal is displayed.

MOTOR WITH REDUCER- When the gearbox motor stops running, the elevation continues until the flame is extinguished due to lack of oxygen and until the minimum cooling level is reached.

TEMPORARY INTERRUPTION- After a short power failure, the elevation automatically switches to cooling.

NO IGNITION- When no flame develops during ignition, the elevation goes to the alarm state.

NOTE- Disassembly and disposal or disposal (old, used) of the boiler is the only responsibility of the boiler owner.

In all cases, you must comply with the applicable legal regulations of the country in which the elevation is installed regarding the disposal of such materials (items) and, if necessary, report the disposal of such items.

ALARMS

Print on the display	Explanation	Solution
	alarm active-visible mark next to the alarm sign	The alarm can be canceled by pressing button 4 then in the display shows FINAL Cleaning lasting 4 minutes. After that we can turn on the boiler again if we have solved the problem.
EXHAUST PROBE AL2	The flue gas temperature sensor is faulty or not connected. ALARM ACTIVE is displayed, and then turns off.	The alarm can be canceled by pressing the key 4 FINAL CLEANING is displayed for 4 minutes. After that we can restart the boiler If we have solved the problem.
EXHAUST HOT AL3	Flue gas temperature is above the allowed (250 ° C). Boiler lists alarm is active and goes off.	The boiler has not been cleaned, smoke sensor is dirty. Clean boiler and restart the ignition. Excessive amounts of feed pellets. Call service
FAN FAILURE AL4	Flue gas fan error. Flue gas fan stuck. Invalid encoder (hall).	Call service
NO LIGHTIN AL5	Failed ignition.	No pellets in the storage - fill the pellets in the tank Dosage spiral empty - initial filling A foreign object stuck dosage spiral - clean Poor quality pellets (wet pellet, long pellets, dust into pellets) - change the type of pellets Pellet igniter is defective - replace it Contact Service Restart the boiler.
NO PELET AL6	During operation of the boiler, flue gas temperature has decreased below the permitted values	No pellets in the storage - fill the pellets in the tank Dosage spiral empty - initial filling A foreign object stuck dosage spiral - clean Poor quality pellets (wet pellet, long pellets, dust into pellets) - change the type of pellets Call service
WATER PROBE AL9	Safety thermostat (STB) has been activated because the boiler water temperature exceeded 95 ° C.	Call service.
SAFETY THERMAL	Safety thermostat (STB) has been activated because the boiler water temperature exceeded 95 ° C.	Wait for the boiler to cool down and then unscrew the plastic cap and suitable tool to reset the switch. It is possible that the pump is out of service and there is no water circulation Call service.
POWER LOSS	The boiler is out of power	Reset alarm and start again.

RECYCLING AND WASTE DISPOSAL

Submit all packaging material for recycling according to the local regulations and requirements.

At the end of life cycle of each product its components are due to be disposed of in conformity with regulatory prescriptions. According to Directive 2002/96/EC regarding electrical and electronic equipment waste, disposal there is required separately from the normal flow of solid house hold waste.

Obsolete equipment shall be collected separately from other recyclable waste containing materials with adverse effect on health and environment.

23. WARRANTY CONDITIONS

Guarantee period

Guarantee period of 5 years applies on boiler body, metal covers and silo for pellet, and 2 years on electric component (regulation, motor, igniter)

Enrad LLC is responsible for service in Kosovo during guarantee period for failures as described in paragraph related to terms for guarantee,

Guarantee in other states is to be provided by authorized importer or distributor.

Guarantee terms

First startup of the boiler needs to be done by authorized service, or person authorized by Enrad or authorized importer – distributor.

Boiler must work in accordance with terms and conditions given in this manual.

Boiler needs to be installed in accordance with all state regulations and law terms.

Quality of pellet must comply with all standards given in this manual.

Exemption from the guarantee

Guarantee does not cover:

- Not an authorized and negligent handling and maintenance ;
- Not an authorized opening and servicing of the boiler;
- Improper installation or mechanical damage;
- Damages caused by non-complying with instructions given in manual=

Damages caused by other conditions such are: fire and water, high voltage, thunder stroke.

