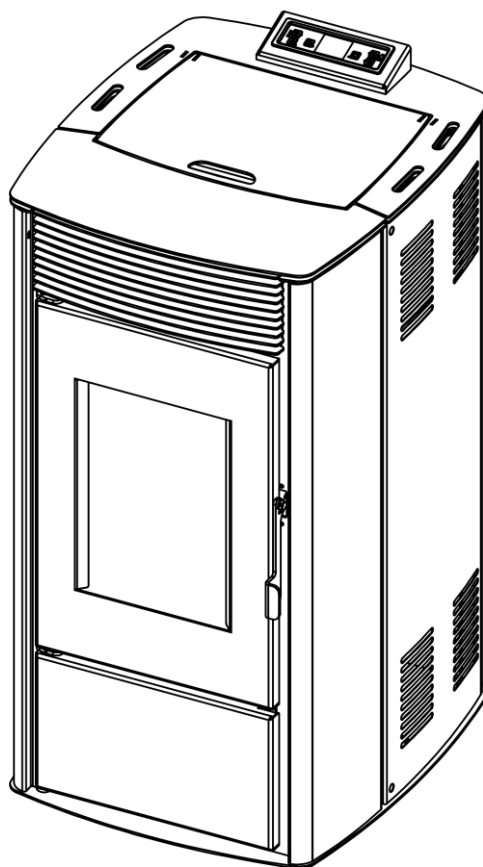




# RITTUM 14 HYDRO

Owners's manual

INSTALATION, ADJUSTMENT AND OPERATING INSTRUCTION



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EN 14785:2006

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# 1. WHAT IS PELLET?

Pellet is an energy fuel with high energy efficiency that is produced in special technological process of milling, drying and pressing of various materials of biological origin. As raw materials for its production can be used wood from forestry waste, firewood, sawdust and other wood waste (wood pellets); the straw of wheat and soybeans, corn and sunflower husks (agro pellets).

Nowadays, when the accent has been put on environmental protection and sustainable development, fuels produced from biomass are increasingly gaining in importance.

Using pellets as a fuel material has multiple advantages either for the environment or, at the first place, for a customer itself:

- Using one ton of pellets, for the same heating quantity, replaces 500 liters of heating oil, or 450 kg of propane-butane, or 600 cubic feet of natural gas, or 4800 kilowatt-hours of electricity;
- It significantly reduces emission of harmful gases, such as: carbon dioxide, sulfur dioxide and mercury, and the burning leaves only 0.5 - 1% of ash;
- Wood pellet is made of 100% natural materials and contains no added binders, chemicals or additives;
- Compared with other fuels or using electricity, the use of pellets is much more cost-effective;
- Pellet takes up far less space than coal and firewood.

## 1.1 Quality of pellet

The quality of pellets is of great importance for the stove. If the pellet is substandard and inadequate in size, it can bring to a poor performance of the stove.

Here are some advices on how to choose and store pellets:

- diameter of the pellets should be 6 mm and length about 30 mm;
- use only **wood** pellets;
- pellet should be cylindrical;
- good quality pellet should quickly sink when thrown into a glass of water;
- pellet is not adequate when in a bag of pellets you find a lot of dust or friable;
- a pack of pellets should be hermetically sealed, because pellets absorbed humidity;
- humidity must be less than 10%;
- pellets are supposed to be stored in dry, well ventilated room, out of the reach of flammable elements or devices which during operation create a high temperature

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## 2. REMARKS BEFORE OPERATING THE STOVE

Always follow the references given in this chapter. The manufacturer doesn't take a responsibility for consequences in opposite cases. Not respecting the instructions of use and maintenance, cause the lose of right for consumer warranties.

- before operating and maintenance the stove, please read this manual;
- stove is used exclusively for central heating;
- keep the stove away from flammable materials;
- keep the stove in dry places;
- keep the children or pets away from the stove, because some parts emits high temperatures and they can cause burns;
- do not touch the parts that emit a high temperature, such as smoke drain, glass, fire door, the side;
- for heating use only a pellet which was originally made of **wood**;
- stove should be cleaned only when it is cold (the stove is completely cooled after 30 minutes after turning off the stove);
- stove should be cleaned only when it is disconnected from the power source on the main switch (Chapter: basic parts of the stove);
- in the room where stove is placed, it is necessary to ensure a permanent supply of fresh air;
- stove must be installed in accordance with these manual (Section: stove installation)

Stove and its packaging are made of materials that can be recycled. Stove, which is not in use any more, should be put away in an adequate place or else you should call the service for waste disposal. You must act according to a regulation in force in the country where the stove is placed.

For any defect you need to call a qualified technician. All defects must be removed by an authorized service technician. In case that an unauthorized person repairs a stove, you will automatically lose a warranty and any further repairs by an authorized service will be charged.

**NOTE: AT FIRST STARTING OF STOVE, MUST BE PRESENCE OF RESPONSIBLE PERSON (TECHNICIAN) WHO WILL CHECK STOVE, PELLET QUALITY, PARAMETERS, CENTRAL HEATING SYSTEM AND CHIMNEY, AND WHO WILL CHECK ACTUALY LIGHTING AND BURNING PROCESS OF PELLETS.**

Pellets must not be fed manually into the burner – this wrong behaviour can generate an abnormal amount of unburned gas, with a risk of **EXPLOSION** in the chamber. Accumulated unburnt pellets in the burner after a failed ignitions must be removed before lighting

**NOTE: Each stove before packing requires the operation and safety control; therefore it's possible to find some burning remains in the firebox. It is also possible to find a small amount of pellets in the store.**

**During the first firing can occur some paint burning, therefore it's recommended to ventilate the room well after.**

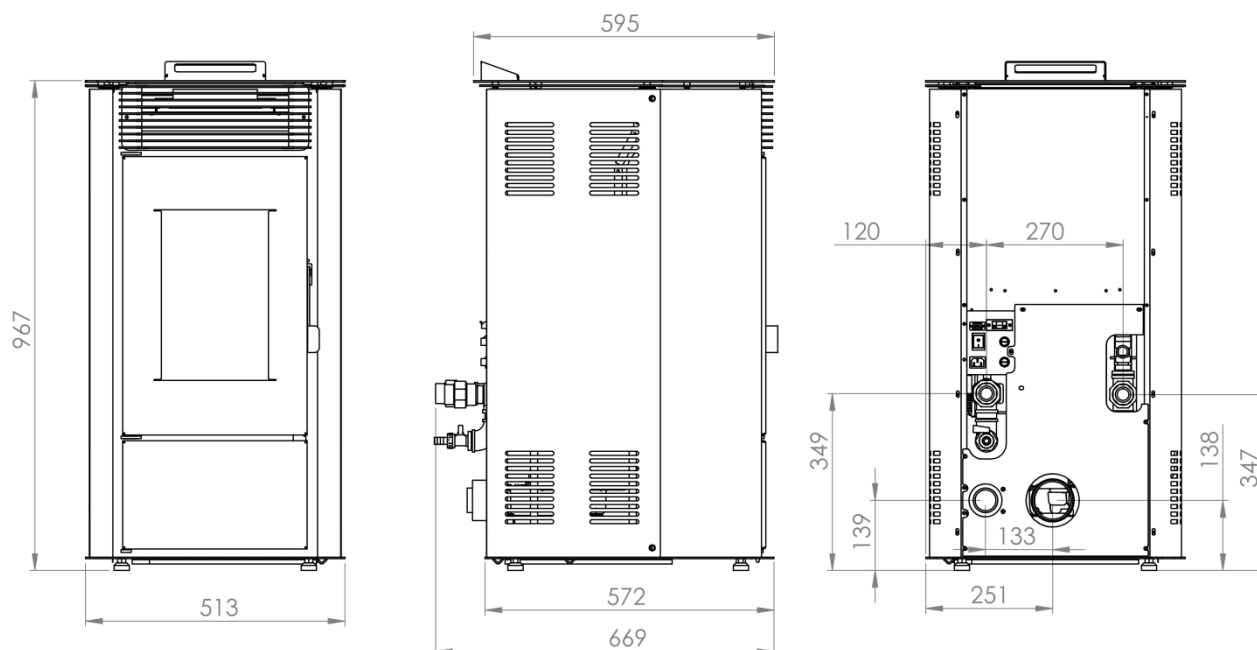
### 3. TECHNICAL CHARACTERISTICS

Table 1. contains the technical characteristics.

Maximal heat power	kW	15
Nominal power / Air / Water	kW	14,62 / 4,30 / 10,32
Efficiency	%	92,37
Dimensions ( W x D x H )	mm	523 x 684 x 1041
Weight	kg	153.4
Fuel (dimensions)		Wood pellet (Ø6 mm L≈30 mm)
Exhaust	mm	Ø 80
Draft	Pa	12±2
Storage capacity	kg	27
Boiler capacity (Litres)	l	15
Voltage	V	230 ± 15%
Frequency	Hz	50
Electrical power during the operation	W	55 - 160 *
Electrical power during the initialization	W	400 - 450 **
Efficiency	%	92,37
Reduced power nominal/air/water	kW	4,3 / 1,3 / 3
Fuel consumption- nominal	Kg/h	3,475
Fuel consumption-reduced	Kg/h	1,392
CO ( 13%O2)%	%	0,0053
Exhaust gasses temperature	°C	150
Working temperature	°C	5 - 60
Storage temperature	°C	-10 - 60
Maximal relative humidity (without condensation)	%	95

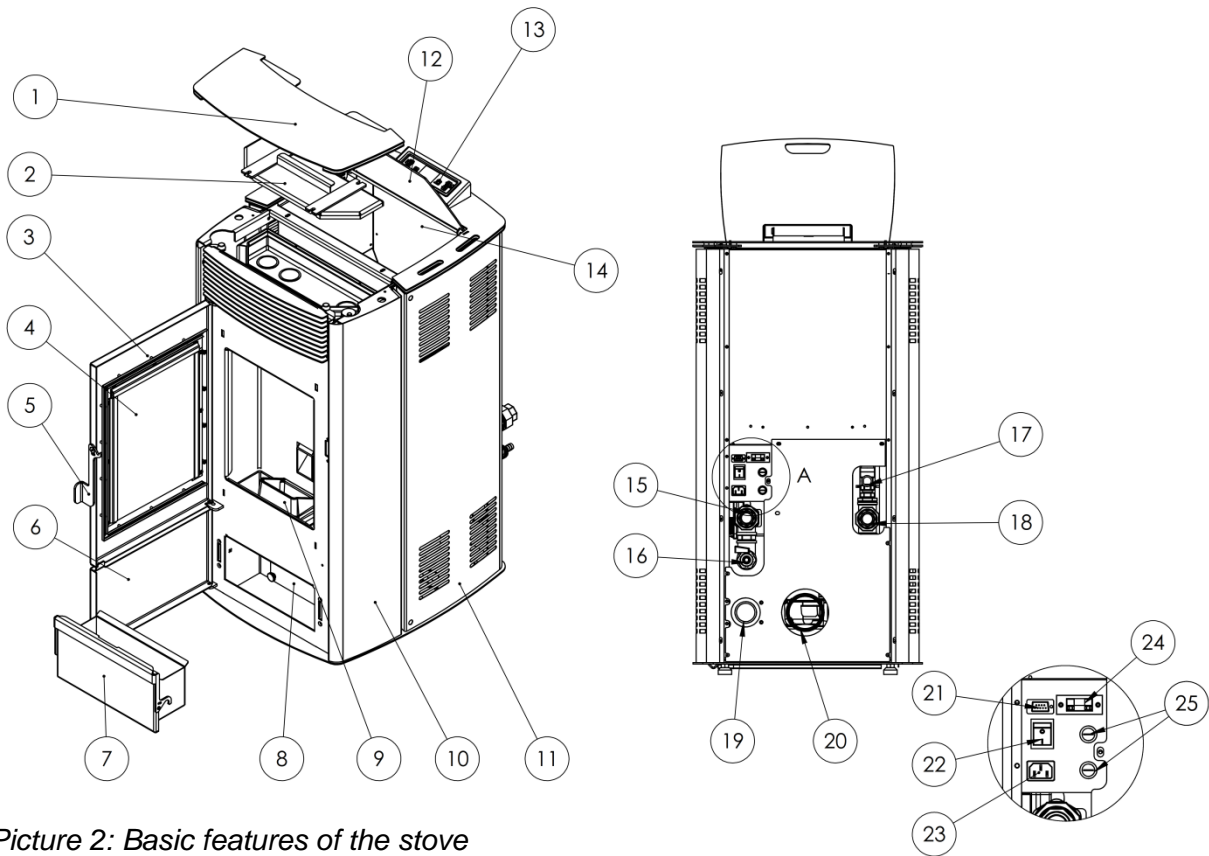
\* - depending of which fan is on, as well as the motor reducer

\*\* - lighter and emissions fan is on (400W), while an motor reducer is occasionally getting on



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## 4. BASIC PARTS OF THE STOVE



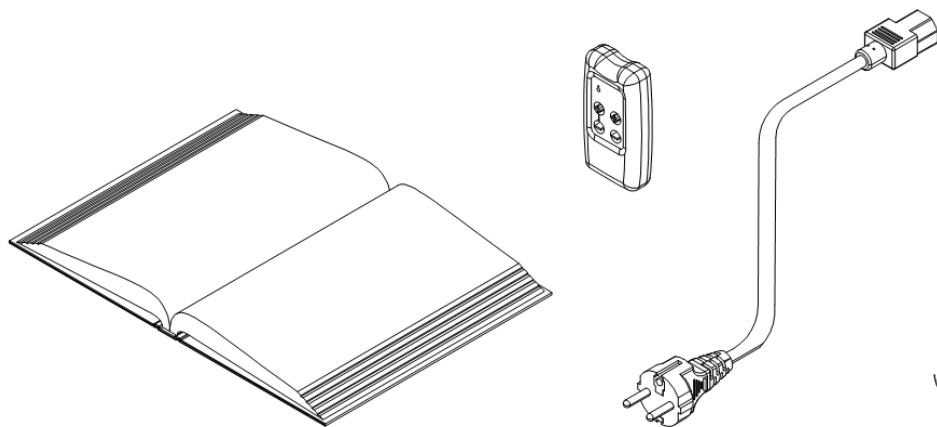
Picture 2: Basic features of the stove

- |                                |                                    |
|--------------------------------|------------------------------------|
| 1. Top mask                    | 13. Display with commands          |
| 2. Top maintenance cover plate | 14. Pellet hooper                  |
| 3. Door of the firebox         | 15. Water inlet 1"                 |
| 4. Glass on the door           | 16. Drain valve                    |
| 5. Door handle                 | 17. Safety valves                  |
| 6. Ashtray door                | 18. Fresh air inlet                |
| 7. Ashtray                     | 19. Drain valve                    |
| 8. Bottom maintenance cover    | 20. Smoke drain                    |
| 9. Burning pot                 | 21. Communication port (RS232)     |
| 10. Front lateral              | 22. Main switch                    |
| 11. Rear lateral               | 23. Socket                         |
| 12. Storage cover              | 24. External thermostat connection |
|                                | 25. STB Fuse                       |

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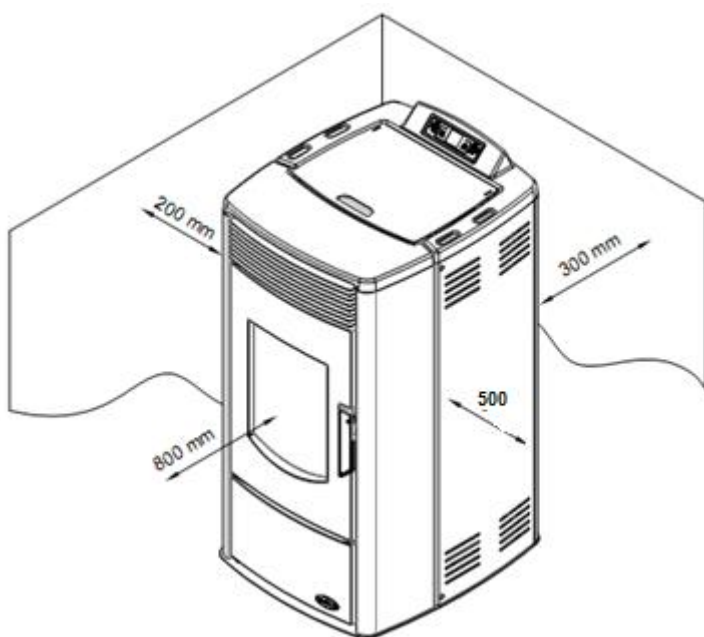
## 5. INSTALATION OF THE STOVE

With a stove you get the users manual, remote control, power cable. Parts that are included with the stove are presented on a Figure 3.



*Figure 3. Included gadgets*

Before you start installation of the stove you should read carefully instructions for use and maintenance, get to know well a regional regulations and legislation, in order to apply them. You must provide enough air in the room where the stove is placed in order to provide a optimal combustion.



Place the stove as close as possible to a smoke drain, where is also a power connection. The stove should be away from any possible obstacles, like presented in Figure 4 (for safety reason and for maintenance).

*Figure 4.  
Optimal distance*

Stove should be set 300 mm away from the obstacle on back sides (200 mm lateral), 300 mm from the back side, while the front side should be at least 800mm away from obstacles. Do not place any objects on the stove, because they could be damaged by a high temperatures that the



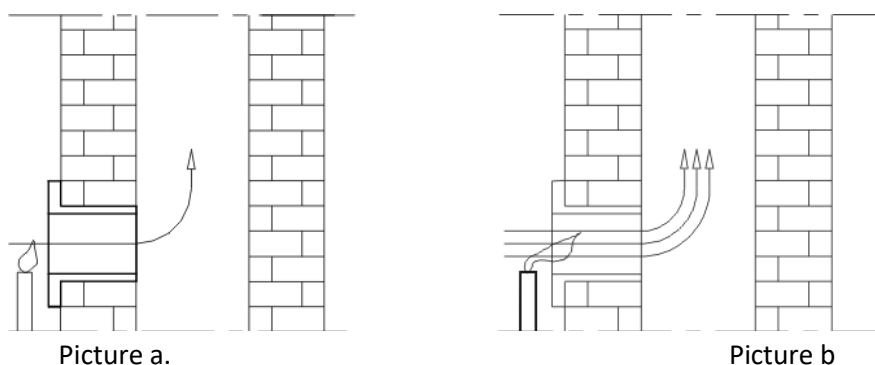
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stove emits. **You should leave some space around stove in order to allow easier servicing of the stove.**

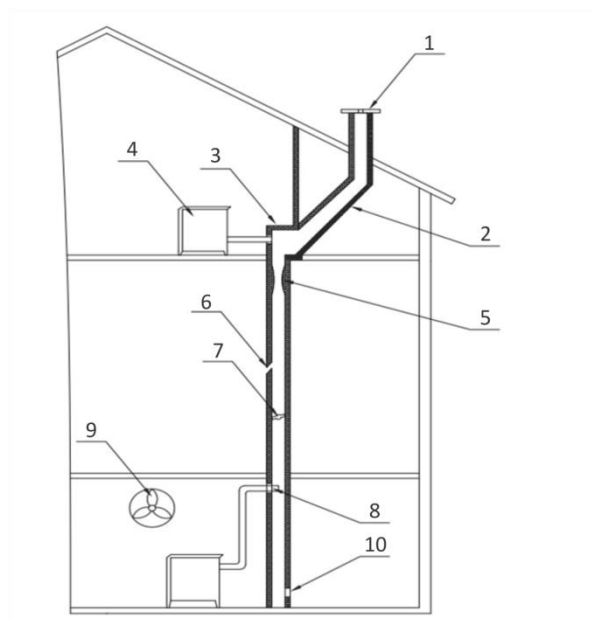
Under the stove can be set some sheet metal or a thicker glass of, minimal dimensions 700 x 800 mm, in a way that the front part is longer than the stove itself.

The stove stands on adjustable feet which must be set so that the stove is stable. Feet are being adjusted by simple unscrewing or twisting.

Before mounting the stove, check the draft in the chimney. It is one of the most important conditions for correct operation of the stove. Draft depends on chimney conditions and outside weather. One of the easiest ways to check the quality of chimney draft is to use a candle like it is shown on picture below. Put the flame close to chimney inlet and if the flame is moving toward chimney draft is suitable (picture b). If the flame is moving poorly then you should check the reasons for eventual lacks.



If the draft in the chimney is too bad (Picture 2a), please check the chimney. Chimney should be inside building. If it is outside the house, it should be insulated in proper way.

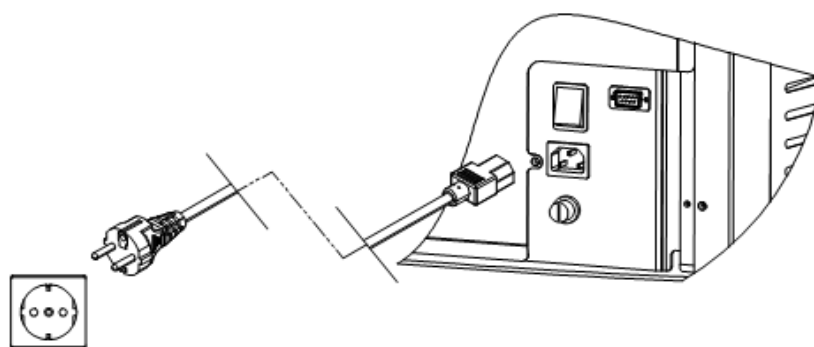


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### Lacks of the chimney could be:

1. Chimney is lower than roof top, outlet diameter is too small,
2. Inclination of the chimney is too big,
3. Smoke exhaust is built with angles which are preventing draft,
4. More than one stove is connected to same chimney,
5. Inside walls of the chimney are constricted,
6. Cracks on the chimney wall,
7. Obstacle of some kind which has fallen in the chimney (fallen brick, bird...)
8. Inlet tube is pushed too deep inside the chimney,
9. Ventilator or some other device is making bad pressure in the room
10. Closing doors on chimney are open

With the stove you get and the power cord. Stove is connected to the power source voltage of 230V and 50Hz. Stove must be connected only to the required socket. Figure 5 shows how the stove is connected to a power source. Before plugging in the cable, check if the main switch is set to the position 0. Note that the power cord is not damaged. Cable must be disconnected from the heat source. First, turn the cable into the stove to the required space and then into a power socket.



*Figure 5. Connecting the stove to power source*

When connecting the stove follow the instruction in ANNEX A and ANNEX B at the end of this manual.

**NOTE: This model has a circulation pump.** There are a circulation pump, expansion tank, automatic air vent and safety valve included in this stove.

### TUBES AND MAXIMUM USABLE LENGTHS

Pipes and unions with suitable gaskets must always be used, to guarantee a hermetic seal. Exhaust fan has 80 mm external diameter for flue pipe connection.

All sections of the smoke duct must be inspectable and removable to enable periodic internal cleaning. They are not allowed flexible hoses to connect the stove to the chimney

**Tee connectors with inspection caps must be used to regularly clean pipes and remove condensate.**

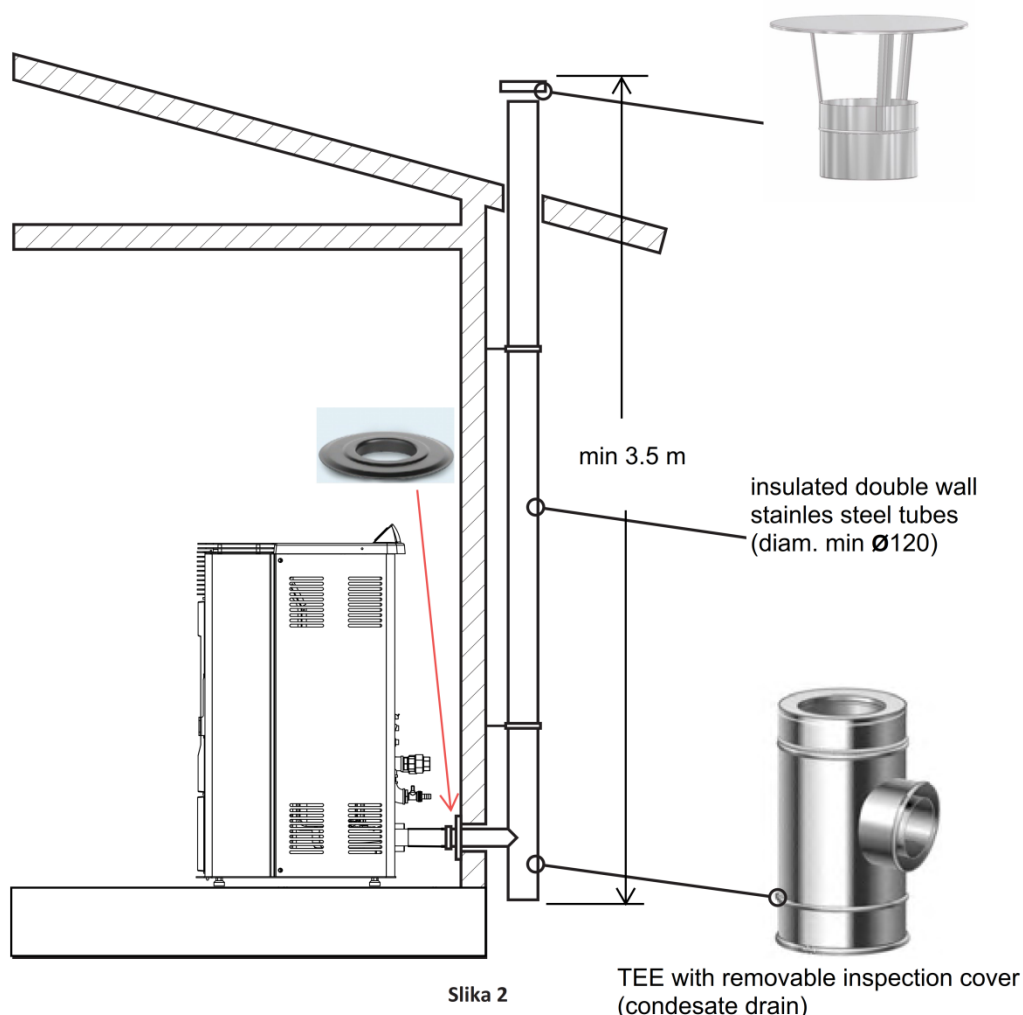
**For connection to the flue pipe, not more than 1 metres of horizontal pipe must be used and not more than three 90° curves must be used. It is also advisable not to exceed 3 metres in length with the pipe  $\varnothing$  80 mm.**

**At the bottom of the flue pipe, provide an inspection cap to allow periodic checking and cleaning, which must be done annually.**

You must ensure that a windproof cowl should be fitted which complies with the standards in force.

Painted steel tubes or stainless steel tubes with nominal diameter of 80 mm can be used, for chimney pipe. **Maximum lengths for horizontal section is 1 m, maximum lengths for vertical section is 2 m, while numbers of allowed curves is 3.**

It is strictly recommended to avoid using horizontal extensions or elongations and if this is necessary, ensure that the pipe is not counter leaned but that it has an inclination of at least 5%. It is not recommendable to connect the flue pipe directly to the stove with a horizontal extension longer than 1 m.



## USING AN EXTERNAL FUME DUCT

An external fume duct can be used only if it meets the following requirements:

- Only insulated tubes (double wall) in stainless steel secured to the building should be used
- An inspection area should be created at the base of duct for performing periodical checks and maintenance, and with any condensation drain valve
- It should be equipped with windproof chimney pot
- **do not** use only horizontal chimney pipe without wind protection

## CONNECTION TO THE EXTERNAL AIR INTAKE

It is essential that at least as much air must be able to flow into the room where the stove is installed as is required for proper combustion in the appliance and for the ventilation of the room. At rear side, there is a connection (50 mm) for external air intake.

## 6. DISPLAY AND REMOTE CONTROL

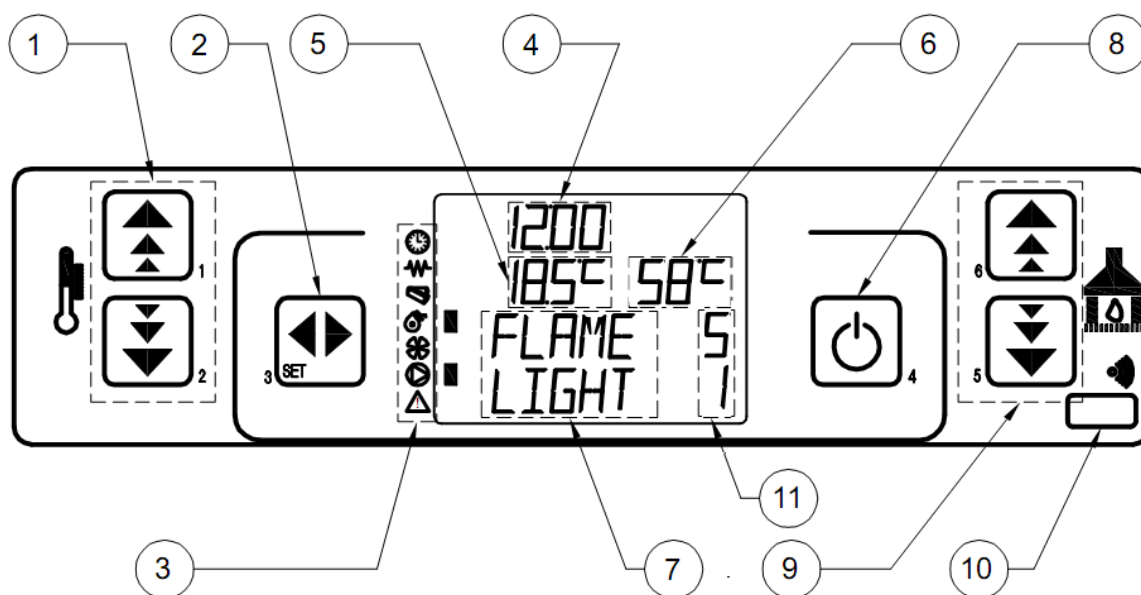


Image 6. Represents a display

On display there are 6 keys which are being used for managing different functions of the stove. In the middle, there is a display where is being shown a basic information about the stove operation.

1. Temperature setting keys
2. Main menu entering keys
3. Indicators of the stove parts
4. Time display
5. Room temperature display
6. Boiler temperature display
7. Modes of operation
8. On/Off switch, exit key
9. Operation mode settings
10. Sensor of remote control
11. Operation mode (UP – given mode, DOWN –current mode)

### 6.1. Symbols of the basic elements of stove

Next to each symbol, there is the indicator light showing which of the element is currently on. Beside of the symbols for the pellet, the indicator will be periodically turned on and off depending on whether the engine for the insertion of pellets is on or off. Description of symbols is given in Table 2.








	Timer indicator (turning the on and off according to a selected program)
	Heater indicator for burning the pellet
	Engine for pellet insertion indicator
	Emissions fan indicator
	Blower indicator
	Water pump indicator
	Warning indicator (the stove operate in incorrect way)

Table 2. Symbols on the display

## 6.2. Remote control

With remote control it can be turn on or turn off stove, and adjusting temperature of water or ambient. On device of controller is symbol of temperature / flame and "+" / "-" sign. PLUS sign is serves for increas and MINUS sigh is serves for decreasing temperature and level of power. For turning ON stove, it must press key 4 in time interval minimum 4 seconds. Key 4 is serve for entering into menu and for confirmation. Batory for remote controle is CR2025X (3V)



Image 7. remote control

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## 7. USING THE STOVE

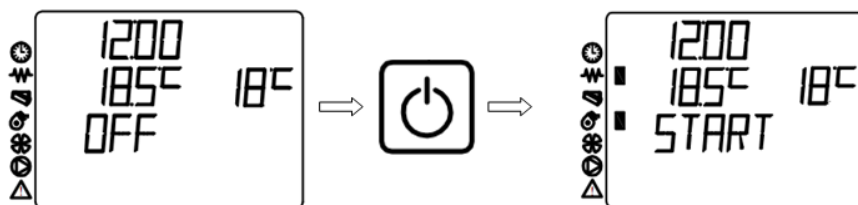
Keep to this Manual so your stove could last longer and to avoid unnecessary costs. Before starting, check if stove is well connected to power source and to an chimney. Also, check connections to a indoor central heating (in case that stove is connected to a fresh air ventilation system, check that connection also). To turn on the stove, it is also necessary to change the main switch from position 0 to position 1.

### 7.1. Turning ON and turning OFF the stove

**NOTE:** before turning ON the stove see chapter 8.7 (initial pellet loading)

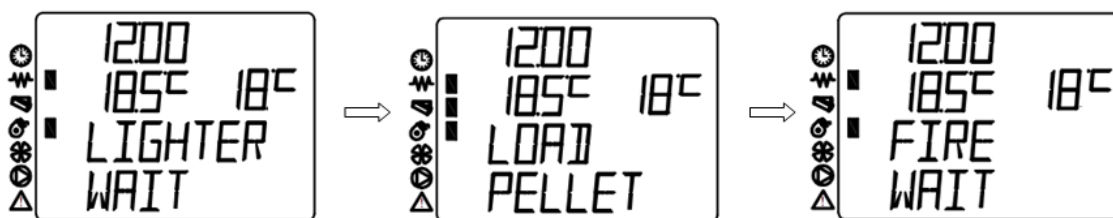
**NOTE:** If several minutes after starting the stove's , display show: **WAIT COOLING**, then in that case check if the season is correct (it must be chosen winter season).

The stove is being turned on and off on button 4. Keep pressing the button until on display does not appear **START**.



When starting the stove display will show the indicators of the elements currently on. Exhaust fan will run until the stove is turned on, even after turning it off it will continue running for some more time (until stove is cool enough).

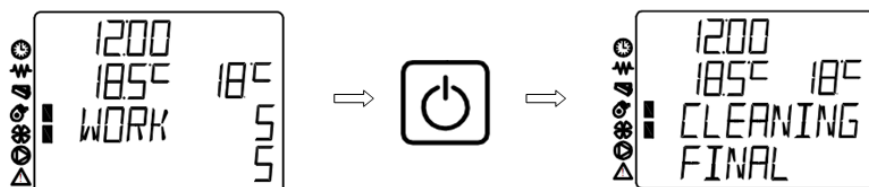
The next displayed message will be **LIGHTER WAIT**, indicating that the lighter is ON and that it's being warmed up in order to get the pellets inflamed. Stove will load the amount of pellets needed for the initialization, which will be followed by a message **LOAD PELLET**. The indicator for the throw-in of pellets will be ON only when the engine for pellet throw-in is ON.



Alternately will rotate messages **LOAD PELLET** and **WAIT FIRE** until the temperature of exhaust gases does not exceed 40°C, which is necessary in order to detect the flame and for stove to start working. The maximum time required to reach 40°C is 25 minutes. There will be displayed a message **FLAME LIGHT**. When a Flame is detected, the stove turns off the lighter. Mode will be accompanied by a Message **WORK**.

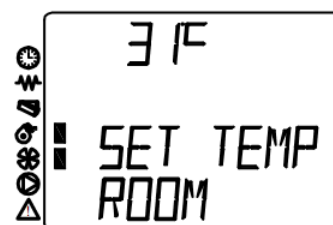
Periodically, stove is cleaning a pellet burning pot which is indicated with message **CLEANING FIRE-POT**. Time period between two cleanings is depending on model of a pellet stove.

During the turnig the stove **OFF**, press the button 4 and keep it pushed until **CLEANING FINAL** appears. Water pump will work until water temperature in boiler decrease to 50 °C. After some time, sign **OFF** will apear on display which means that stove is turned off.

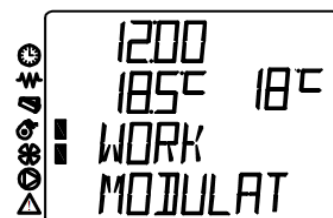


## 7.2. Temperature and mode settings

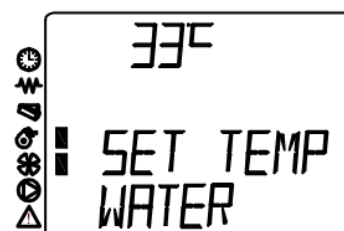
Setting the required temperature is done by pressing the key 2. The stove will heat up to that temperature and then keep maintaining the same. Setting is made by pressing the key 2 briefly and then pressing the button 1 or 2 to increase or decrease the required temperature. This action will be followed by the display message **SET TEMP ROOM**. The temperature can be changed in a range from 7 to 40 °C.



Setting the operation mode of the stove is done by pressing the key 6. Operating mode can be changed from P1 to P5. Operating modes can be changed by pressing keys 5 and 6, which will be followed by the display message **SET OUTPUT**. The higher operating mode is, quicker the stove will reach the required temperature, after which it will switch to **WORK MODULAT**, which means that the stove has reached the set temperature and now it will maintain the temperature in a lower mode.



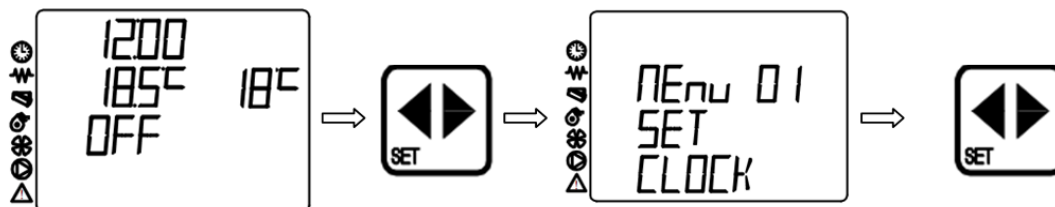
Setting the water temperature in the boiler is done by pressing the key 1. The boiler water will heat up to that temperature and then maintain the same temperature. Setting is done by pressing the key 1 briefly and then pressing the key 1 or 2 to increase or decrease the required water temperature. This action will be followed by the display message **SET TEMP WATER**. The temperature can be changed in a range from 20 to 80 °C (if temperature of water is reached 80° C, then stove goes in cooling mode, and inturn off, so user must manually restart again stove, after it is cooled down)



## 8. SETTINGS

### 8.1. Clock settings

Clock setting is being done in following way. Press the key 3 (set), after what there will be displayed a message **menu 01 SET CLOCK** afterwards, press again the key 3 (set), in order to access the clock setting menu.



The display will show the following message **menu 01** and written below will be a day that is currently set. . Lighted setup indicator will start to blink. With pressing the keys 1 and 2 you may change days as it's shown below:

MONDAY -  
TUESDAY -  
WEDNESDA -  
THURSDAY -  
FRIDAY -  
SATURDAY -  
SUNDAY -



After the days in a week, with pressing the key 5 settings will change in a following order: Hour setting, minutes, days in a month, months and years. Parameter setting are being done by pressing the keys 1 i 2. This is how a display is supposed to look like.

Hour setting	Minute setting	Day setting	Month setting	Year setting

With pressing a key 6, you can always step back. To exit the clock settings press key 4 twice.

### 8.2. Timer settings

There are three kinds of timer settings:

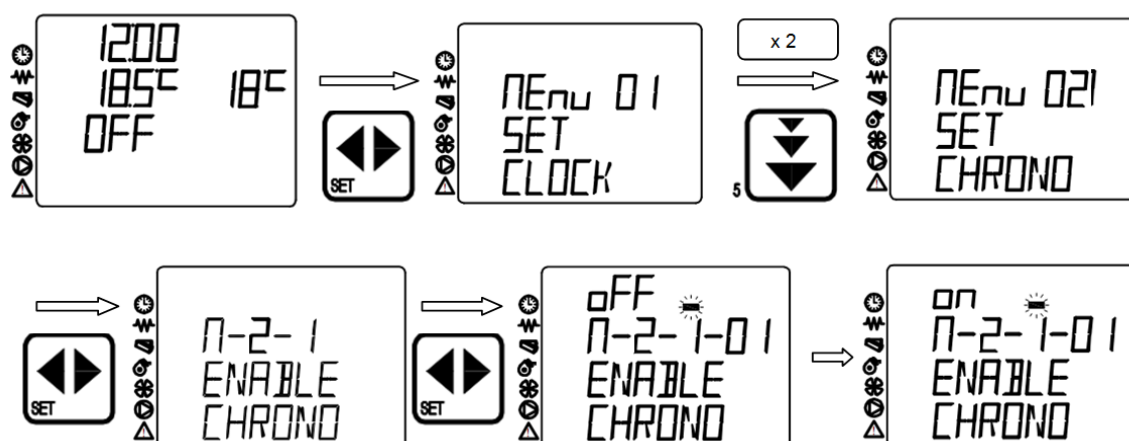
- Daily - allows the stove itself on and off 2 times during the day
- Weekly - allows the stove is programmed to be 4 times during the day to include and exclude seven days a week
- Weekend setting - allows the stove twice and switched off during Saturday and Sunday.



### 8.2.1. How to turn the timer on

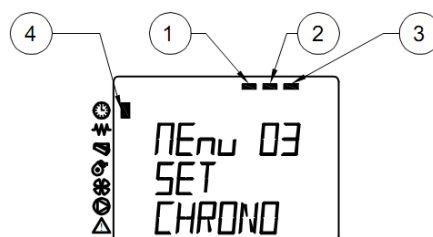
The timer is activated always in the same way no matter which type of the setting is active (daily, weekly or weekend program). The timer is getting active in a following way:

Press the key 3 (set), after what a display will show a message **menu 01 SET CLOCK**. Then press the key 5 twice and there will be displayed the message **menu 02 SET CHRONO**. Pressing the key 3 (set) you will access the timer setting menu therefore attimer starting menu. On display there is a message **m-2-1 ENABLE CHRONO**. Then again press the key 3 (set) and a message will appear: **off m-2-1-01 ENABLE CHRONO**, which means that the timer is turned off, and setting indicator will continue blinking. Pressing the keys 1 or 2 you're switching the timer from **OFF** to **ON**.



After switching the timer on display will show up the indicators that show what type of programming is active (daily, weekly, weekend) and the indicator next to the clock symbol which shows that the timer is turned on. Appearance of the signs and indicators are given in the following figure.

- 1 - Daily programming indicator
- 2 - Weekly programming indicator
- 3 - Weekend programming indicator
- 4 - Timer indicator



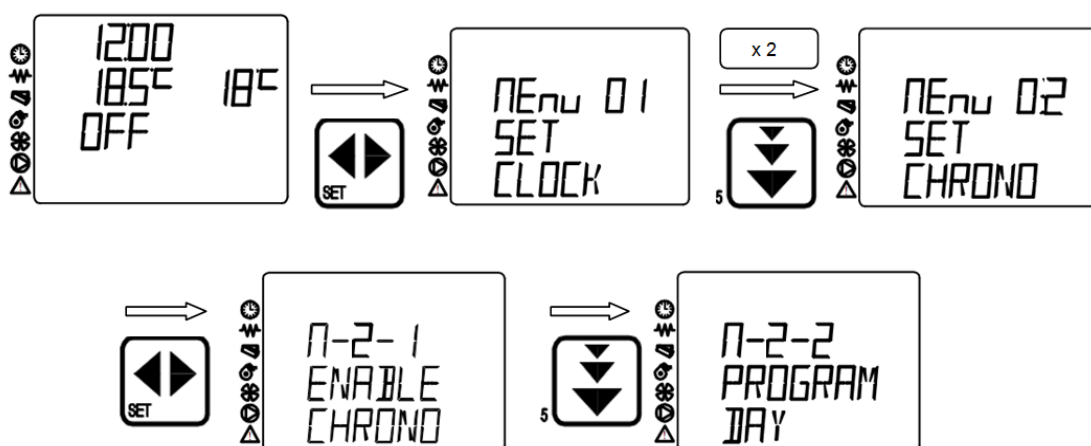
To exit the timer setting press the key 4 twice.

### 8.2.2. Daily programmer

**NOTE:** Make sure that the starting up and shutting down time does not overlap. It is also necessary to pay attention that between this two processes pass at least 30 minutes.

During the daily programming you can set two starting ups and two shutting downs of the system.

Press the key 3 (set), afterwards there will be displayed **menu 01 SET CLOCK**. Then press the key 5 twice to get the message **menu 02 SET CHRONO**. Pressing the key 3 (set) you access the timer setting menu, and consequently in the menu for turning the timer on. On display will show **m-2-1 ENABLE CHRONO**. Then again presses the key 5 and the on display will show up the message **m-2-2 PROGRAM DAY**.








Afterward, pressed the key 3 (set) and there will be displayed **off m-2-2-01 CHRONO DAY**. With the keys 1 and 2 switch the on command, in order to activate a daily timer. Use the keys 5 and 6 to scroll through menus, and the keys 1 and 2 to change the parameters. The menu is shown in the following table. Time can be set in intervals of 10 minutes.

To exit the timer setting press the key 4 twice.

**SETTING EXAMPLE:** The stove is starting up at 6 am and turning off at 8 am, the next starting is at 2 pm and turning off in 10:30 pm. Parameters need to be set according to a following table.

m-3-2-01 CHRONO DAY	on
m-3-2-02 START 1 DAY	06:00
m-3-2-03 STOP 1 DAY	08:00
m-3-2-04 START 2 DAY	14:00
m-3-2-05 STOP 2 DAY	22:30

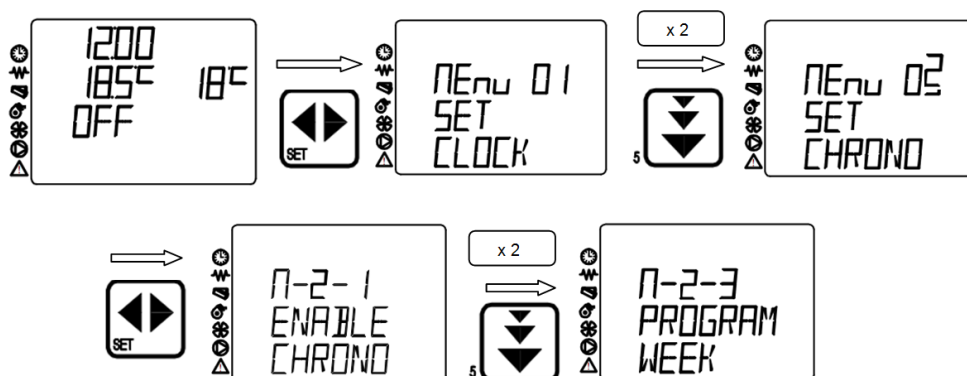
MENU	SETING OPTIONS	DISPLAY APPEARANCE
m-2-2-01 CHRONO DAY	off/on	
m-2-2-02 START 1 DAY	off/00:00-23:50	
m-2-2-03 STOP 1 DAY	off/00:00-23:50	
m-2-2-04 START 2 DAY	off/00:00-23:50	
m-2-2-05 STOP 2 DAY	off/00:00-23:50	

### 8.2.3. Weekly programming

**NOTE:** Make sure that the starting up and shutting down time does not overlap. It is also necessary to pay attention that between this two processes pass at least 30 minutes.





During the daily programming you can set four starting ups and four shutting downs of the system. Also you may set the activation of the specific program for a specific day.








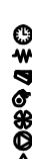
Press the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 twice, and on display will be written **menu 02 SET CHRONO**. Pressing the key 3 (set) you access the timer setting menu, and consequently in the menu for turning the timer on. On display will show up **m-2-1 ENABLE CHRONO**. Then again press the key 5 twice and the display will show **m-2-3 PROGRAM WEEK**.











Press the key 3 (set) and you will get a displayed message **off m-2-3-01 CHRONO WEEKLY**. With the keys 1 and 2 switch the program to on in order to activate a weekly timer. Use the keys 5 and 6 to scroll through menus, and the keys 1 and 2 to change the parameters. The menu is shown in the following table. Time can be set in intervals of 10 minutes.





m-2-3-02 START PROG-1 <b>off/00:00-23:50</b>	m-2-3-03 STOP PROG-1 <b>off/00:00-23:50</b>	m-2-3-04 MONDAY PROG-1 <b>on/off</b>	m-2-3-05 TUESDAY PROG-1 <b>on/off</b>
m-2-3-06 WEDNESDA PROG-1 <b>on/off</b>	m-2-3-07 THURSDAY PROG-1 <b>on/off</b>	m-2-3-08 FRIDAY PROG-1 <b>on/off</b>	m-2-3-09 SATURDAY PROG-1 <b>on/off</b>
m-2-3-10 SUNDAY PROG-1 <b>on/off</b>	m-2-3-11 START PROG-2 <b>off/00:00-23:50</b>	m-2-3-12 STOP PROG-2 <b>off/00:00-23:50</b>	m-2-3-13 MONDAY PROG-2 <b>off/on</b>

m-2-3-14 TUESDAY PROG-2	m-2-3-15 WEDNESDA PROG-2	m-2-3-16 THURSDAY PROG-2	m-2-3-17 FRIDAY PROG-2
off/on	off/on	off/on	off/on
 OFF 7-2-3-14 TUESDAY PROG-2	 OFF 7-2-3-15 WEDNESDAY PROG-2	 OFF 7-2-3-16 THURSDAY PROG-2	 OFF 7-2-3-17 FRIDAY PROG-2

m-2-3-18 SATURDAY PROG-2	m-2-3-19 SUNDAY PROG-2	m-2-3-20 START PROG-3	m-2-3-21 STOP PROG-3
off/on	off/on	off/00:00-23:50	off/00:00-23:50
 OFF 7-2-3-18 SATURDAY PROG-2	 OFF 7-2-3-19 SUNDAY PROG-2	 OFF 7-2-3-20 START PROG-3	 OFF 7-2-3-21 STOP PROG-3
m-2-3-22 MONDAY PROG-3	m-2-3-23 TUESDAY PROG-3	m-2-3-24 WEDNESDA PROG-3	m-2-3-25 THURSDAY PROG-3
off/on	off/on	off/on	off/on
 OFF 7-2-3-22 MONDAY PROG-3	 OFF 7-2-3-23 TUESDAY PROG-3	 OFF 7-2-3-24 WEDNESDAY PROG-3	 OFF 7-2-3-25 THURSDAY PROG-3

m-2-3-26 FRIDAY PROG-3	m-2-3-27 SATURDAY PROG-3	m-2-3-28 SUNDAY PROG-3	m-2-3-29 START PROG-4
off/on	off/on	off/on	off/00:00-23:50
 OFF 7-2-3-26 FRIDAY PROG-3	 OFF 7-2-3-27 SATURDAY PROG-3	 OFF 7-2-3-28 SUNDAY PROG-3	 OFF 7-2-3-29 START PROG-4

m-2-3-30 STOP PROG-4	m-2-3-31 MONDAY PROG-4	m-2-3-32 TUESDAY PROG-4	m-2-3-33 WEDNESDA PROG-4
off/00:00-23:50	off/on	off/on	off/on
 OFF 7-2-3-30 STOP PROG-4	 OFF 7-2-3-31 MONDAY PROG-4	 OFF 7-2-3-32 TUESDAY PROG-4	 OFF 7-2-3-33 WEDNESDAY PROG-4

m-2-3-34 THURSDAY PROG-4	m-2-3-35 FRIDAY PROG-4	m-2-3-36 SATURDAY PROG-4	m-2-3-37 SUNDAY PROG-4
off/on	off/on	off/on	off/on
 OFF 7-2-3-34 THURSDAY PROG-4	 OFF 7-2-3-35 FRIDAY PROG-4	 OFF 7-2-3-36 SATURDAY PROG-4	 OFF 7-2-3-37 SUNDAY PROG-4

#### SETTING EXAMPLE:

The stove is starting up at 6 am and turning off at 8 am on Monday, Tuesday, Friday. The next starting is at 5:30 minutes and turning off at 10 am on Wednesday and Thursday. The third starting up is every day except Saturday and Sunday from 5 pm and turning off at 10 pm. On Saturday and Sunday are the stove is starting up at 8 am and turning off at 11pm. Parameters should be adjusted according to the following tables.

m-2-3-01 CHRONO WEEKLY	on
m-2-3-02 START PROG-1	06:00
m-2-3-03 STOP PROG-1	08:00
m-2-3-04 MONDAY PROG-1	on
m-2-3-05 TUESDAY PROG-1	on
m-2-3-06 WEDNESDA PROG-1	off
m-2-3-07 THURSDAY PROG-1	off
m-2-3-08 FRIDAY PROG-1	on
m-2-3-09 SATURDAY PROG-1	off
m-2-3-10 SUNDAY PROG-1	off
m-2-3-11 START PROG-2	05:30
m-2-3-12 STOP PROG-2	10:00
m-2-3-13 MONDAY PROG-2	off
m-2-3-14 TUESDAY PROG-2	off
m-2-3-15 WEDNESDA PROG-2	on
m-2-3-16 THURSDAY PROG-2	on
m-2-3-17 FRIDAY PROG-2	off
m-2-3-18 SATURDAY PROG-2	off
m-2-3-19 SUNDAY PROG-2	off

m-2-3-20 START PROG-3	17:00
m-2-3-21 STOP PROG-3	22:00
m-2-3-22 MONDAY PROG-3	on
m-2-3-23 TUESDAY PROG-3	on
m-2-3-24 WEDNESDA PROG-3	on
m-2-3-25 THURSDAY PROG-3	on
m-2-3-26 FRIDAY PROG-3	on
m-2-3-27 SATURDAY PROG-3	off
m-2-3-28 SUNDAY PROG-3	off
m-2-3-29 START PROG-4	08:00
m-2-3-30 STOP PROG-4	23:00
m-2-3-31 MONDAY PROG-4	off
m-2-3-32 TUESDAY PROG-4	off
m-2-3-33 WEDNESDA PROG-4	off
m-2-3-34 THURSDAY PROG-4	off
m-2-3-35 FRIDAY PROG-4	off
m-2-3-36 SATURDAY PROG-4	on
m-2-3-37 SUNDAY PROG-4	on

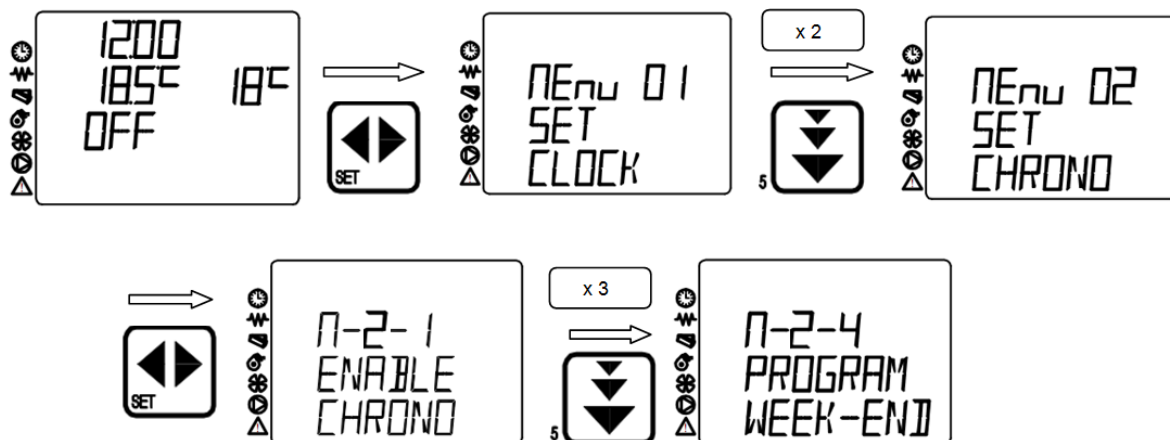
#### 8.2.4. Weekend programming

**NOTE:** Make sure that the starting up and shutting down time does not overlap. It is also necessary to pay attention that between this two processes pass at least 30 minutes.

During the daily programming you can set two starting ups and two shutting downs of the system.. When the weekend programming is active, it is considered that the starting up and turning off time is the same even on Saturday and Sunday.

Press the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 two times, and on display will be written **menu 02 SET CHRONO**.

Pressing the key 3 (set) you access the timer setting menu, and consequently in the menu for turning the timer on. On display will show up **m-2-1 ENABLE CHRONO**. Then again presses the key 5 three times and the on display will show up the message **m-2-4 PROGRAM WEEK-END**.



Once again, press the key 3 (set) and you will get a displayed message **off m-2-4-01 CHRONO WEEK-END**. With the keys 1 and 2 switch the program to on in order to activate a weekly timer. Use the keys 5 and 6 to scroll through menus, and the keys 1 and 2 to change the parameters. The menu is shown in the following table. Time can be set in intervals of 10 minutes.

To exit the timer setting press the key 4 twice.

**SETTING EXAMPLE:** The stove is starting up at 8 am and turning off at 5 pm. The next starting is at 8 pm and turning off at 11:30 pm. Parameters need to be set according to a following table.

m-2-4-01 CHRONO WEEK-END	on
m-2-4-02 START 1 WEEK-END	08:00
m-2-4-03 STOP 1 WEEK-END	17:00
m-2-4-04 START 2 WEEK-END	20:00
m-2-4-05 STOP 2 WEEK-END	23:30

### 8.3. Language settings MENU 03

There are six languages that can be set: English, Bulgarian, French, Spanish, Serbian and Italian. Languages are being set by pressing the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 three times, and on display will be written **menu.03 SELECT LANGUAGE**. Pressing the key 3 (set) you access the language setting menu, and display will be written in language which is currently on. For example menu.03 ENGLISH

Language is being changed by pressing the keys 1 and 2. The default language is English.

To exit the timer setting press the key 4 twice.



## 8.4. Seasonal settings

Having in mind that water in boiler is already hot you should consider the option of using this stove in winter and summer conditions. To set the season press the key 3 (set) and display will show **menu 01 SET CLOCK**. Afterward you need to press the key 5 four times, and on display will be written **menu 04 CHOOSE SEASON**. Pressing the key 3 (set) you access the SEASON MODE, current season setting will apper on display.



Setting of seasons si regulated with keys 1 or 2.

WINTER (central heating)	SUMMER

To exit the timer setting press the key 4 twice.

**NOTE:** If during starting the stove's, display show : **WAIT COOLING**, then in that case check if the season is correct (it must be chosen winter season).

## 8.5. STAND-BY mode

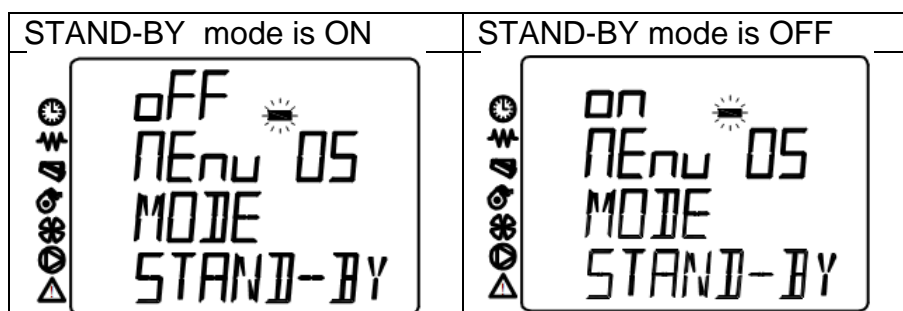
STAND-BY mode is being used to set up the stove in order to reduce an unnecessary use of the fuel. It's function to turn off the stove automatically, as soon as the required temperature has been achieved. Stand-by mode is set in the way that as soon as the difference in a temperature of water by default (ambient) is higher than 2°C, the stove is automatically turning off. When the temperature gets under the required one for 2°C the stove is automatically turning on again. On display it's sign **WAIT COOLING**, and after 10 minutes stove are turned OFF (while sign WAIT COOLING stays), and stays like that until choosen temperature is not 2°C below that limit.

Thanks to this mode it's possible to save a significant quantities of fuel . STAND-BY mode is originally set to work with a difference of 2°C from selected temperature (techician can increase or decrease that temperature difference), you just need to turn ON or OFF this mode. By **deafult** it is entering into STAND BY mode by following water temperature, but **technician** can chose three different mode options for activating STAND BY mode in technic menu:



Stove goes into STAND BY mode following <b>ambient temperature</b>	<i>If water temperature is reach some preset water temperature value, then stoves goes into <b>modulation</b> (as long as water is below 80°C),</i>	Technician <b>must</b> activate this mode in technical menu
Stove goes into STAND BY mode following <b>water temperature (default)</b>	<i>If room temperature is reach some preset room temperature value, then stoves goes into <b>modulation</b>,</i>	User can choose ON or OFF (directly from display)
Stove goes into STAND BY mode following <b>external room thermostat</b> ( in that case ambient probe on stove back is automatically disabled, and temperature probe on external thermostat is primary)	<i>If water temperature is reach some preset water temperature value, then stoves goes into <b>modulation</b> (as long as water is below 80°C)</i>	Technician <b>must</b> activate this mode in technical menu.

Turning on stand-by mode is performed as follows. Press the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 four times, and on display will be written **menu 05 MODE STAND-BY**. Pressing the key 3 (set) you access the STAND-BY MODE menu, and consequently in the menu for turning the mode on. Turn the mode ON or OFF by pressing the keys 1 and 2.



To exit the timer setting press the key 4 twice.

When accessing the STAND-BY mode the display will present a following note "WAIT COOLING".

#### NOTE:

**Connecting to a external room/ambiente thermostat is optional** (Connecting procedure is showed in ANNEX C).

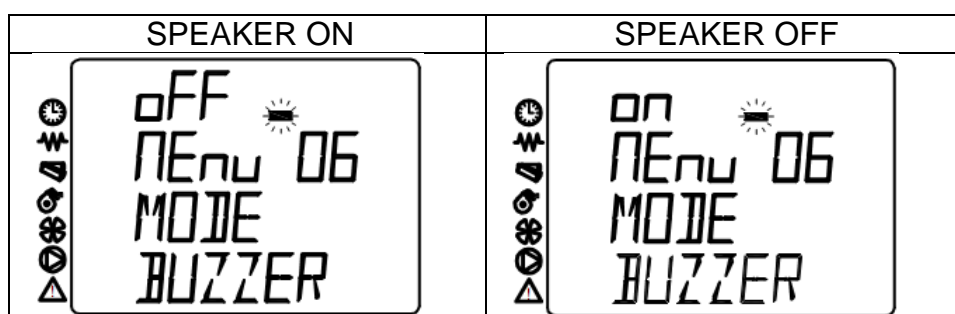
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## 8.6. Sound alerts

Speaker serves to avert the malfunction of the alarm by beeping. The speaker can be turned on or off. Turning the speaker on is done as follow.

Press the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 five times, and on display will be written **menu. 06 MODE BUZZER**.

Pressing the key 3 (set) you access the menu to enable or disable the speaker. Pressing the keys 1 or 2 you can turn on and off the speaker.



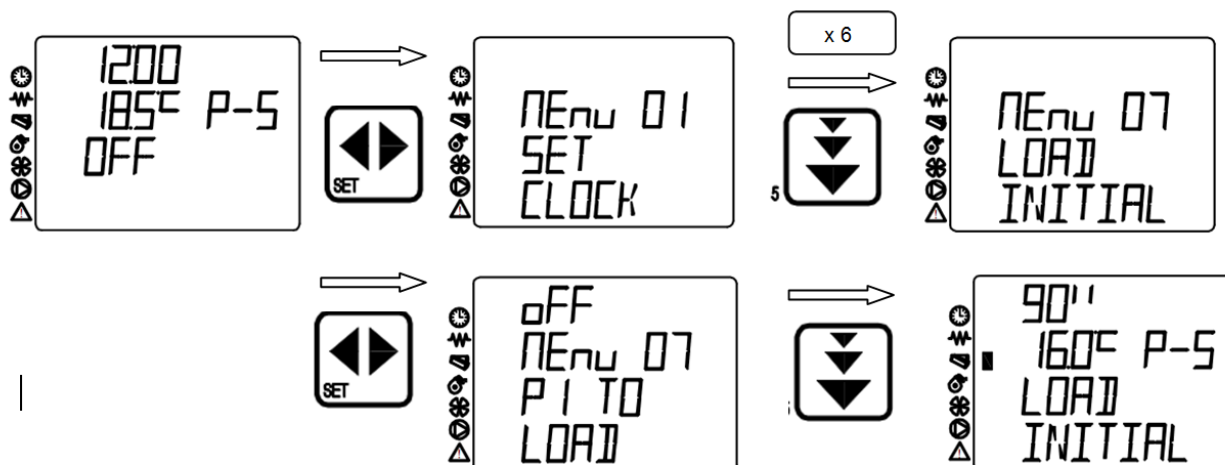
To exit the timer setting press the key 4 twice.

## 8.7. Initial pellet loading

When the stove runs out of pellets, auger is empty, and if we fill storage with pellet, it takes some time to fill the dozer on the stove could start. When storage is empty **Alarm 6** appears which is described in chapter ERRORS.

After loading pellets into the storage, it is necessary to do the following:

Press the key 3 (set) and you will get a displayed message **menu 01 SET CLOCK**. Afterward you need to press the key 5 six times, and on display will be written **menu 07 LOAD INITIAL**. By pressing the key 3 (set), you access the menu for the initial loading of pellets, after what will appear a message **off menu 07 P1 TO LOAD**, which means you have to press the key 1 to begin charging a dozer. It takes around 45 seconds to fill the dozer but it is best to stop charging once the first pellets is in the pot which is visually noticable.



The appearance of the display when you start inserting pellets is shown in the figure below. The countdown starts from 90 seconds back and down.

To stop loading pellets press the key 4.

## 8.8. Information on the operation of the stove

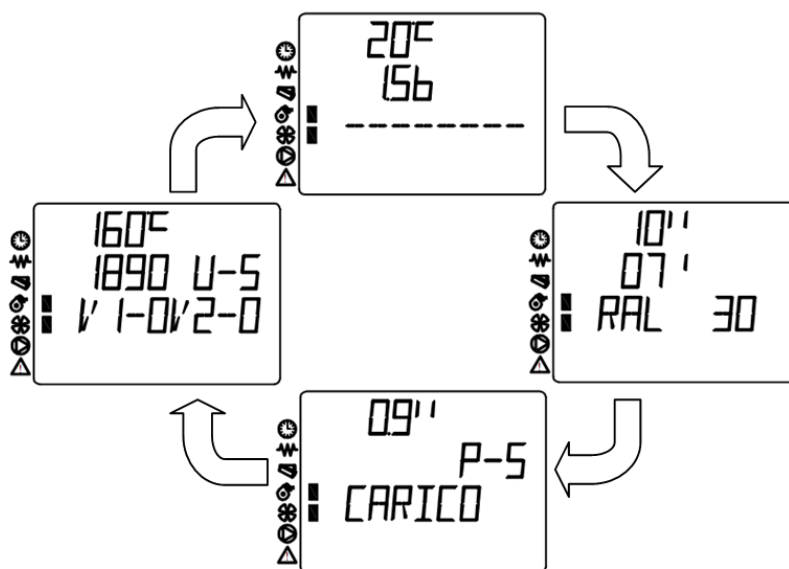
Information on the operation of the stove are useful because at any moment you can trace in what mode is the stove is operating, the temperature of exhaust gases, the fan speed, time remaining until the next action, etc.

To enter the menu, which monitors the stove modes you need to do next. Press the 3 (set), after which it will be displayed **menu 01 SET CLOCK**.

Then press the button for 5 seven times, after you'll be shown the message **menu 08 STATE STOVE**.



Pressing 3 (set), you access the menu for print the messages about the stove status. Messages will be alternately changed. Order of printing and layout of the display is shown in the figure below.



To exit this menu presses the key 4.

## 8.9 Technical settings

### IMPORTANT !!!

This menu is reserved only for professionals trained to adjust the stove, and for the service. Any change in the parameters that was made by unauthorized persons will mean the loss of warranty, and can be very dangerous !!!

If you have trouble with pellet overdosing or

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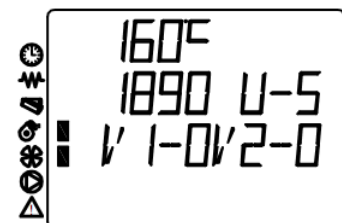
## 9. OPERATION INFO

Status of stove operation can be verified with the help KEYS. Pressing this key is possible to see the current temperature of exhaust gases, stove operating modes, pellet insertion, the remaining time left until next operation left.

Pressing and holding the help key 1 there will be shown the following screen layout. Here you can find information as well as the current pellet loading. Just by moving your finger of the key, the display will return to the main menu.

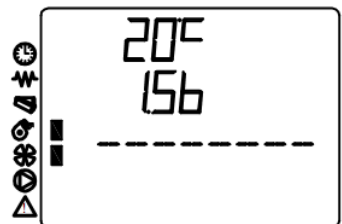


Pressing and holding the key 2, there will appear a following screen layout. Here you can find information about the temperature of exhaust gases, mode, stove, fan speeds for sewers and heat dissipation (optional). Just by moving your finger of the key, the display will return to the main menu.



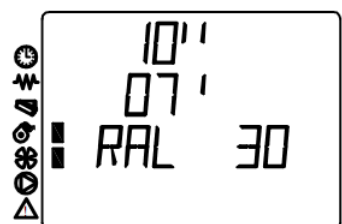
Pressing and holding the key 5 you will get this screen layout. This option is intended for stove for central heating, therefore in an ordinary stove has no purpose. Here you can find information on a selected water temperature, and pressure in the boiler (**optional**). Information about pressure is take to consider just if it written note in manual that digital pressure meter is build into stove.

Just by moving your finger of the key, the display will return to the main menu.



in

Pressing and holding the key 6 will get this screen layout. Here you can find information on time remaining until the next mode becomes active. Just by moving your finger of the key, the display will return to the main menu.



## 10. POTENTIAL ERRORS IN OPERATION

In each stove malfunction indicator will blink next to a warning sign and the stove will automatically stop working. There are several errors that can occur in stove operation, which will be described in detail below.

**Error due the lack of electricity or forced disconnecting form power source.** Due the lack of electricity or forced disconnecting form power source, operation error will appear which will be indicated by Error indication light. Mesagges **AL1 BLACK OUT** and **ALLARME ATTIVO** will be displayed.

**Cancel the alarm** by pressing the long press the key 4, and then wait for the stove to cool (if it's hot) and on display is present note **cleaning final**. After several minutes restart (turn ON by pressing key 4) stove again.

**Exhaust gases temperature measuring probe failure.** If message **AL2 SONDA FUMI** appears, you should check whether the probe for measuring the temperature of exhaust gases is well connected. If the probe is not in place, call the service in charge to fix it. The probe cannot be adjusted or reconnected by user.

Also, the probe testing is done in the following way. Press key 2 and hold it until the following screen layout shows: Number 373°C indicates that the probe for measuring exhausting gases is dysfunctional or wrongly connected. For this kind of a problem, please call the service in charge.

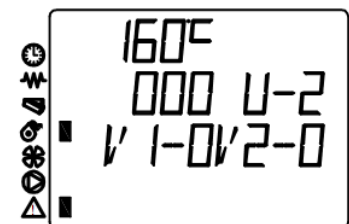
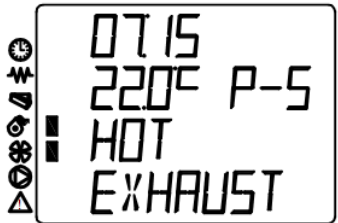
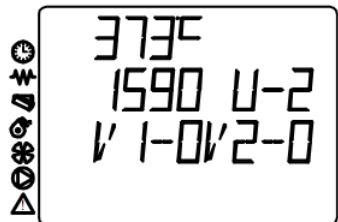
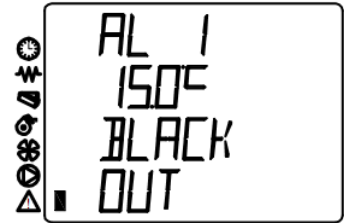
**High temperature of exhausting gases.** When the exhaust gases temperature exceeds a factory-set value, the following message appears on the screen HOT EXHAUST. The stove will automatically switch to lower operation mode and it will reduce the temperature of the exhaust gases. **If this message appears too often call the service in charge.** The stove can be used in lower operating modes those in which the message appeared previously. Do regular monthly clening. hot gases occurs when stove is dirty and flue ways are full of ashes. Temperature of hot gases is not decreasing when passes throw stove, so temperature probe will measure high temperature

**To high temperature of exhaust gases.** If the exhaust gases' temperature is not lowered, and when the message HOT EXHAUST is being displayed, the stove will continue working in a minimal regime until the temperature is lower than 280 ° C. If the temperature exceeds 280 ° C, the stove will report an error AL3 HOT SMOKE.

**Error caused by malfunctioning of the fan exhaust gases fan.**

The display message will appear as shown in the following figure (AL 4 FAN FAILURE) and alternately will be changed with a message that reports a malfunction (**Allarme ATTIVO**).

Error may occur due to a fan blocked or jammed, as well as due to a malfunctioning of the contacts used for powering the fan or breakage of cables, which measure the number of fan rotations. If this error occurs please contact the service in charge. Malfunction of the fan can be observed by pressing and holding the key 2, so that in the place where should be written a fan speed number, stands 000.



**Error caused by inability to start the stove.** The display message will appear as shown in the following figure (**AL 5 NO LIGHTIN-**) and alternately will be changed with a message that reports a malfunction (**Allarme ATTIVO**).

Error can occur due malfunctioning of the probe that measures the temperature of exhaust gases, caused by low exhaust temperatures, insufficient quantity of pellets required for ignition or due to malfunction of a lighter. If the exhaust temperature of 40 ° C is not reached in 25 minutes, the stove will not start operating. Temperature of exhaust gases can be checked by holding the key 2. If the temperature is lower than the required one, the stove will not be able to start operating. It is necessary to check whether there are enough pellets in the store, as well as checking if the exhaust gas probe is not interrupted. Possible flaw can be the **malfunction of the lighter**, or the auger might be stuck, which prevents insertion of pellets. **DO NOT** put fingers into

Check if pellets fall into the burner is only possible visually, by observing the tube through which the pellets fall into the burner, for about 60 seconds. If there is no insertion of pellets, it is either the storage is empty or the dozer is stuck. If dozer is try starting up the stove for several times. If you fail starting it that way, call the service in charge.

Malfunction of the lighter can be noticed when starting the stove there are no sparks or glowing pellets on sight. Sometimes it is possible to see incandescence of lighter also. In the case of malfunctioning lighter, the stove can be started with a hepo cube or gel for burning. Contact the service in charge as soon as possible.

**Error due to emptying pellet's storage.** The display message will appear as shown in the following figure (**AL 6 NO PELLETS**) and alternately will be changed with a message that reports a malfunction (**MEMORIA ALARME**).



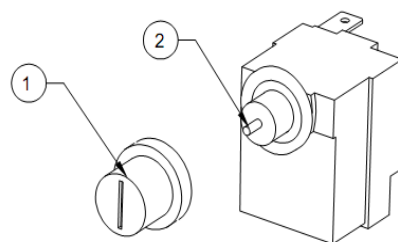
Cancel the alarm by pressing the key 4, wait for the stove to cool. Then, proceed according to instructions described in section 8.7 INITIAL PELLET LOADING and start the stove.

**NOTE:** This alarm can occur when pellet sticks due to inadequate size.

**Error caused by malfunctioning of the safety thermostat.** Safety thermostat serves to prevent that loaded in a storage goes on fire. When the safety thermostat is out of order, the display message will appear as shown in the following figure (**AL 7 THERMAL SAFETY**) .



Unscrew the safety thermostat cover (1) (at the back of stove) and check whether the needle is (2) retracted or extended. If the needle is pulled out, push the pin and restart the stove. If the needle is retracted, or if it can not be retracted, and the stove is still reporting the same mistake call the service.





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### Error due to a malfunction of safety-pressure controls.

Safety pressure switch is used to check the underpressure in a smoke drain. If the under pressure is insufficient the stove will stop working or it will not be able to start. When malfunctioning of safety pressure controls is detected, the display message will appear as shown in the following figure (AL 8 FAILURE DEPRESS).



Malfunctioning of the pressure switch can occur if the stove seal leaks, if the chimney or smoke drain are clogged, if the stove is dirty, or if the fan speed is too low. In the event that the stove seal leaks, it is necessary to check that the door braids and the ashtray are well placed, that they are not accidentally stuck off etc. In case braids are placed correctly, please check the chimney. The chimney is checked by putting the flame close to the smoke drain which is on the wall, and if the flame turns toward the smoke drain, that means that the chimney is in order, if it returns to the room, or if it stays still, then the chimney is out of order. In this case, call the chimney sweep. How to clean the stove properly is described in the section maintenance.

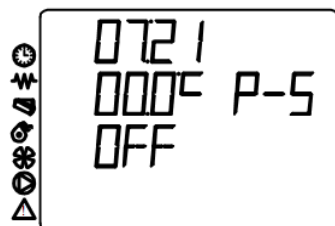
**Non-functional probe for measuring water temperature.** In case of malfunction of the probe for measuring the water temperature, it is necessary to call a qualified technician. The probe must be immediately replaced so that the stove could regularly continue working.



**Too high water temperature.** In case this error occurs it's necessary to shut down the stove and call the service technician to eliminate malfunction. Try restarting the stove



**Non-functional probe for measuring the room temperature.** In case of malfunction of the probe for measuring room temperature on display in place where the temperature should be indicated will be written 00.00°C. In case that the room temperature is actually 0 °C, there will be written the same thing. Check if the temperature rises if the top of the probe is being held in a hand. If it doesn't, then the probe is out of order. In case of malfunctioning of the probe, please call the service in charge.





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## 11. CLEANING AND MAINTAINANCE

The stove requires a simple yet constant cleaning to guarantee top efficiency and proper functioning. Constant maintenance by a qualified technician is recommended (but not necessary).

The stove should be cleaned before the cold season because it can sometimes get clogged during the summer (by nests for example) preventing exhaust fumes to flow regularly.

The parts subjected to wear, such as braiding (glass), gaskets, rubber parts (rubber feet, spacers), are not covered by this warranty, and must be regularly checked. If some braid (seal) is falling off (especially from door, ashpan, and top/lower inspection cover) it must be changed immediately.

Fiberglass braid with 12 mm diameter is for door, ashpan and top maintenance cover, while fiberglass with 10x2 mm dimension is for lower inspection cover.

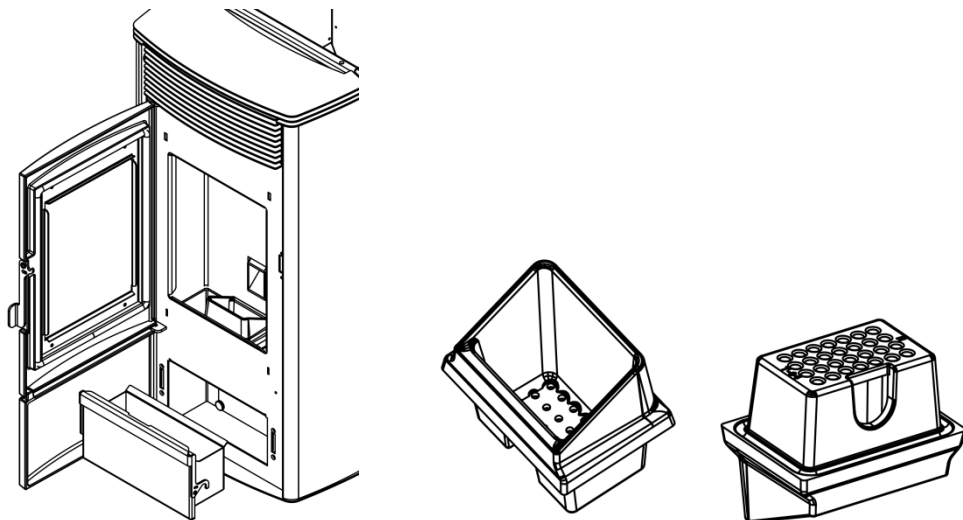
**Use a dry cloth to clean the stove externally .The auger tube must be completely emptied from pellets when using the stove for the last time at the end of the season. The auger tube must remain empty to prevent it from getting clogged by sawdust residues solidified due to moisture.**

During the daily and weekly cleaning, switch off the stove at the main switch, turning the switch to the position 0. The stove needs to be cleaned at least 30 minutes after arresting in order to avoid burns on contact with the hot parts of the stove.

When cleaning with a damp cloth or water, be careful not to get water to the electrical components of the stove and if that should happen, do not start the stove and call the service in charge. When cleaning the stove avoid strong detergents and abrasives, as well as all products which contain benzene, alcohol, any acid or thinner.

Painted and plastic coated parts cleaned gently with a damp cloth, and use a mild detergent diluted with water.

**Daily cleaning.** By daily cleaning it's meant cleaning of glass parts and burning cup. Ashes that are contained in a cup must be disposed far away from flammable items, in order to avoid some burning piece of pellet left. Make sure that all the holes that are in the cup are well cleaned. There can also be cleaned the firebox from the ashes. To clean the ashes from the firebox you can use the vacuum cleaner (for ashes!) made especially.



Take the pot off and clean in from the ashes. With a sharp object, clean all holes on the pot.

---

Glass parts must be cleaned only when the stove is completely cool. Glass parts must be cleaned with a dry cloth and if there are traces of soot or some other spots, they can be cleaned with a damp cloth, and then again rewiped with a dry cloth.

### **Weekly cleaning.**

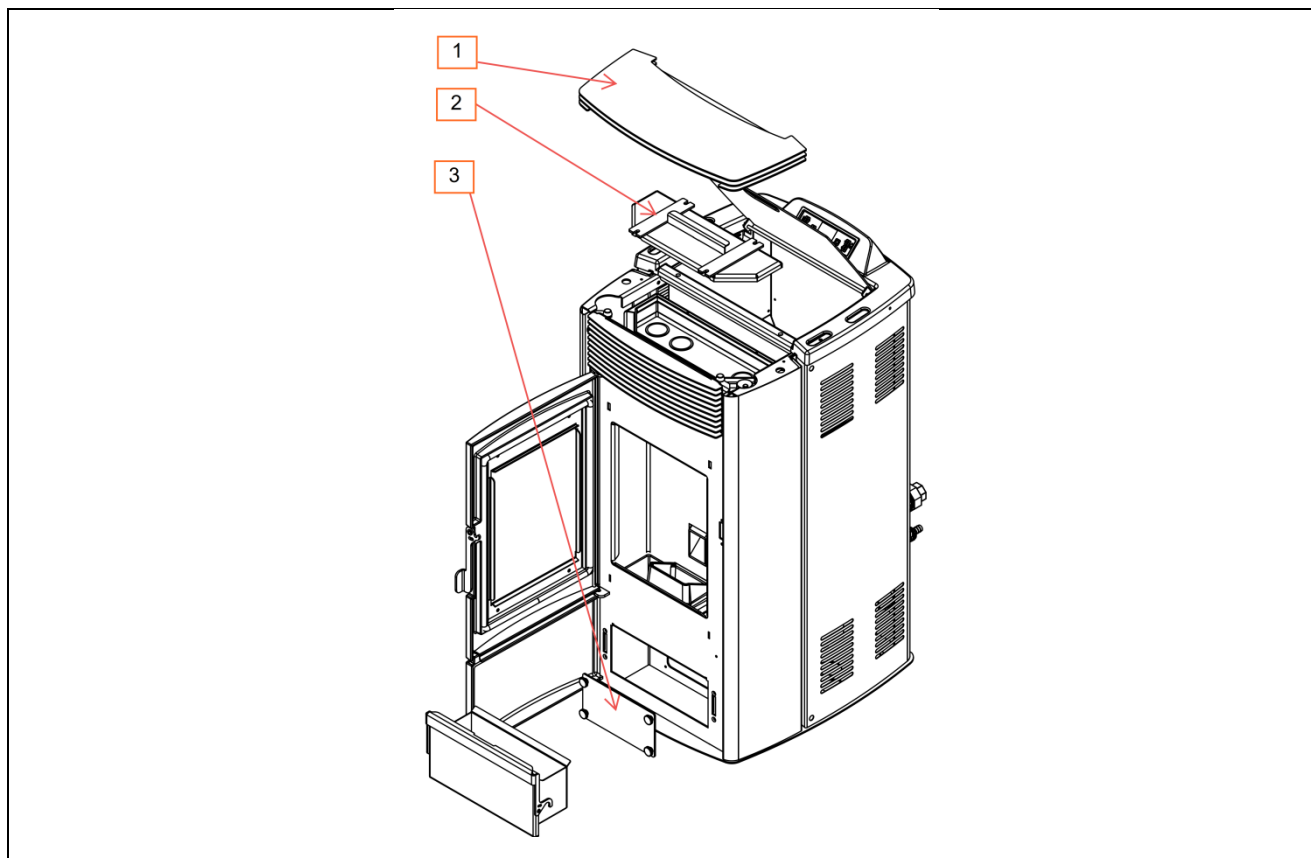
Beside daily cleaning you need to empty an ash tray, once in a week, or more frequently if bigger quantity of pellet is being used.

### **Monthly cleaning.**

Disconnect the product from the 230V power supply before performing any maintenance operation.

It is necessary cleaning the stove completely once in a month (or at every 1 ton of burned pellets) and at the end of the heating season. If you use pellets of lower quality it may require more frequent cleaning. In addition to the instructions for weekly and daily cleaning, it is necessary to:

- 1) remove the top mask
- 2) unscrew 4 nuts, and remove top maintenance cover plate
- 3) remove the ash pan and lower inspection cover (behind ashpan) to clean all space below the boiler and exhaust fan.



*Appearance of the stove when opening the inspection covers of the boiler.*

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Periodically check and clean the smoke outlet ducts (connection to the flue pipe)

## 12. WARRANTY

Stove will work well only if you follow the given instructions. TIM SISTEM is obligated to provide spare parts and eliminate interference with the stove that are covered by this warranty within the time limit not exceeding 45 days from the date of defect report . If the defect is not corrected within 45 days, you have the right to a substitution for a new product.

The warranty is valid from the date of purchase, as evidenced by duly completed guarantee certificate, and the shop's receipt.

The warranty for this product is 24 months.

TIM SISTEM is obliged to provide spare parts in due time after the stove is no longer produced.

This warranty does not cover damage caused by:

- inadequate use of stoves;
- failure to comply with maintenance procedures
- violating the instructions given in this manual;
- mechanical damage incurred due to inadequate storage and transport;
- due to mechanical damage caused by kicking, tumbling;
- due to inadequate exposure to rain, snow etc.;
- due to chemical damage caused by exposure to inflammatory agents such as
- oil and oil products, alcohol, solvents, paints;
- due to natural disasters such as lightning, floods, fire;
- due to rework or modification of stove by unqualified technician

The guarantee does not cover any parts which may be found to be faulty as a result of negligence or carelessness in use, or of incorrect maintenance, or of installation not complying with Tim Sistem specification.

(see the relevant chapters in this user manual).

The parts subjected to wear, such as braiding (glass), gaskets, rubber parts (rubber feet, spacers), are not covered by this warranty.

All malfunctions report in written or orally by telephone, on the address listed below:

Distributor/ authorized service

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## 13. ANNEX A

### CONECTING TO A HEATING INSTALATION - CHEME

Flush the entire system before connecting the boiler in order to remove residues and deposits.

Always install gate valves upstream from the boiler so as to disconnect it from the plumbing system should it be necessary to move it, or when it requires routine and/or special maintenance.

#### SYSTEM FILLING

Filling must be carried out slowly so that air bubbles can get out via the purposely placed outlets on the heating system.

- In closed circuit heating systems the loading pressure of the system when cold and the expansion tank preloading pressure must be the same.

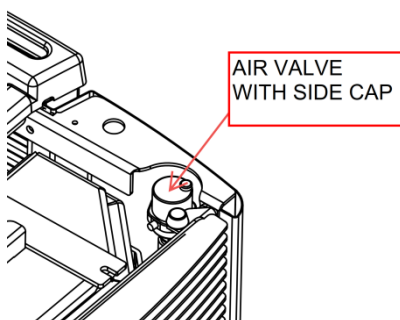
-In open tank heating systems, there is direct contact between the circulating liquid and air. During the heating season the end user must regularly check the level of water circulating in the expansion tank. The content of water in the recycling system must be kept constant. Practical experience demonstrates that the water level must be inspected regularly every 14 days to maintain the water content almost constant. In the event one needs to add water one must carry out the filling process when the boiler has cooled down to room temperature. These precautions aim to prevent the onset of a thermal stress of the steel body of the boiler.

In systems equipped with an open tank the water pressure in the boiler - when the system is cold - must not fall below 0.3 bar;

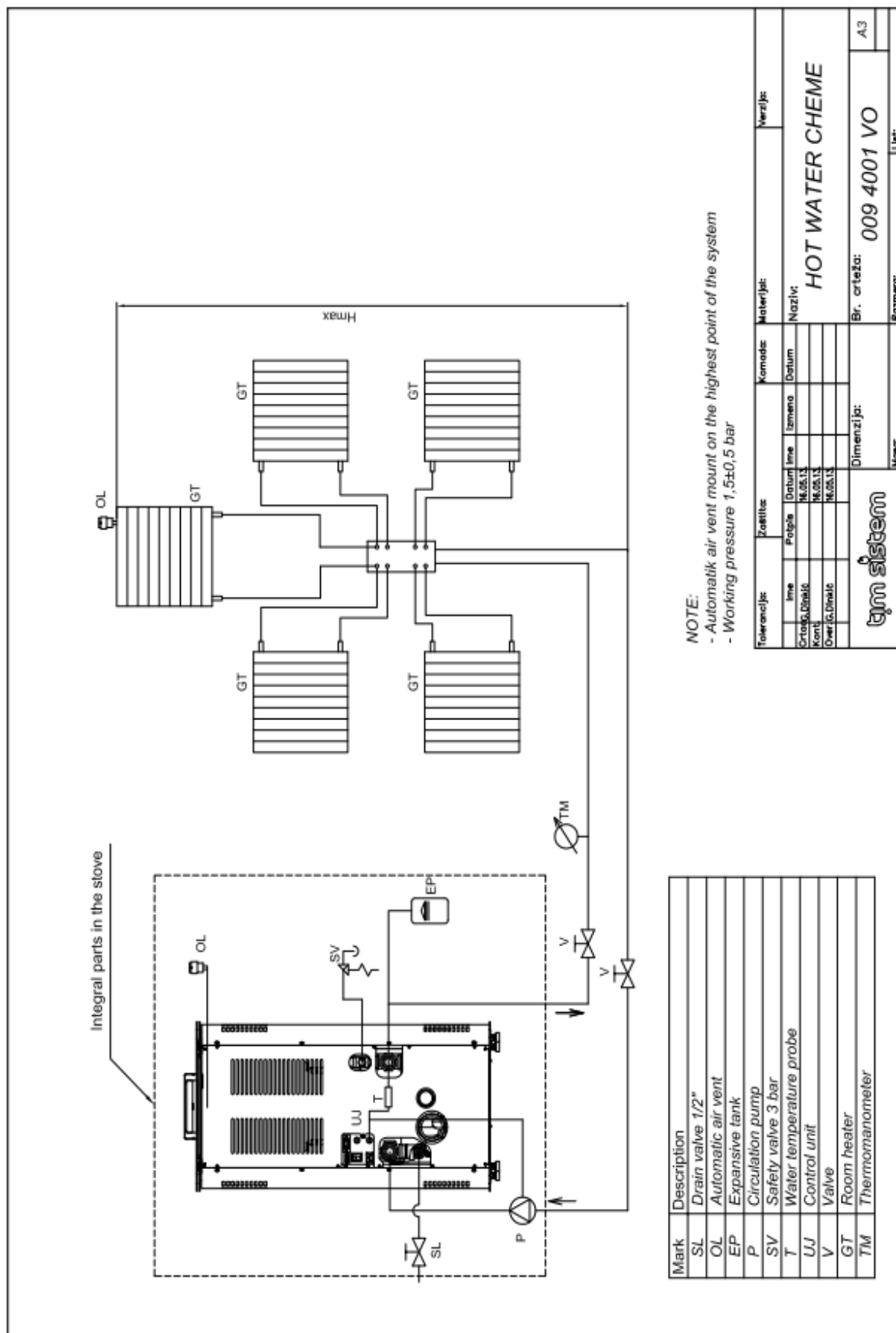
Do not mix the heating water with antifreeze or anticorrosion substances in the wrong concentrations! It can damage the seals and cause the onset of noise during operation. The manufacturer declines all responsibility if the damage caused to persons, animals or things is a result of failure to comply with the above.

In systems equipped with a closed tank, where possible, the water pressure in the heating system - when the system is cold - must be no less than 1 bar; if under this value, act on the system filling tap. The operation must be carried out when the system is cold.

The system pressure gauge enables to monitor the pressure in the circuit (it is not part of stove)

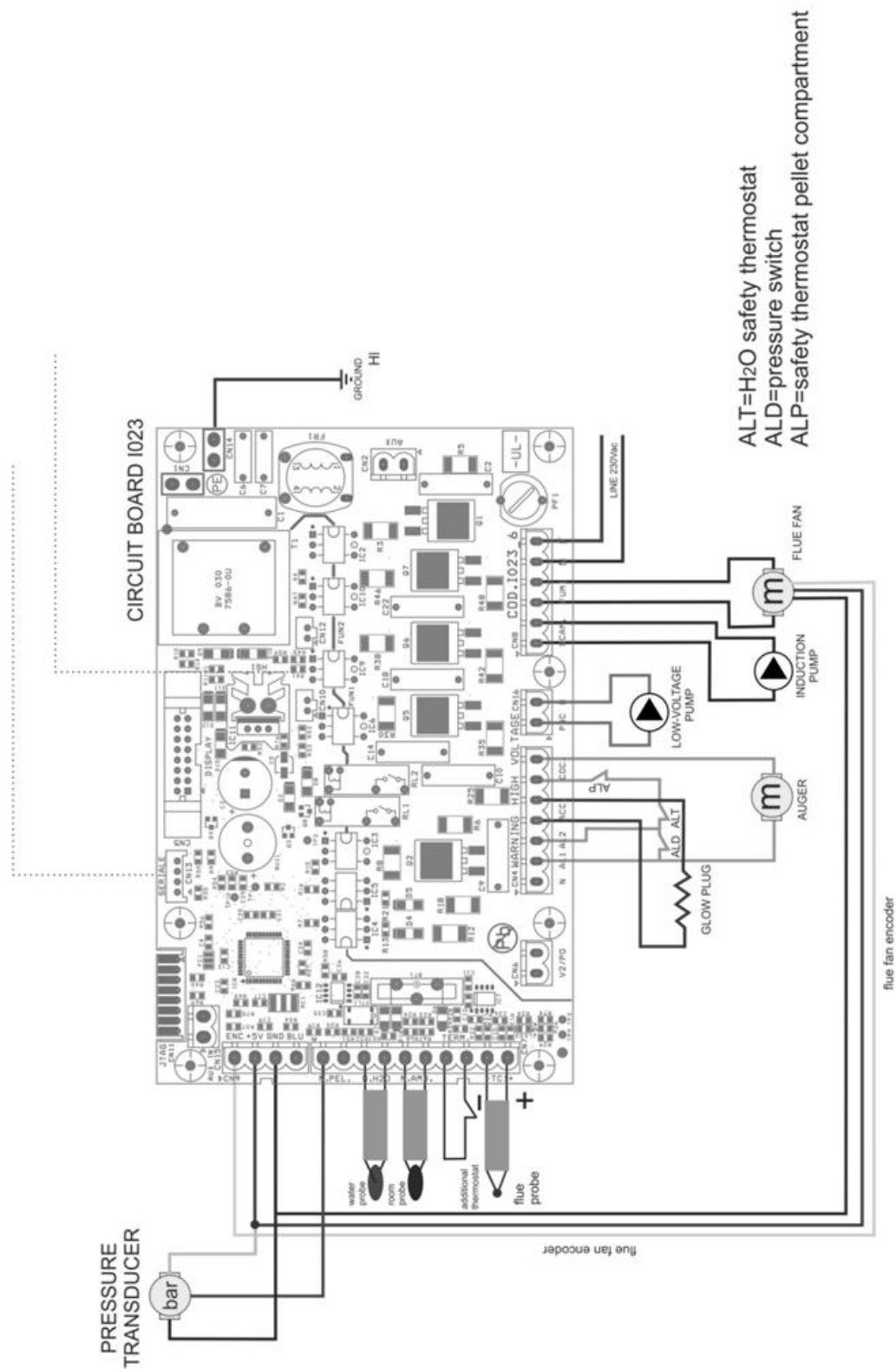


Note: air valve with side cap loosened by 1 turn



## 14. ANNEX B

### CONNECTING TO CONTROL UNIT - CHEME



<i>connector</i>	<i>pin</i>	<i>label</i>	<i>description</i>
<b>CN1</b>	-	-	Quick connect ground terminal
<b>CN2</b>	1-2	AUX	Air fan output no.2
<b>CN4</b>	1	N	Neutral
	2	AL1	Security temperature sensor alarm input (230 V <sub>ac</sub> )
	3	AL2	Security pressure switch alarm input (230V <sub>ac</sub> )
	4 - 5	ACC	Glow plug output (230V <sub>ac</sub> )
	6 - 7	COC	Auger motor output (230V <sub>ac</sub> )
<b>CN5</b>	-	DISPLAY	Console connector
<b>CN6</b>	1-2	V2/PO	Air fan output no.3 (circulator)
<b>CN7</b>	1 - 2	N. PEL	Pin 1 - CEWAL transducer input
	3 - 4	N. H2O	Water temperature probe input (not used)
	5 - 6	N. AMB	Room temperature probe input
	7 - 8	TERM	External thermostat input
	9 - 10	-TC+	Flue thermocouple input
<b>CN8</b>	1 - 2	SCAM	Pump outlet - exchanger (triac) mechanical pump
	3 - 4	FUMI	Flue fan output
	5 - 6	N - F	Control board power (230V <sub>ac</sub> )
<b>CN9</b>	1	ENC	Flue fan encoder input
	3	+5V	Encoder power supply (+ 5V <sub>dc</sub> ) and CEWAL transducer
	4	GND	Encoder common input
	5	BLUE	CEWAL transducer
<b>CN12</b>	-	JTAG	Factory programming connector
<b>CN13</b>	-	SERIALE	Serial connection to be used with adaptor
<b>CN15</b>	1 - 2	AUX IN	Auxiliary input
<b>CN16</b>	1	PBC	Low-voltage pump - energy effic. pump (reley)
	2	N	Neutral



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## 15. ANNEX C

### External thermostat/programmable thermostat

Technician **must** activate this mode in technical menu

If you want to use an external programmable thermostat, connect it to the clamps at back side ( see pictures at page 7 for connector position).

**You must comply with the personal instructions for connection room thermostat that is obtained at the purchase!**

Connecting the room thermostat allows the stove to work through room temperature control!

If it is water temperature is reached then stoves goes into modulation.

**Note:** if technician enable external thermostat in technical manu, then when user press key 1 or key 2 on both cases on display is present information about water temperature setting, while room temperature is displayed on external thermostat.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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