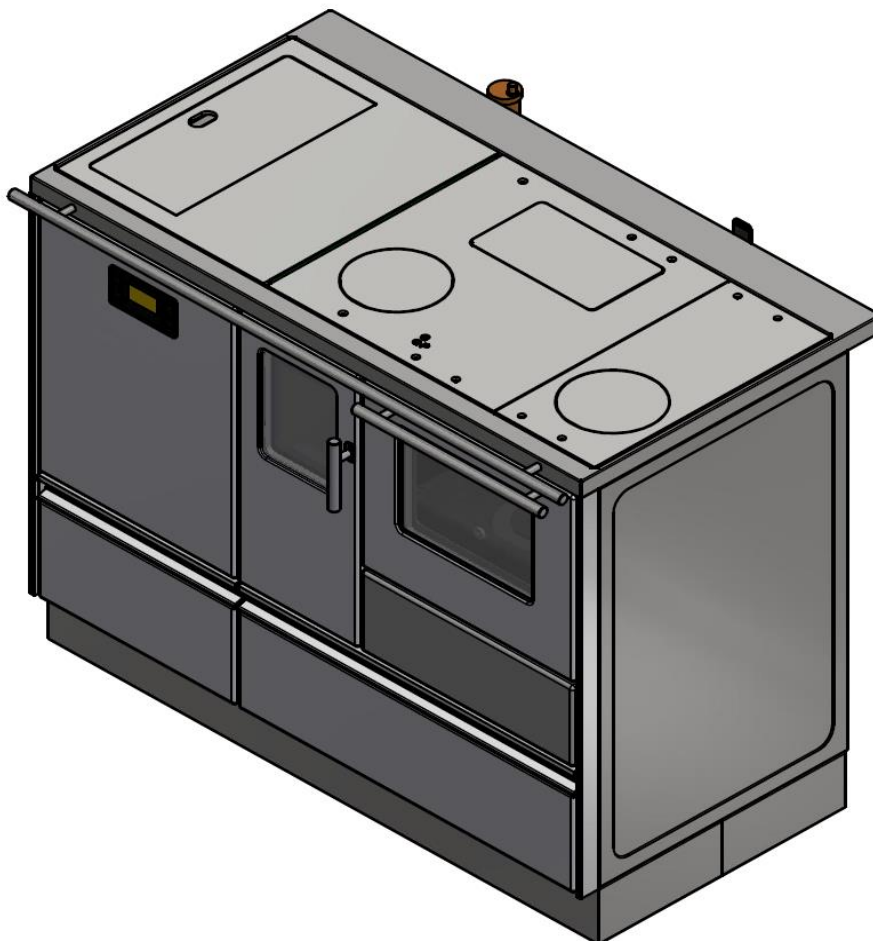




17500 VRANJE, SERBIA  
1, Radnička Street, Tel.: 017/421-121

## USER INSTRUCTIONS CENTRAL HEATING PELLET BURNING COOKER „ALFA TERM 20 PELET“



*This product meets the requirements of the Ecodesign Directive in terms of efficiency and air pollution level, in order to contribute to the reduction of energy consumption and negative environmental impact.*

**Pellets → wood biomass fuel → biofuel**

**COOKER INSTALLATION, USE AND MAINTENANCE INSTRUCTIONS**  
ENG-V.3.0

## 0.0. TECHNICAL CHARACTERISTICS OF THE COOKER „ALFA TERM 20 PELET”

|                                                                           |              |
|---------------------------------------------------------------------------|--------------|
| 1. Cooker dimensions:                                                     |              |
| - width                                                                   | 1100 mm      |
| - depth                                                                   | 600 mm       |
| - height                                                                  | 850 mm       |
| 2. Diameter of the flue connection                                        | 80/100 mm    |
| 3. Diameter of the air inlet opening on the outer wall                    | 100 mm       |
| 4. Height from the floor to the axis of the flue connection               | 690 mm       |
| 5. Rated power of the cooker                                              | 19,5 KW      |
| 6. Heat radiation of the cooker at nominal power                          | 4,7 KW       |
| 7. Heat transferred to water at nominal power                             | 14,8 KW      |
| 8. Maximum consumption                                                    | 4,46 kg/h    |
| 9. Utilization degree at maximum power                                    | 89,7 %       |
| 10. Minimum power of the cooker                                           | 5,7 KW       |
| 11. Heat radiation of the cooker at minimum power                         | 1,5 KW       |
| 12. Heat transferred to water at minimum power                            | 4,2 KW       |
| 13. Minimum consumption                                                   | 1,32 kg/h    |
| 14. Utilization degree at minimum power                                   | 88 %         |
| 15. Minimum draft                                                         | 10Pa         |
| 16. Optimum draft                                                         | 14Pa         |
| 17. Heating capacity                                                      | 275 - 350 m3 |
| 18. Fuel storage capacity                                                 | 30 kg        |
| 19. Maximum operating time with full storage                              | 22,72 h      |
| 20. Minimum operating time with full storage                              | 6,73 h       |
| 21. Maximum output power                                                  | 370 W        |
| 22. Voltage and frequency                                                 | 230V / 50Hz  |
| 23. Cooker weight:                                                        |              |
| - net                                                                     | 213 kg       |
| - gross                                                                   | 241 kg       |
| 24. CO <sub>2</sub> emission (13% O <sub>2</sub> ) at nominal heat output | 0,018 %      |
| 25. CO <sub>2</sub> emission (13% O <sub>2</sub> ) at minimum heat output | 0,044 %      |
| 26. Mass flow-rate of flue gases at nominal heat output                   | 15,9 g/sec   |
| 27. Mass flow-rate of flue gases at minimum heat output                   | 11,4 g/sec   |
| 28. Temperature of flue gases at nominal heat output                      | 150,9 °C     |
| 29. Temperature of flue gases at minimum heat output                      | 81,7 °C      |
| 30. Water content in the boiler                                           | 35 litara    |
| 31. Maximum operating pressure                                            | 2bar.        |

### Dear buyer,

We thank you for choosing and buying our appliance, in which we have invested a great effort so you could be satisfied with its use.

We are sure that you have chosen a high-quality and economical appliance, which is the result of many years of experience in this factory in the production of household appliances. This appliance has been designed and tested in accordance with the safety standards of the applicable EU regulations.

Before installing and using the appliance, please read this manual carefully and adhere to all the advices included in it, as this will result in proper state and constant readiness of the appliance for proper operation, as well as long service life.

Should any malfunction occur on the appliance, it is necessary to contact our nearest Customer Service for professional assistance and repair. The addresses and phone numbers of our Customer Service offices are given at the end of the manual.

Keep these instructions, because it can also be of use to you in many situations in the future.

If you sell the appliance, give these instructions to your buyer.

In case of any ambiguities, please contact our professional services or an authorized service center. Always indicate the number of chapter containing those ambiguities.

Printing, translation and reproduction of these instructions, in whole or in part, are prohibited without the permission of ALFA PLAM. Technical information, pictures and specifications contained in these instructions must not be given to a third party.

### CAUTION

- The minimum installed power of the heating system must not be less than 65% of the nominal power of the stove and the maximum installed power of the heating system must not be more than 100% of the nominal power of the stove.

- The chimney, to which the range is connected must meet the requirements provided in the user manual.

- When connecting the appliance to the chimney, never use flexible hoses instead of flue pipes.

- Regular maintenance and care, such as cleaning the range, the flue pipes and the nozzles (of the pipes), are important to ensure safety, and especially for the sake of economy and in order to maintain the value of the range.

- Unauthorized modification of the device is prohibited and therefore any unauthorized modification shall render the warranty null and void.

## List of content:

|         |                                                                                            |    |
|---------|--------------------------------------------------------------------------------------------|----|
| 1.      | INTRODUCTION .....                                                                         | 1  |
| 1.1.    | PURPOSE .....                                                                              | 1  |
| 1.2.    | PURPOSE AND CONTENT OF INSTRUCTIONS .....                                                  | 1  |
| 1.3.    | UPDATING THE INSTRUCTIONS.....                                                             | 1  |
| 1.4.    | GENERAL .....                                                                              | 1  |
| 1.5.    | LEGAL WARRANTY .....                                                                       | 1  |
| 1.6.    | RESPONSIBILITY OF THE MANUFACTURER.....                                                    | 1  |
| 1.7.    | CHARACTERISTICS OF THE USER .....                                                          | 2  |
| 1.8.    | TECHNICAL ASSISTANCE .....                                                                 | 2  |
| 1.9.    | SPARE PARTS.....                                                                           | 2  |
| 1.10.   | RATING PLATE.....                                                                          | 2  |
| 1.11.   | DELIVERY OF THE COOKER.....                                                                | 2  |
| 2.      | SAFETY WARNINGS.....                                                                       | 2  |
| 2.1.    | WARNINGS FOR INSTALLER .....                                                               | 2  |
| 2.2.    | WARNINGS FOR USER .....                                                                    | 2  |
| 2.3.    | WARNINGS FOR A MAINTENANCE WORKER .....                                                    | 3  |
| 3.      | FUEL CHARACTERISTICS AND DESCRIPTION OF THE COOKER.....                                    | 3  |
| 3.1.    | FUEL CHARACTERISTICS.....                                                                  | 3  |
| 3.2.    | PELLETS STORAGE.....                                                                       | 3  |
| 3.3.    | MAIN PARTS OF THE COOKER .....                                                             | 3  |
| 3.4.    | DIMENSIONS OF THE COOKER .....                                                             | 4  |
| 4.      | MOVING AND TRANSPORT .....                                                                 | 5  |
| 5.      | PREPARATION OF THE SPACE FOR INSTALLATION .....                                            | 5  |
| 5.1.    | PRECAUTIONARY MEASURES .....                                                               | 5  |
| 5.2.    | GENERAL MEASURES .....                                                                     | 5  |
| 5.3.    | LOCATION OF INSTALLATION OF THE COOKER .....                                               | 6  |
| 5.4.    | AIR USED FOR COMBUSTION .....                                                              | 6  |
| 5.5.    | SMOKE EXTRACTION.....                                                                      | 7  |
| 5.5.1.  | Smoke extraction through the roof chimney.....                                             | 8  |
| 5.6.    | AIR USED FOR COMBUSTION .....                                                              | 2  |
| 6.      | INSTALLING .....                                                                           | 3  |
| 6.1.    | SAFETY MEASURES FOR MAINTENANCE PERSONNEL .....                                            | 3  |
| 6.2.    | SAFETY MEASURES FOR USERS.....                                                             | 3  |
| 7.      | INSTRUCTIONS FOR SAFE TURNING ON AND CLEANING THE COOKER .....                             | 4  |
| 7.1.    | REGULAR CLEANING AND MAINTENANCE PERFORMED BY THE USER OF THE COOKER .....                 | 4  |
| 7.2.    | SPECIAL MAINTENANCE.....                                                                   | 6  |
| 8.      | IMPORTANT SAFETY INFORMATION .....                                                         | 6  |
| 9.      | CHOOSING PELLETS.....                                                                      | 6  |
| 9.1.    | PELLETS STORAGE.....                                                                       | 7  |
| 10.     | CONNECTING HYDRAULIC INSTALLATION .....                                                    | 8  |
| 10.1.   | Scheme of the hydraulic installation of a pellet cooker (radiator heating) .....           | 8  |
| 10.2.   | Scheme of the hydraulic installation of a pellet cooker (radiator and floor heating) ..... | 8  |
| 10.3.   | PRESSURE AND RETURN LINE .....                                                             | 9  |
| 10.4.   | COOKER EMBEDDED COMPONENTS .....                                                           | 9  |
| 10.5.   | SAFETY VALVE (Figure 18, Position 6) .....                                                 | 9  |
| 10.6.   | CIRCULATION PUMP (Figure 18, Position 1) .....                                             | 9  |
| 10.7.   | AUTOMATIC AIR-BLEEDING VALVE (Figure 18, Position 8) .....                                 | 10 |
| 10.8.   | EXPANSION VESSEL (Figure 18, Position 2) .....                                             | 10 |
| 10.9.   | TAP FOR FILLING AND DISCHARGING (Figure 18, Position 9) .....                              | 10 |
| 10.10.  | WATER PRESSURE SENSOR (Figure 18, Position 7) .....                                        | 10 |
| 11.     | FILLING THE INSTALLATIONS AND COMMISSIONING .....                                          | 10 |
| 12.     | TIPS FOR THE USE OF THE HEATING SYSTEM.....                                                | 10 |
| 12.1.   | COOKING, BAKING/ROASTING AND FRYING .....                                                  | 10 |
| 13.     | FEEDING THE PELLETS INTO THE FUEL STORAGE.....                                             | 11 |
| 14.     | CONTROL SYSTEM OF THE COOKER .....                                                         | 11 |
| 14.1.   | ELECTRIC CONNECTIONS SCHEME.....                                                           | 11 |
| 14.2.   | CONTROL PANEL (DISPLAY) - BUTTONS AND FUNCTIONS .....                                      | 11 |
| 14.3.   | MENU .....                                                                                 | 13 |
| 14.3.1. | COMBUSTION MANAGEMENT MENU .....                                                           | 14 |
| 14.3.2. | HEATING MANAGEMENT MENU .....                                                              | 15 |
| 14.3.3. | CHRONO MENU.....                                                                           | 15 |
| 14.3.4. | MANUAL PELLETS LOADING MENU .....                                                          | 17 |
| 14.3.5. | MANUAL LOADING MENU .....                                                                  | 17 |
| 14.3.6. | TIME AND DATE MENU.....                                                                    | 17 |

|          |                                                           |    |
|----------|-----------------------------------------------------------|----|
| 14.3.7.  | REMOTE CONTROL MENU .....                                 | 17 |
| 14.3.8.  | LANGUAGE SELECTION MENU .....                             | 17 |
| 14.3.9.  | DISPLAY MENU .....                                        | 17 |
| 14.3.10. | SYSTEM MENU .....                                         | 18 |
| 14.4.    | COOKER IGNITION AND FUNCTIONAL CONDITIONS .....           | 18 |
| 14.5.    | POSSIBLE PROBLEMS AND SOLUTIONS .....                     | 19 |
| 15.      | SAFETY MEASURES.....                                      | 20 |
| 16.      | FAULTS - CAUSES - SOLUTIONS.....                          | 21 |
| 17.      | INFORMATION ON DISPOSAL AND DISASSEMBLING THE COOKER..... | 22 |

# 1. INTRODUCTION

The purpose of these instructions is to enable the user to take all necessary measures to ensure the safe and proper use of the cooker.

ALFA PLAM reserves the right to change the specifications and technical and/or functional characteristics of the cooker at any time, without prior notice.

## 1.1. PURPOSE

The pellet burning cooker is intended for heating the living space. The cooker provides direct heating of the room in which it is installed and does not require additional heating bodies (radiators), because it uniformly heats the room through radiation and convection. The cooker operates only with firebox door closed. Never open the door during operation of the cooker.

The cooker is characterized by double combustion system, PRIMARY and SECONDARY, with positive effects both in terms of performance, and in terms of cleaner combustion products.

The stated purpose and the intended configurations of the cooker are the only ones allowed by the manufacturer: **use the cooker only in accordance with these instructions.**

ALFA PLAM cooker is an appliance that can be used only indoors.

## 1.2. PURPOSE AND CONTENT OF INSTRUCTIONS

The purpose of the instructions is to enable the user to take all necessary measures in order to achieve safe and proper use of the cooker. These instructions contain all the necessary information on installation, use and maintenance of the cooker. Conscientious compliance with the guidelines from the instructions guarantees a high degree of safety and performance of the cooker. The instructions must be carefully kept and must always be available for consultation, both by the user and by personnel in charge of assembly and maintenance. **Use and maintenance instructions are an integral part of the cooker.** In the event of losing the instructions, ask ALFA PLAM for another copy.

In the case of sale of the cooker, the user is obliged to submit these instructions to the new buyer.

## 1.3. UPDATING THE INSTRUCTIONS

These instructions correspond to the technical level of knowledge at the moment of introduction of the cooker to the market. ALFA PLAM will not consider other cookers that are already present on the market, with the appropriate technical documentation, as incomplete or inadequate in case of possible changes, adjustments or application of new technologies on newly manufactured cookers.

## 1.4. GENERAL

### INFORMATION

When contacting the cooker manufacturer, it is necessary to note the serial number and identification data listed on the page "GENERAL" at the end of these instructions.

### RESPONSIBILITY

The company ALFA PLAM **accepts no liability for any material damage or injuries occurred due to:**

- disregarding the advices and warnings given in these instructions,
- improper use of the cooker by the user,
- modifications and repairs not approved by ALFA PLAM,
- poor maintenance,
- unforeseen events,
- use of spare parts that are not original or not intended for these models of the cooker.

**The installer takes the full responsibility for connections of the cooker.**

### EXTRAORDINARY MAINTENANCE

Extraordinary maintenance must be carried out by personnel qualified for intervention on the cooker model to which these instructions apply.

### USE

When using the cooker, the advices given in these instructions and all national regulations of the country where the cooker is installed is to be followed.

## 1.5. LEGAL WARRANTY

In order to be able to use a legal warranty in accordance with CEE 1994/44/CE, the user must strictly adhere to the allegations contained in these instructions, and in particular:

- to use the cooker in accordance with its intended purpose,
- to maintain it regularly and carefully,
- to authorize persons with sufficient abilities, responsibility and technical knowledge, for the use of the cooker.

**Failure to observe the advices given in these instructions will result in a loss of warranty.**

## 1.6. RESPONSIBILITY OF THE MANUFACTURER

The manufacturer does not accept any civil or criminal liability, direct or indirect, in the event of:

- installations that do not comply with applicable national regulations in the country of installation, and with safety recommendations,
- disregard of the advices and warnings given in these instructions,
- installation performed by unqualified and unskilled personnel,
- use that is not in accordance with the safety recommendations from the instructions,
- made changes and repairs for which no authorization has been obtained from the manufacturer,
- use of spare parts that are not genuine or not intended for this model of cooker,

- poor maintenance of the cooker,
- unforeseen events.

## **1.7. CHARACTERISTICS OF THE USER**

The user of the cooker must be an adult and responsible person.

Take care that children do not approach the cooker while in operation, with the intention to play.

Children should not approach the cooker while in operation with the intention to play. This appliance can be used by children aged 8 and over and persons with reduced physical, sensory or mental capacity, if they are supervised by an elderly person familiar with the instructions for use. Cleaning and maintenance of the cooker cannot be carried out by children without supervision of the elderly person.

## **1.8. TECHNICAL ASSISTANCE**

The company ALFA PLAM is able to solve any technical problem related to the use and maintenance of the cooker throughout its lifetime.

The Technical Support Service is at your disposal for any questions and, if necessary, to refer you to the nearest authorized service.

## **1.9. SPARE PARTS**

Use only original spare parts. Do not wait for parts to wear out before their replacement. Replacing the damaged piece before its breaking prevents possible accidents that arise precisely because of sudden breaking of parts, which can cause injuries to people and cause damage to things. Carry out periodic maintenance controls as described in the chapter "MAINTENANCE AND CLEANING".

## **1.10. RATING PLATE**

The rating plate on the cooker contains all product-related characteristics, including manufacturer information, serial number and CE marking.

## **1.11. DELIVERY OF THE COOKER**

The cooker is delivered in wooden packaging. It is attached to the wooden stand, which provides its stability when moved with forklift and/or other means. The inside of the cooker contains the following material:

- instructions for use, installation and maintenance,
- blade for cleaning the cooker (channels through which the smoke passes),
- special key
- glove.

# **2. SAFETY WARNINGS**

## **2.1. WARNINGS FOR INSTALLER**

- verify whether the cooker characteristics are in accordance with local, national and European regulations,
- comply with the notes from these instructions,
- check that the volume of the room in which the cooker is installed is adequate,
- verify whether the requirements from the manufacturer's instructions regarding the smoke extraction system have been met,
- check the internal cross-section of the chimney, the material from which the chimney is made, the uniformity of the cross-section, and whether there are any obstacles in the chimney,
- check the height and vertical extension of the chimney,
- check the possibility of providing the supply of external air and the size of the required openings,
- check the possibility of simultaneous use of the cooker, which is to be connected, with other appliances and devices, if such already exist at that location,
- always provide sufficient space for servicing required for any kind of maintenance and repair of the cooker,
- do not use bare electrical connections with temporary and non-insulated cables,
- check whether the grounding of the electrical appliance is effective,
- always use personal protective equipment and other protective equipment prescribed by the law.

## **2.2. WARNINGS FOR USER**

- Prepare the space for the installation of the cooker in accordance with local, national and European regulations,
- The cooker, since it is a heating body, has a very warm outside surface and therefore it is recommended to be very careful while its operation, in particular:
  - do not touch and approach the glass on the door and oven; it can cause burns,
  - do not touch the pipe through which smoke passes,
  - do not perform any cleaning,
  - do not open the firebox door,
  - ensure that children do not approach the cooker,
  - if the power cable is damaged, it must be replaced by the manufacturer (its authorized service technician) or by a qualified person in order to avoid danger.
- Observe the notes from these instructions,
- Observe the notes and warnings on the plates placed on the cooker,
- Plates contain instructions for preventing accidents at work, therefore they must always be completely legible.

Should they be damaged or become illegible, be sure to replace them, asking the manufacturer for the genuine replacement.

- Use only fuel corresponding to the instructions from the chapter relating to the characteristics of the fuel itself,
- Strictly adhere to the periodic and extraordinary maintenance plan,
- Do not turn on the cooker without previous daily control performed in the manner specified in the section "Maintenance" of these instructions,
- Do not use the cooker in case of improper operation, in the event of any doubt that something has been broken, or in the case

of unusual sounds,

- Do not spray or spill water on the cooker, even when extinguishing the fire,
- Do not turn off the cooker by unplugging from the socket - it may jeopardize the proper operation of the cooker,
- Do not use the cooker as a support or for anchoring of any kind,
- Do not lean on the open cooker, its stability may be compromised,
- Do not clean the cooker before it is completely cooled down as well as the ash,
- Touch the door only when the cooker is cold,
- Conduct all operations with full attention even in the conditions of maximum safety,
- In case of a fire in the chimney, turn off the cooker in the manner prescribed for fire fighting and call firefighters,
- In the case of poor operation of the cooker caused by a weak draft, clean the chimney,
- Cleaning of chimney must be performed at least twice a year,
- Do not touch the painted parts during operation of the cooker in order to avoid possible burns,
- Fuse replacement is performed by qualified personnel.

**CAUTION: In order to avoid any hazard caused by accidentally switching on the thermal switch, this cooker must not be powered by an external control device, such as a timer, but must be connected to a circuit that is regularly powered and disconnected from the network.**

## **2.3. WARNINGS FOR A MAINTENANCE WORKER**

- Always use personal protective equipment and other protective equipment.
- Before starting any kind of maintenance, make sure that the cooker, if already used, is cooled down.
- **DO NOT TURN THE COOKER ON** even if only one of the safety devices is faulty, improperly set or not operating.
- Remove the plug from the wall socket before work on electrical and electronic components and connectors.

# **3. FUEL CHARACTERISTICS AND DESCRIPTION OF THE COOKER**

## **3.1. FUEL CHARACTERISTICS**

- Pellet is a fuel of cylindrical shape, produced from different types of wood, mechanically pressed, in compliance with the regulations on environmental protection.

**It is the only type of fuel envisaged for this type of cooker.**

- The efficiency and thermal power of the cooker may vary depending on the type and quality of the wood pellets used.
- Burning of different types of pellets may require modification or adjustment of program settings.

In order for the cooker to work properly, the pellets must have the following characteristics:

- diameter Ø 6 mm
- maximum length 40 mm
- maximum moisture content 8% to 9%

The cooker is equipped with a pellet storage with the capacity specified in the table of technical characteristics.

The storage cover is on the upper side of the cooker.

**The proper operation of the cooker depends on the type and quality of pellets, since the heat obtained from the different types of pellets can be of different intensity.**

**The manufacturer of the cooker does not bear any responsibility for poor operation of the cooker in the case of use of pellets of inadequate quality.**

**It is forbidden to use the cooker for incinerating waste.**

## **3.2. PELLETS STORAGE**

**Pellets must be stored in a dry and well-ventilated room, at a temperature of 10°C ÷ 25°C.** A cool and moist pellet stored in a humid room, with temperature below 5°C, has reduced thermal power and requires additional cleaning of the cooker.

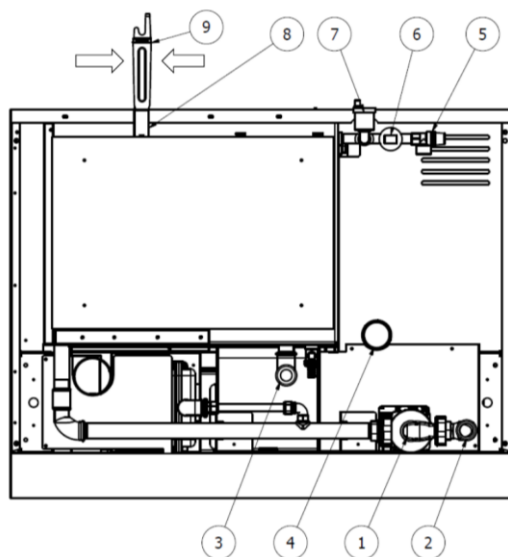
**PELLETS CAN NOT BE KEPT AT A DISTANCE OF LESS THAN 2 METERS FROM THE COOKER.** Handle pellets carefully, do not break it.

**WARNING:** If a sawdust or small (broken) pellets are fed in the fuel storage, it may block the pellet insertion. Such pellets may lead to burnout of the electric motor that drives the pellet insertion mechanism, or to damage of the gear unit that works in conjunction with the electric motor. If you notice such pellets at the bottom of the pellets storage, that is, at the bottom of the auger when the storage is empty, vacuum it with a vacuum cleaner by dragging the vacuum cleaner pipe through the openings of the storage grate.

It is advised that several pellet bags are kept in a room where the cooker is used, or in the adjacent room due to acceptable temperature and humidity.

Pay special attention to storing and moving the pellet bags. Its breaking and creating sawdust should be avoided.

## **3.3. MAIN PARTS OF THE COOKER**



1. Circulation pump
2. Return line
3. Pressure line
4. Pipe for supplying air for combustion
5. Safety valve
6. Water pressure sensor
7. Air bleed vent
8. Lever of the flue pipes cleaning mechanism
9. Special key
10. Dashboard
11. Safety thermostat  $T = 80^{\circ}\text{C}$
12. Switch
13. Safety thermostat  $T = 88^{\circ}\text{C}$
14. Electronic plate
15. Casted firebox
16. Combustion chamber
17. Ashtray
18. Protection holder, small
19. Expansion vessel
20. Wing screw
21. Fan box cover
22. Lid for cleaning under the oven
23. Oven cover
24. Smoke chamber cover
25. Mode controller
26. Rectangular cleaning lid
27. Cooktop - middle part
28. Cooktop above the pellet storage
29. Storage cover

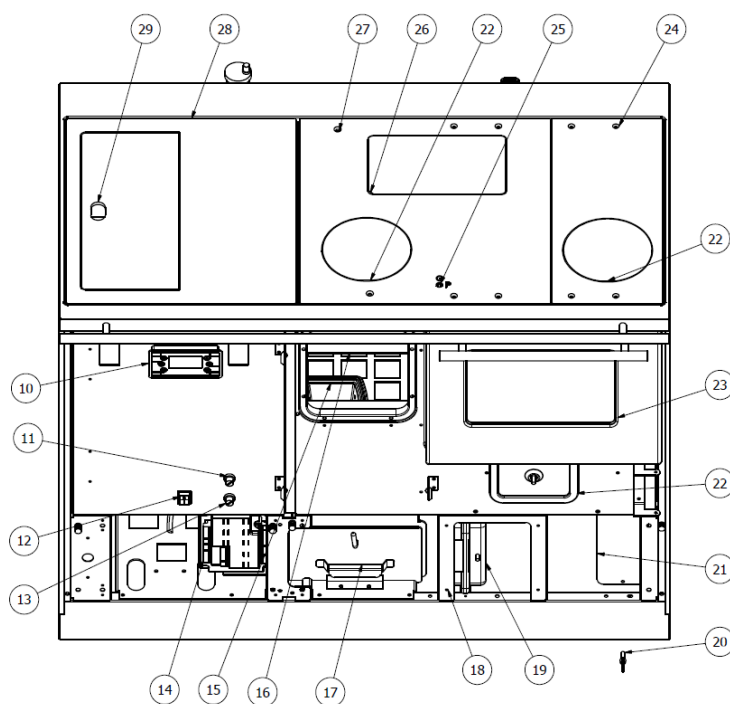


Figure 1



### 3.4. DIMENSIONS OF THE COOKER



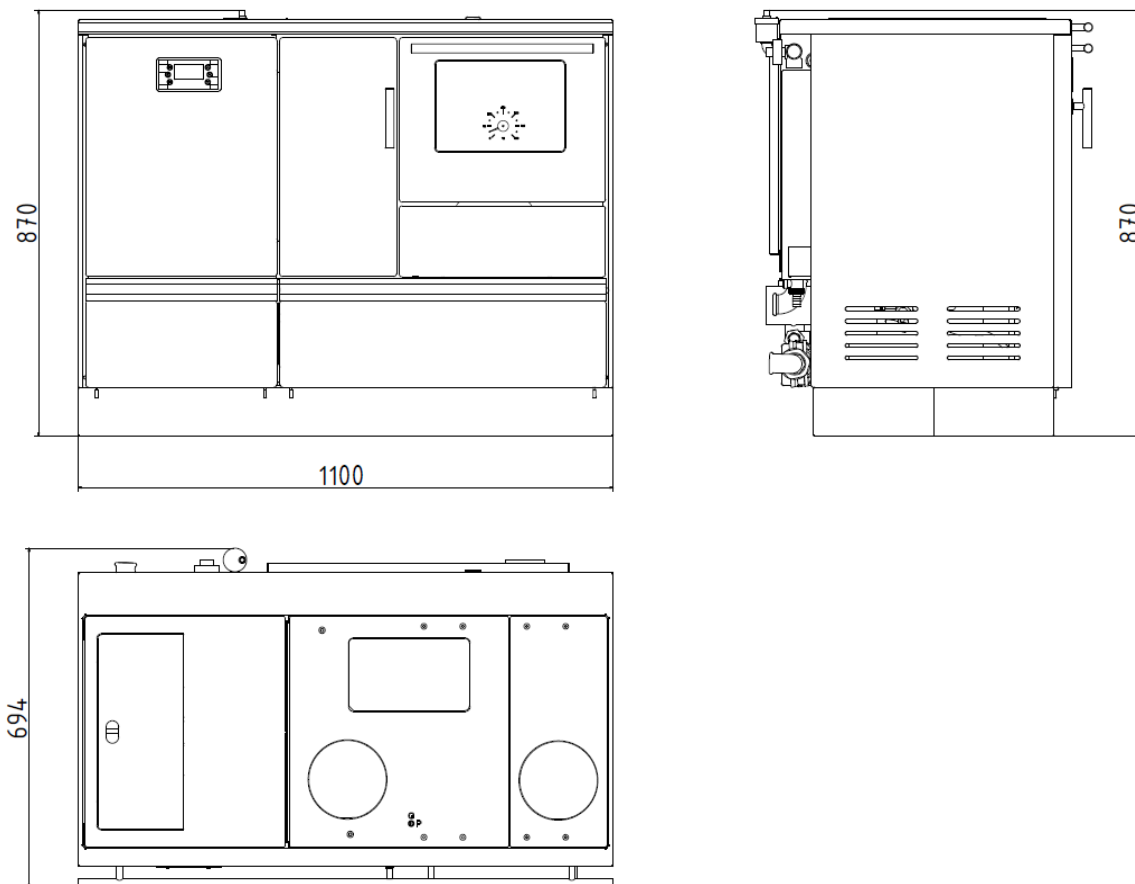


Figure 2

## 4. MOVING AND TRANSPORT

The cooker is delivered with all the parts foreseen.

Be careful - the cooker has a tendency to overturn.

**The cooker's center of gravity is shifted to the left.**

Take care of this even when moving the cooker.

When lifting, avoid sudden movements.

**Make sure that the forklift truck has a load capacity greater than the weight of the cooker to be lifted.**

The forklift operator will be solely responsible for raising the load.

**Prevent children from playing with parts of packaging (for example: foils and polystyrene). Risk of choking!**

## 5. PREPARATION OF THE SPACE FOR INSTALLATION

### 5.1. PRECAUTIONARY MEASURES

**The responsibility for the work done at the point of installation is entirely on the user.**

The user must comply with all local, national and European safety regulations.

The cooker must be set up on the floor of the appropriate load capacity.

Cooker assembly and disassembly instructions are exclusively intended for authorized installers.

The installer must, prior to commencing the assembly or disassembly stage of the cooker, implement the safety measures prescribed by law, and in particular:

- A) must not work in interfering conditions;
- B) must verify that the personal protective equipment is complete and in good condition;
- C) must wear protective gloves;
- D) must wear protective shoes;
- E) must use tools with electric shock insulation;
- F) must ensure that the place where assembly or disassembly is carried out is free of obstacles.

### 5.2. GENERAL MEASURES

There are many factors that influence the efficiency of burning - in terms of thermal performance and low emissions of contaminants (CO - carbon monoxide). Some factors depend on the cooker, but some depend on the characteristics of the space, installation and the degree of regular maintenance of the product.

Some of the more important factors are:

- the amount of incoming air used for combustion;
- characteristics of the system for combustion products discharge;
- quality of pellets (humidity and dimensions).

In the following paragraphs, some notes are given that have to be observed in order to achieve the best performance of the purchased product.

### 5.3. LOCATION OF INSTALLATION OF THE COOKER

Figure 3 lists the minimum distances that must be observed when setting up the cooker, regarding the materials and inflammable objects.

Protect from heat radiation of the flame all the objects that could catch fire due to exposure to excessive heat.

Wooden floors or those made of flammable material must be protected by non-flammable material, for example sheet metal with a thickness of 2-3 mm.

The cooker can be installed between the two walls.

The minimum distance to be applied between the cooker and walls must be 10-20 cm.

Any wooden beams placed above the cooker must be protected with non-flammable material.

If the previous conditions are not met, the cooker cannot be installed.

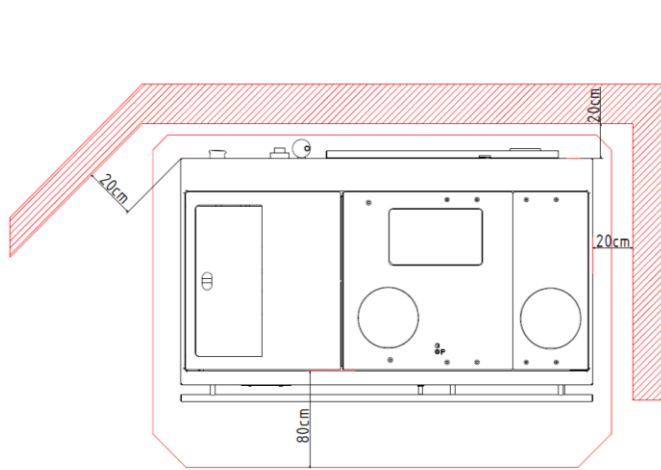


Figure 3

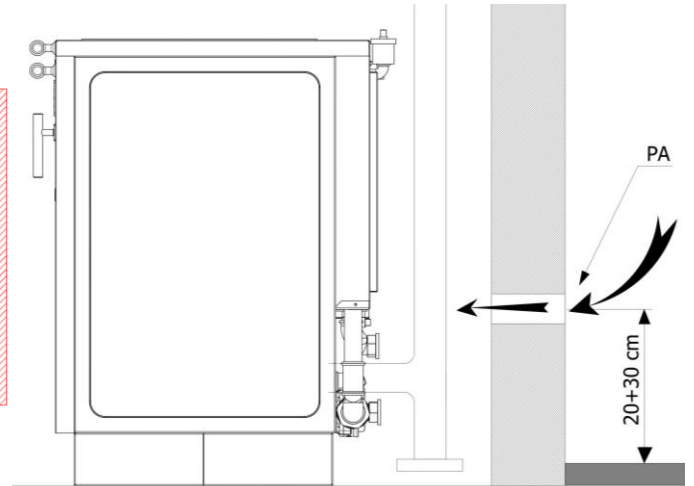


Figure 4

### 5.4. AIR USED FOR COMBUSTION

- The cooker takes the air during operation from the room where it is located.
- The outside air can be supplied directly through a tube of 80 mm diameter with a seal (Figure 4).
- The maximum length of the air supply pipe is 4.5 m with a maximum of 3 knees at 90°.
- The air inlet hole must be set at a height of about 20-30 cm from the ground.
- One grid for continuous ventilation must be installed outside. In very windy areas exposed to rain and wind, protection against rain and wind must be foreseen.
- Ensure that the air inlet is positioned so that it cannot be accidentally blocked.
- In case it is impossible to achieve a direct supply of external air through the wall behind the cooker (the wall is not outer), an opening must be made on one of the outer walls of the space in which the cooker is located.
- If the room does not have outer walls, it is possible to make an outer opening in the adjacent room and provide constant supply of air through a grid placed on a wall between these two rooms.
- If the cooker is placed in the room with air extraction grilles, or if it is placed in a room with already existing appliances that take air from the room, always take care that the amount of air supply to the room is sufficient to ensure the safe operation of the cooker and existing appliances.

**It is forbidden to supply air for combustion from rooms where there are risks of fire, such as garages, warehouses, depots, etc.**

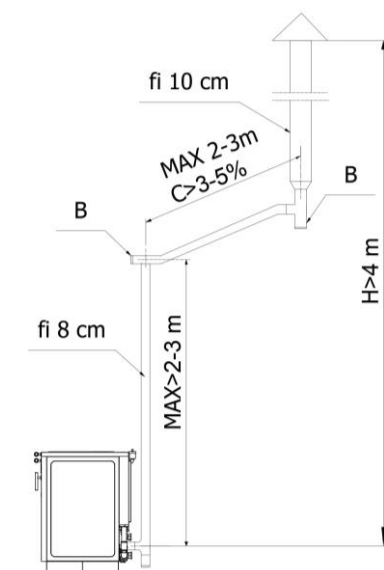


Figure 5

- A - chimney cap
- B - inspection opening
- C - slope
- H - height

- If one or more fans for the extraction of air (aspirators) are installed in the room where the cooker is placed, it is necessary to check if the poor operation of the cooker is caused by the insufficient air required for combustion.

## 5.5. SMOKE EXTRACTION

- The tubes to be used for smoke extraction must be rigid, made of aluminum sheet (at least 1.5 mm thick wall) or stainless steel (at least 0.5 mm thick wall).

The flue pipes should be connected so as to have their narrow connection element always turned upward (**Figure 4**).

We recommend not making long horizontal sections for the flue connection. If there is no other possibility, the flue pipes should not have a downward slope, but upward to at least 5%. The horizontal section should not be longer than 2 meters.

Direct boiler connection to the flue with a straight flue pipe longer than 1 meter in length is not recommended.

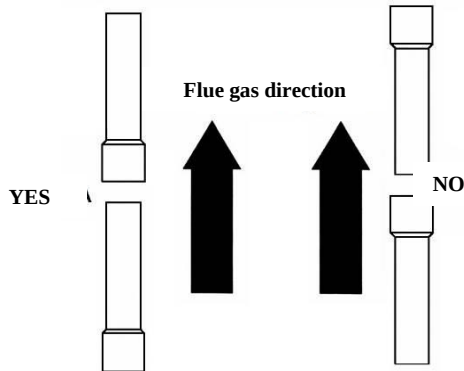


Figure 5a

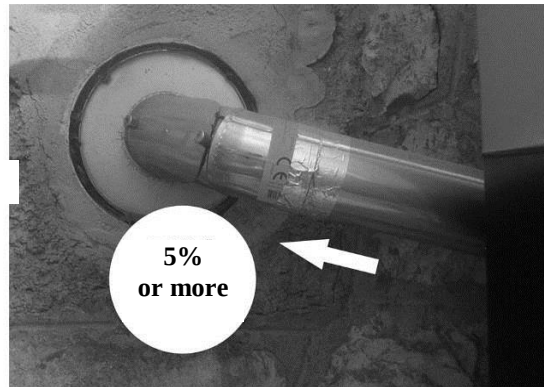
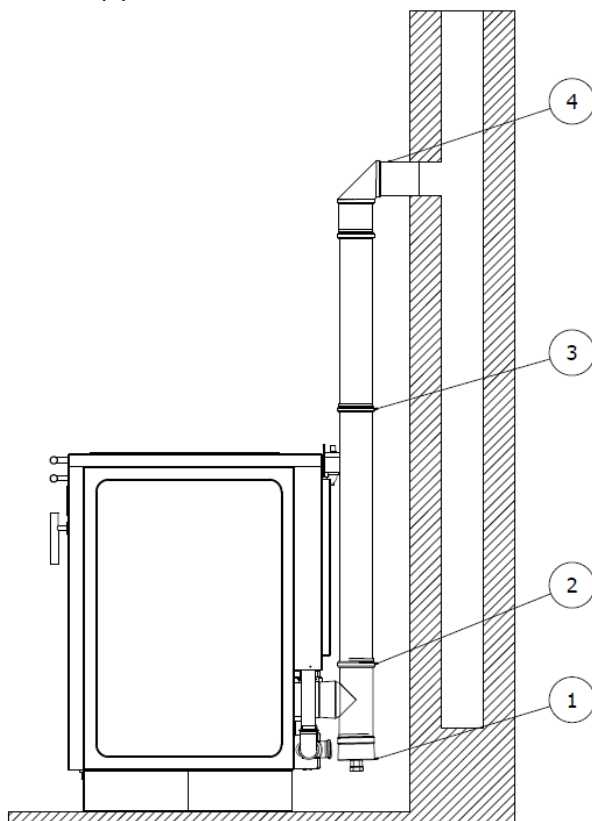


Figure 5b

The maximum allowed length of flue pipe with diameter of 80 mm to its point of entering the flue is 5 m. After that, the diameter of a flue pipe must be increased to 120 – 130 mm. Each flue knee accounts for more 1 m length. For example, if there are three flue bends of 80 mm diameter, the length of the flue pipe of 80 mm diameter is changed by 3 m. You may place only another 2 m of a straight pipe to the entrance of the flue in order to get maximum 5 m length of the flue pipe of 80 mm diameter. After that, it must be enlarged, led back to flue pipe or introduced a flue of a greater diameter, 120 – 130 mm.

For lengths up to 5m, use pipes of 80mm diameter, with seals, and for lengths greater than 5m, pipes of 100mm diameter, with seals.

- It is advisable to insulate the pipes with insulating material (with a mineral wool of at least 2 cm thickness), or use steel pipes with a double wall, where the first vertical part, if it is internal, does not have to have double layer.
- It is mandatory that the first vertical part has a length of at least 1.5 meters in order to guarantee proper smoke extraction.
- It is advised to make at most 5 to 6 changes of direction using knees of 45-90° or T joints.
- Always use T joints with inspection openings for each horizontal or vertical change of direction of the flue pipe.
- Horizontal parts must not have a length greater than 2-3 m, with an inclination of at least 5%.
- Anchor pipes to walls.



When installing the flue pipes start with T-branch (2), to which a condensate vessel with an outlet for condensate (1) is mounted. Then install a flue pipe (3) and penetrate the wall with an 90° elbow (4).

**Flue pipes MUST NOT BE CONNECTED:**

- To a chimney used by other smoke generators (furnaces, fireplaces, etc.)
- To the air extraction system (aspirators, valves, etc.) even if it is connected by pipes.

It is forbidden to install valves for preventing the draft.

In case of length of the flue pipe greater than 5 meters or in the conditions of poor airflow (the presence of many curves, inadequate ending of the outlet, etc.), the extraction of smoke might be inappropriate. In this case, it will be necessary to

change the operating parameters (extraction of smoke and feeding pellets) in order to adjust the cooker to the actual characteristics of the chimney.

Contact technical support.

### 5.5.1. Smoke extraction through the roof chimney

The smoke extraction chimney must be constructed in compliance with the regulations, both in terms of dimensions and in terms of materials used for its construction.

RUINED chimneys, made of inadequate material (fibrous cement, galvanized steel, etc... whose interior is not smooth and porous) are inadequate and may impact proper operations of the cooker.

Smoke extraction through a traditional chimney (Figures 6 and 7) can be executed only if the following rules are observed:

- Check the condition of the chimney - in the case of an old chimney, its repair is advised by introducing a properly insulated steel tube (mineral wool, vermiculite).

- Smoke can be taken directly into the chimney equipped with an inspection opening.

The smoke extraction system (chimney) made of metal pipes must be grounded in accordance with existing standards and legal regulations.

**This grounding must be independent of the cooker's grounding.**

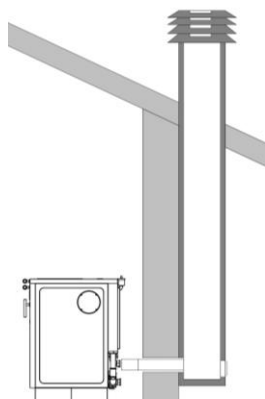


Figure 6

- A) Shutter against wind
- B) Chimney
- C) Hermetic closure
- D) Inspection opening

- In the case of a larger diameter chimney, it is necessary to insert a properly insulated steel tube (with a diameter corresponding to the chimney (Figure 8).

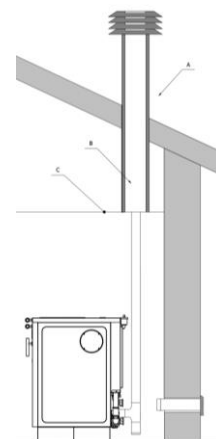
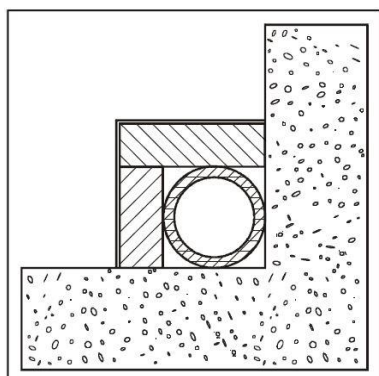


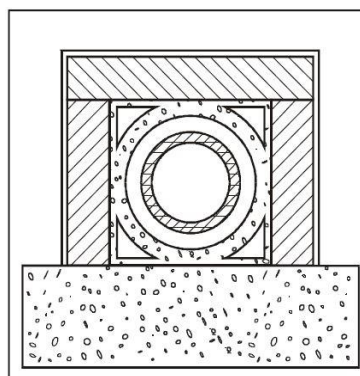
Figure 7

- A) Vermiculite and/or mineral wool
- B) Steel pipe
- C) Cover panel

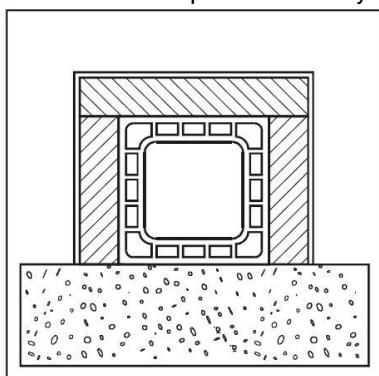
- Check whether the connection to the chimney in the wall is well sealed  
- Avoid contact with combustible material (wooden beams, etc.) and secure its insulation with non-flammable material.



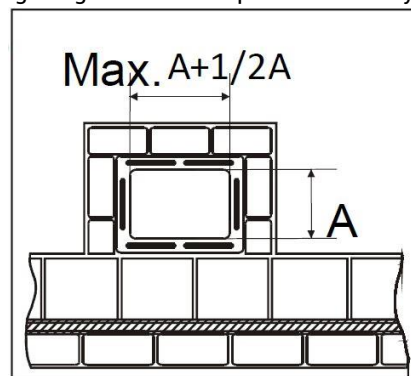
AISI 316 steel flue with double insulated chamber, material resistant to 400 ° C. Optimal efficiency 100%



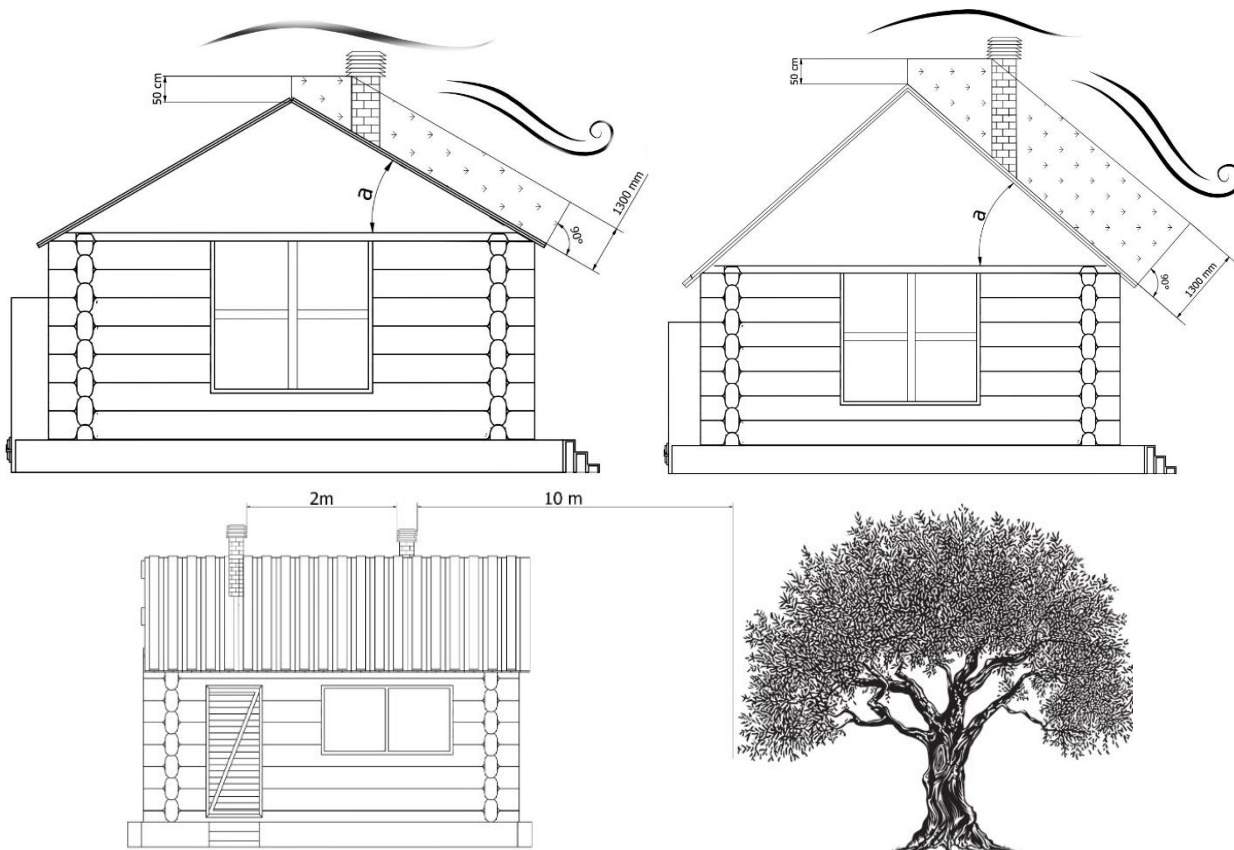
Waterproof flue with double insulated chamber and outer casing of light concrete. Optimal efficiency 100%



Traditional clay flue with indents. Optimal efficiency 80%



Do not use flue pipes with rectangular cross section with ratio different from the plan. Efficiency of modest 40%



Flue – position and distance

## 5.6. AIR USED FOR COMBUSTION

The cooker, during operation, takes air through the opening located on the rear right side of the cooker from the room in which it is located.

The outside air supply point can be connected to the wall opening through a pipe of 80 mm diameter with a gasket.

One grate for constant ventilation must be placed on the outside; In very windy areas exposed to rain and wind, adequate protection must be foreseen.

Ensure that the air intake opening is positioned so it cannot be accidentally blocked.

In the event that it is impossible to achieve external air intake through the wall behind the cooker (the wall is not outer), an opening must be made on one of the outer walls of the room in which the cooker is located.

If it is impossible to supply external air into the room, it is possible to make an outer opening in the adjacent room, but continuous communication through the transit grid must be enabled. The cooker configured in this way is no longer sealed from the space in which it is installed.

**It is forbidden to take air from the garage, a warehouse with a flammable material or from a place with a fire hazard.**

If there are other heaters in the room and the cooker is not sealed from the space in which it is installed, the air intake opening must guarantee the amount of air necessary for the operation of all the devices in the room.

**If one or more fans for the extraction of air (aspirators) are used in the room where the cooker is fitted, it is necessary to ensure that poor operation of the cooker caused by the insufficient air required for combustion does not occur.**

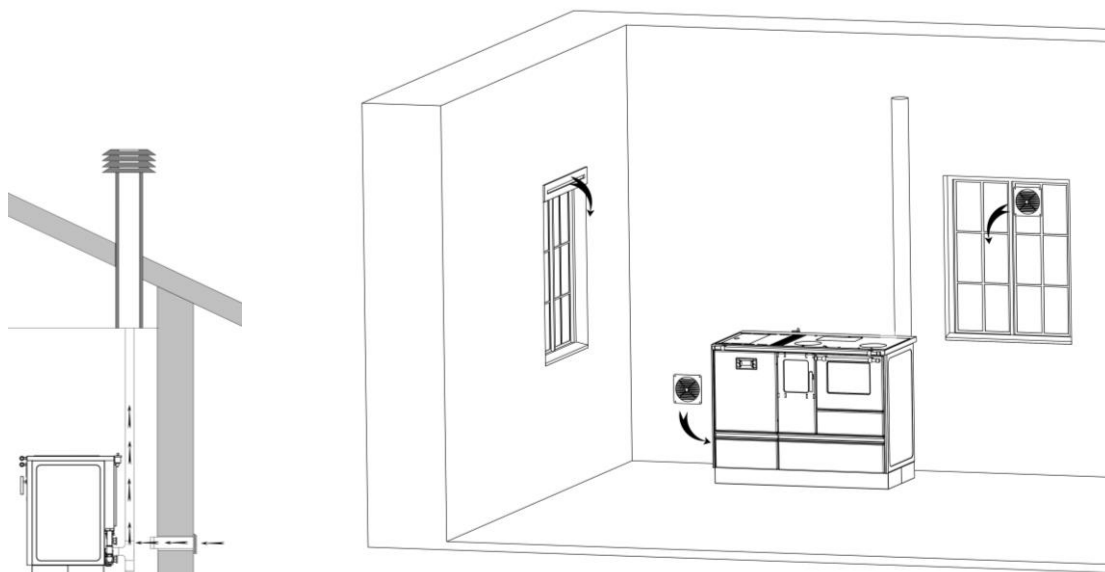


Figure A

Figure B



## 6. INSTALLING

The installer must follow the following instructions in order to properly install the cooker:

- Plug in the cooker into the socket with grounding. (Figure 9)
- Set the cooker switch to position 1. (Figure 10)
- Do not allow the presence of children and pets near the cooker.
- Use only pellets as fuel.
- Inform all users of possible risks and dangers and teach them how to handle the cooker.
- If the cooker is placed on a wooden floor, then it is advisable to isolate the stand on which it is positioned.

The cooker works with a combustion chamber with a sub-pressure. **So make sure the smoke extractor is thermally sealed.**

When commissioning for the first time, ensure ventilation of the room, as the applied corrosion protection may produce an unpleasant odor and create smoke for a short time. That is normal and it stops after a short while.

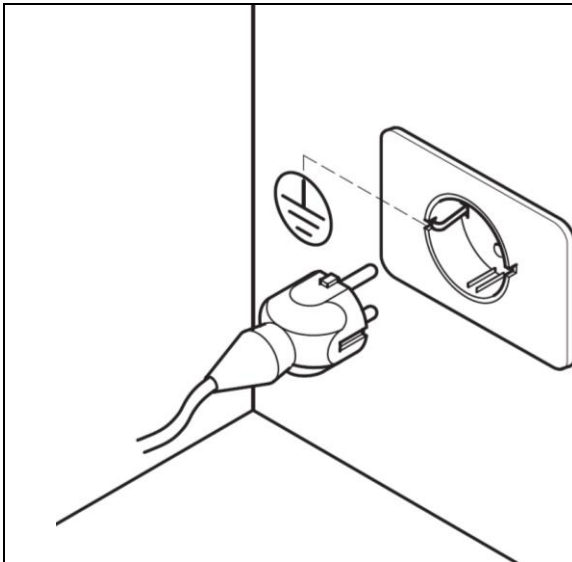


Figure 9

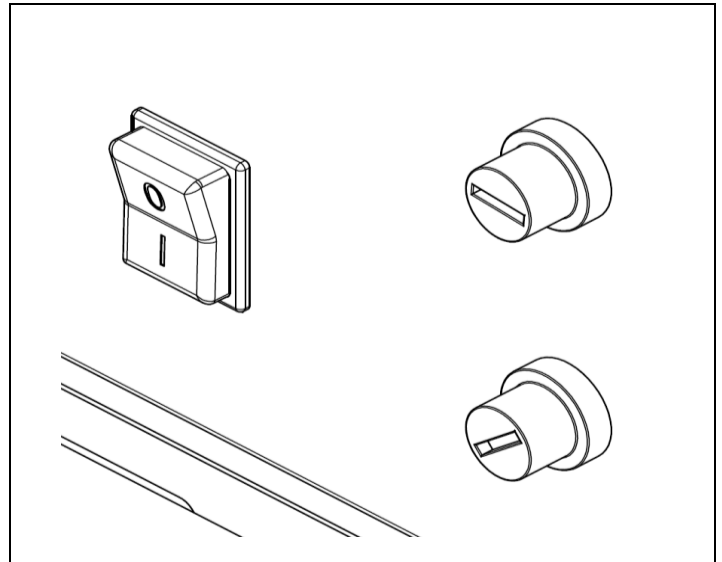


Figure 10

### 6.1. SAFETY MEASURES FOR MAINTENANCE PERSONNEL

Maintenance installers, in addition to having to comply with all security measures, must:

- always use safety devices and personal protective equipment,
- disconnect the power supply before they start to work,
- always use an adequate tool,
- before starting any work on the cooker, make sure that it has cooled down and that the ash is cold. In particular, make sure that the handles are cooled before you touch them.
- **NEVER TURN THE COOKER ON** if any of the security devices are defective, incorrectly set or not working.
- Do not perform any type of modification, for whatever reason, other than those allowed and recommended by the manufacturer itself.
- Always use genuine spare parts. Never wait for the components to wear out before replacing them. Replacement of the worn-out part, or component of the cooker before it brakes, contributes to preventing the occurrence of damage due to sudden failure, which can cause serious consequences for people and/or property.
- Clean the firebox before turning the cooker on.
- Make sure there is no condensation. If condensation occurs, this indicates the water generated from the smoke cooling process.

We recommend you to find possible causes in order to establish normal and correct operation of the cooker.

### 6.2. SAFETY MEASURES FOR USERS

The location of installation of the cooker must be prepared in accordance with local, national and European regulations.

This cooker is manufactured to burn fuel made of pressed wood (pellets diameter 6 mm, length up to 40 mm, maximum humidity 8-9%).

**ATTENTION: High temperatures are generated on external surfaces of the cooker during operation.**

**Therefore, it is important to pay attention to the following during operation of the cooker:**

- do not approach and touch the glass on the firebox and oven door, there is a DANGER OF BURNS,
- do not approach and touch the smoke extraction pipe, there is a DANGER OF BURNS,
- do not perform any cleaning,
- **do not open the firebox door when the cooker is operating properly, only when the chamber is sealed,**
- do not remove ashes when the cooker is in operation,
- children and pets must stay away from the cooker,
- OBSERVE ALL ADVICES GIVEN IN THESE INSTRUCTIONS.

**For proper use of the cooker it is necessary to:**

- use only fuel that complies with the manufacturer's instructions,
- always comply with the cooker maintenance schedule,
- clean the cooker daily (only when the cooker and ashes are cold),

- do not use the cooker in the event of a malfunction or some irregularities in operation, in case of unusual sounds and/or if you suspect a malfunction,
- **do not spray or spill water on the cooker, even when extinguishing the fire,**
- **do not turn off the cooker by pulling out the plug. Use a switch,**
- do not lean on the cooker, because it may not be stable enough and COULD TURN OVER,
- do not use the cooker as a support or holder. Never leave the fuel storage cover open.
- do not touch the painted parts of the cooker while it is in operation,
- do not use wood or coal as a fuel, but only pellets with the following characteristics: diameter 6 mm, maximum length 40 mm, maximum moisture content 8-9%,
- do not use the cooker to incinerate the waste,
- always perform all operations with maximum security measures applied.

## 7. INSTRUCTIONS FOR SAFE TURNING ON AND CLEANING THE COOKER

- Never use petrol, petroleum or any other flammable liquid to start fire in the cooker. Keep these types of fluids away from the cooker while it is in operation,
- Never turn on the cooker if the glass is damaged. Do not hit the glass or door in order to prevent damage,
- Do not open the firebox door to clean the glass. Clean the glass only when the cooker is cold, using a cotton cloth or paper towels (cloths) and a glass cleaning agent,
- Make sure that the cooker is well secured to prevent any movement,
- Make sure that the ashtray is inserted and completely closed so that it is correctly set on the front of the cooker,
- Make sure that the firebox door is well closed while the cooker is in operation,
- With the vacuum cleaner remove ash from the cooker only when the cooker is completely cold,
- Never use abrasive cleaners on the surface of the cooker.

### 7.1. REGULAR CLEANING AND MAINTENANCE PERFORMED BY THE USER OF THE COOKER

Regular cleaning and maintenance is a prerequisite for the proper and efficient operation of the cooker.

**IMPORTANT:** Clean the appliance only when the cooker and ashes are cold.

Using the **ash vacuum cleaner** can facilitate the cleaning of the cooker. The vacuum cleaner must have a filter that prevents the ash and unburned pellets from being returned to the room where the cooker is located.

Before you start with regular maintenance, including cleaning, the following precautions should be taken:

- turn off the cooker from the power supply before you start doing any work,
- before starting any work, make sure that the cooker and ashes have cooled down,
- vacuum the ash from the combustion chamber **every day**,
- clean the firebox carefully **every day** (after each use) with the vacuum cleaner,

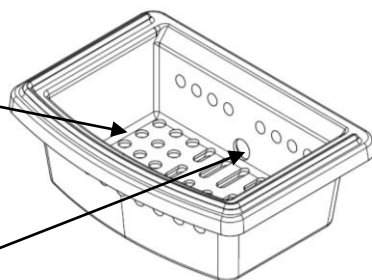
**Always ensure that the cooker and ash are cold.**

- **Firebox** (Figure 11) is a part of the cooker in which the pellets are burned. It is recommended to clean the firebox with the vacuum cleaner after each use. **Cleaning is done by** taking the firebox out and cleaning it from ash, slag and unburned pellets. After cleaning, return the firebox back and place it firmly in its place to ensure the safe operation of the cooker. The firebox must be in a horizontal position, it must not be inclined! The gasket on the underside of the firebox must be in place and must not be damaged.

If something is unclear to you, do not hesitate to call our authorized customer service for further information and explanations. The manufacturer has no insight into the installation of the cooker and does not provide a warranty for the installation and maintenance of the cooker.

**The manufacturer does not assume any responsibility for damages caused by third parties.**

1. In order to ensure the best operation of the cooker, all openings must be free of ash (passable)



2. Opening for introduction of pellets ignition heater

Figure 11

- **Ashtray** (Figure 12) should be emptied every day before turning the cooker on, or more often, if necessary. The aim of this cleaning is to allow the free flow of air for combustion.

**Make sure the cooker and ash have cooled down.**

The ashtray must be properly returned to its place. Never leave pellets that have not burnt in the firebox or ashtray. At the same time clean the chamber with the ashtray using the vacuum cleaner.

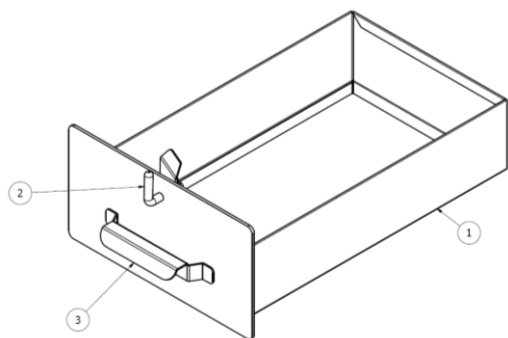


Figure 12

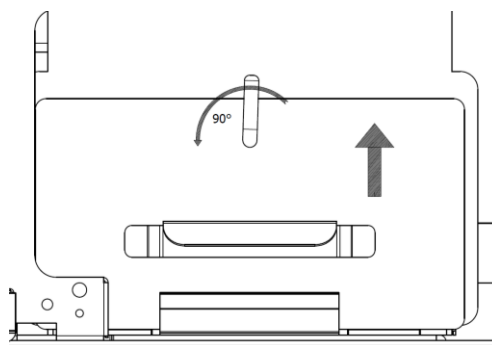


Figure 13

1. Ashtray box
2. Lock handle
3. Ashtray handle

In order to remove the ashtray, it is necessary to: turn the lock handle 90° in the indicated direction (counterclockwise direction). Raise the ashtray upward and when it is released from the ashtray fasteners pull it towards you (see Figure 13). To return the ashtray follow the reverse order of steps. First insert the ashtray box into the opening at the front of the cooker, then lower the ashtray to the end of the ashtray fasteners and turn the lock handle 90° in the clockwise direction.

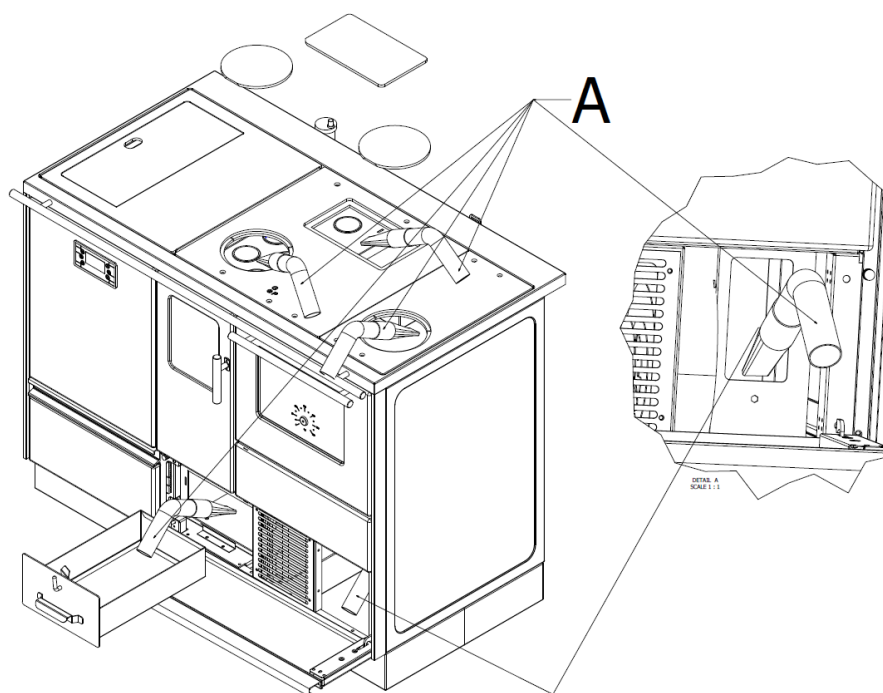


Figure 14

- The cooker must be cleaned regularly in order to function properly and fully use the power and save fuel. Locations indicated with "A" in Figure 14 should be cleaned with a vacuum cleaner for 7 to 10 days, and the ashtray should be cleaned every day.



Figure 15

#### CLEANING UNDER THE OVEN (Figure 15)

It is necessary to clean the area under the oven once a month. Remove the cleaning lid under the oven (Fig.2, position 15), by unscrewing the wing screw. Take the blade from the cooker accessories and remove the ash from the top and bottom of the sheet metal which divides the opening into two parts. You can clean this with a vacuum cleaner. After cleaning, restore all parts removed to the initial state.

**Flue pipes should be cleaned every day.** Cleaning is done by turning the cleaning mechanism lever (Fig.1, poz.8) to the left and right with the special key from the accessories (Fig. 1, Pos. 9).



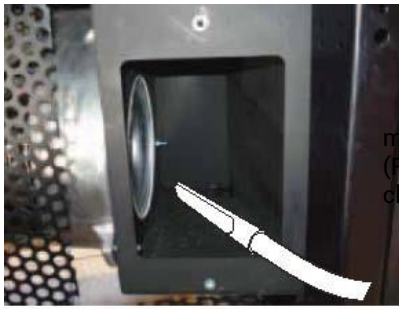


Figure 16

#### CLEANING THE SPACE FOR SMOKE EXTRACTION (Figure 16)

The space for smoke extraction must be cleaned every month and, if necessary, more often. Remove two wing nuts (Fig. 2, Pos. 25) and release the chamber cover (Fig. 2, Pos. 24) and then remove the generated ash with vacuum cleaner. After cleaning, return the cover to its place and secure it with nuts.



Figure 17

#### CLEANING UNDER THE COOKTOP (Figure 17)

The space below the cooktop should be cleaned every month and, if necessary, more often. Remove the cooktop rectangular cover (Fig. 2, Pos. 20) and the circular covers (Fig. 2, Item 22) and vacuum clean the space below the cooktop, especially at the springs that are beneath the rectangular cover.

#### CLEANING THE GLASS

- The glass is cleaned with a damp cloth or wet paper.
- Rub until the glass is cleaned.
- Detergents can also be used for cleaning kitchen ovens.
- Do not clean the glass during operation of the cooker zones and do not use abrasive sponges.
- Do not wet the gasket around the door because it can decompose.

### 7.2. SPECIAL MAINTENANCE

For the proper and efficient operation of the cooker it is necessary to regularly clean the chimney. Perform cleaning at least twice a year, at the beginning and in the middle of the winter period, i.e. every time it's needed. If there are horizontal parts, it is necessary to check and remove any ash and soot layer before closing the smoke passage. It is best to contact an authorized professional chimney sweeper to clean the chimney.

If the chimney is not cleaned, the following problems may arise in the work of the cooker:

- poor combustion,
- dirty glass,
- closing the openings on the firebox with ash and unburnt pellets,
- deposition of ash and soot on the boiler, which leads to poor heat transfer.

## 8. IMPORTANT SAFETY INFORMATION

**You have bought a product of the highest quality.**

The manufacturer is always at your service to provide you with all the information you may need regarding the cooker and the installation instructions in your premises. Proper installation of the cooker, in accordance with these instructions and local and national regulations, is very important to prevent hazards, fire and any malfunction or fault.

**The cooker operates** with a negative pressure in the combustion chamber. Therefore make sure that the smoke extraction is well thermally sealed.

**DANGER: In case of a fire in the smoke exhaust duct or chimney**, remove all people and pets from the room, immediately turn off the power supply using the main switch in the house or by pulling the plug from the wall (the plug must always be easily accessible and free), and immediately call firefighters.

**DANGER: The regular firewood cannot be used.**

**DANGER: Do not use the cooker to burn garbage.**

**DANGER: Do not place the pellets manually in the burner.**

**DANGER: In order to avoid water freezing**, turn on the cooker when the outside temperature drops below 0°C. There is a safety anti-freeze function installed in the cooker that activates the pump whenever the temperature of the boiler falls below 5°C.

## 9. CHOOSING PELLETS

**The pellet quality is very important!**

The stove is designed to use pellets. Since various types and dimensions of pellets appear on the market, it is important to choose pellets that do not contain impurities, and which are compact and do not produce dust. Use pellet which meets the European standard, EN plus A1.

Consult your supplier about the type of pellet, whose size must be 3,15-40 mm and cross section is 6 mm. **The proper functioning of the stove depends on the type and quality of the pellet.**

Under no circumstances shall the manufacturer be responsible for the poor operation of the stove due to the use of poor quality pellets.



#### Attention

If sawdust or small – decomposed pellets are put into the funnel-shaped part of the stove i.e. the fuel tank, these may block the pellet feeding. Such pellets may obstruct the operation of the gear motor driving the pellet feeding mechanism, or they may damage the gear motor. If you see any such small, decomposed pellets at the bottom of the pellet tank or at the bottom of the screw conveyor when the tank is empty, vacuum them with the vacuum cleaner by inserting the vacuum cleaner hose through the openings of the pellet grate. Or even better, every one or one and a half months vacuum clean the tank bottom in the above described way when the tank has a little quantity of pellet.



Correct grade of pellets



Poor quality pellets



Pellets too dark in colour



Pellets too short in length



Pellets with high dust content

**Meets EN Plus Grade A1.**

**Correct diameter and length with no dust and minimum bark content.**

**Pellets not pressed correctly causing them to easily disintegrate. DO NOT USE!**

**The auger will be unable to consistently deliver these pellets from the hopper to the burner, resulting in pellet lighting problems.**

**Too much bark content. DO NOT USE!**

**These will cause excessive sand in the ash resulting in clinker blocking air holes, poor combustion and jamming of the brazier cleaning system.**

**DO NOT USE!**

**The auger will not be able deliver these pellets at the correct rate to the burner, affecting the input (and output) of the boiler and the combustion.**

**DO NOT USE!**

**The auger will not be able deliver these pellets from the hopper to the burner, resulting in pellet lighting problems.**

## 9.1. PELLETS STORAGE

Pellets must be stored in a dry place which is not too cold. Cold and wet pellets (with a temperature of around 5 °C) decrease the thermal power of the fuel and require additional stove cleaning.



#### Attention

**People with damaged spine and pregnant women should avoid raising pellet bags.**

**The manufacturer denies any responsibility for any damages or poor operation of the stove due to the use of poor quality pellets.**



#### Attention

The pellet must conform to DIN 51731, DIN plus, Ö-Norm M-7135 or other comparable European standards.



#### Attention

**THE PELLET MUST NOT BE KEPT NEAR THE STOVE. Keep them at least half a metre away from the stove.**

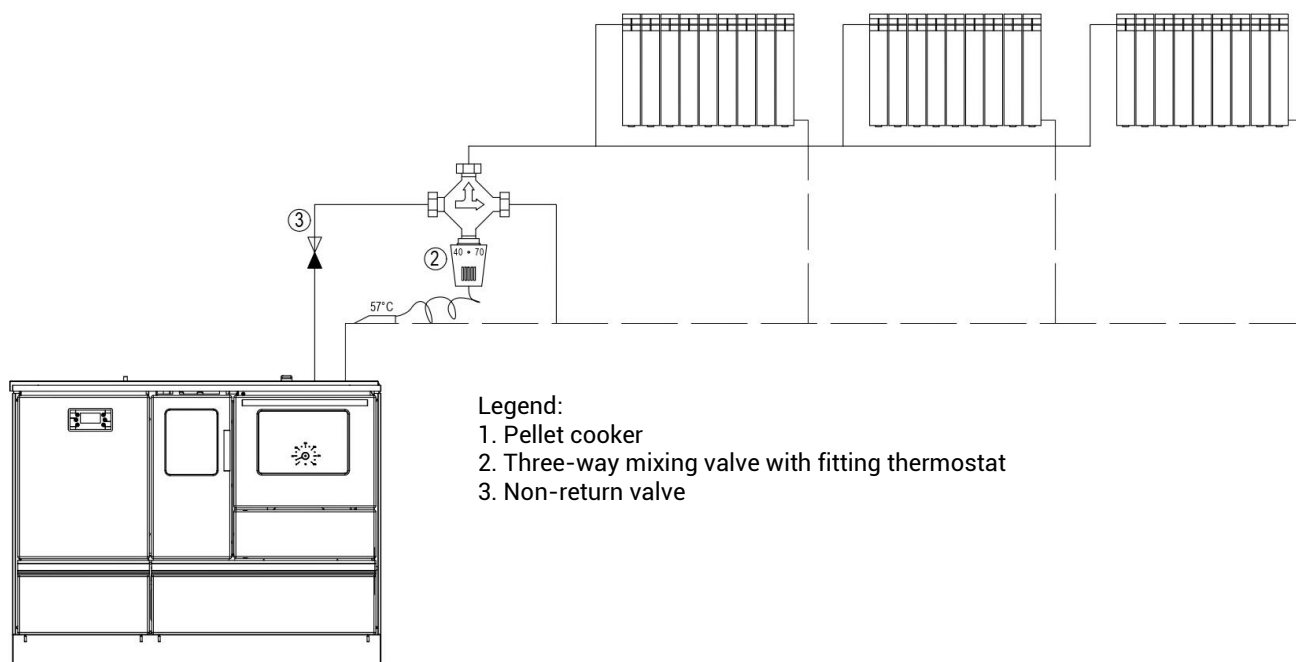
When handling pellets, make sure that pellets do not spill.

If you pour the sawdust into the pellet tank, you may block the pellet loading system.

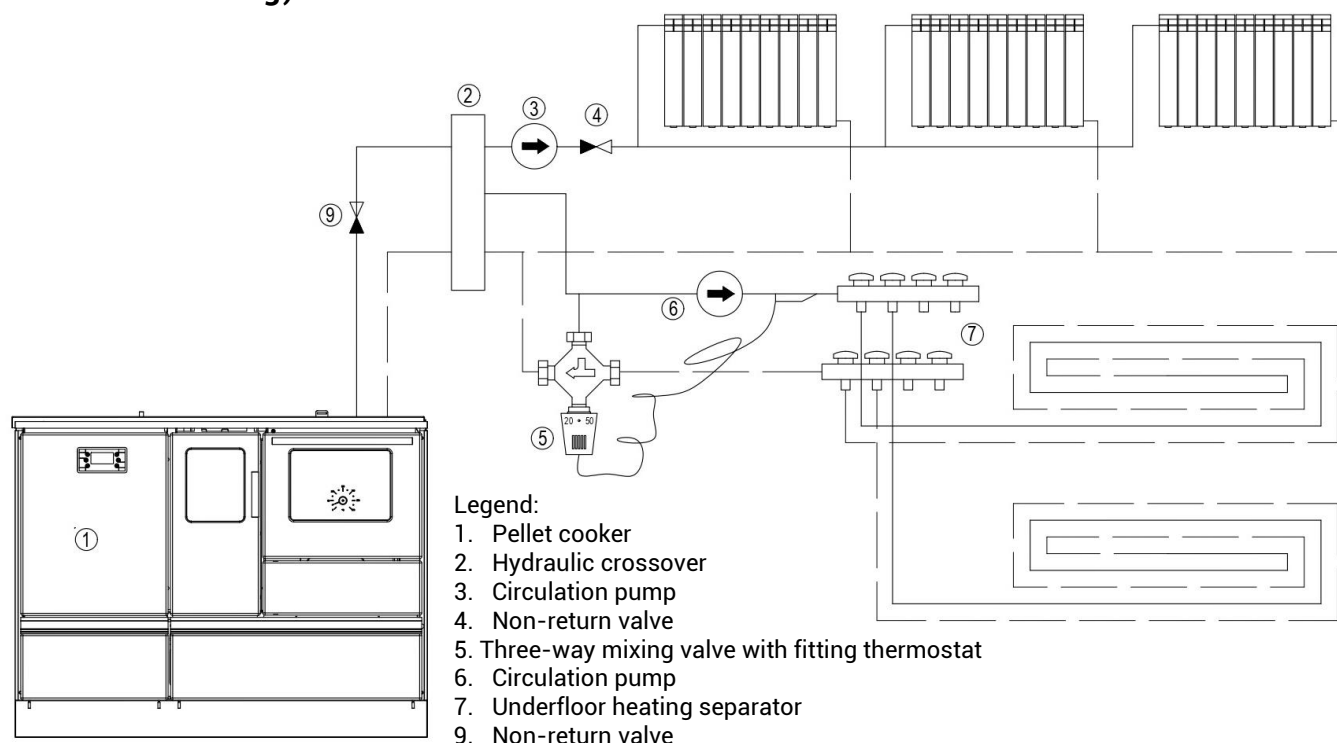
## 10. CONNECTING HYDRAULIC INSTALLATION

In order to reduce the risk of condensation, it is recommended to use a three-way mixing valve with a fitting thermostat when installing the cooker.

### 10.1. Scheme of the hydraulic installation of a pellet cooker (radiator heating)



### 10.2. Scheme of the hydraulic installation of a pellet cooker (radiator and floor heating)



#### IMPORTANT!

Connecting the cookers to the hydraulic installation can be performed **EXCLUSIVELY** by qualified installers in accordance with these instructions and the applicable legal regulations in the country in which the installation is carried out. ALFA PLAM does not accept liability in case of material damage or injuries resulting from non-compliance with the above recommendations.

The cooker is designed for central heating and is prepared for a closed heating system. Observe applicable local, national and European regulations when connecting cookers.

The back of the cooker with connections is given in Figure 18.

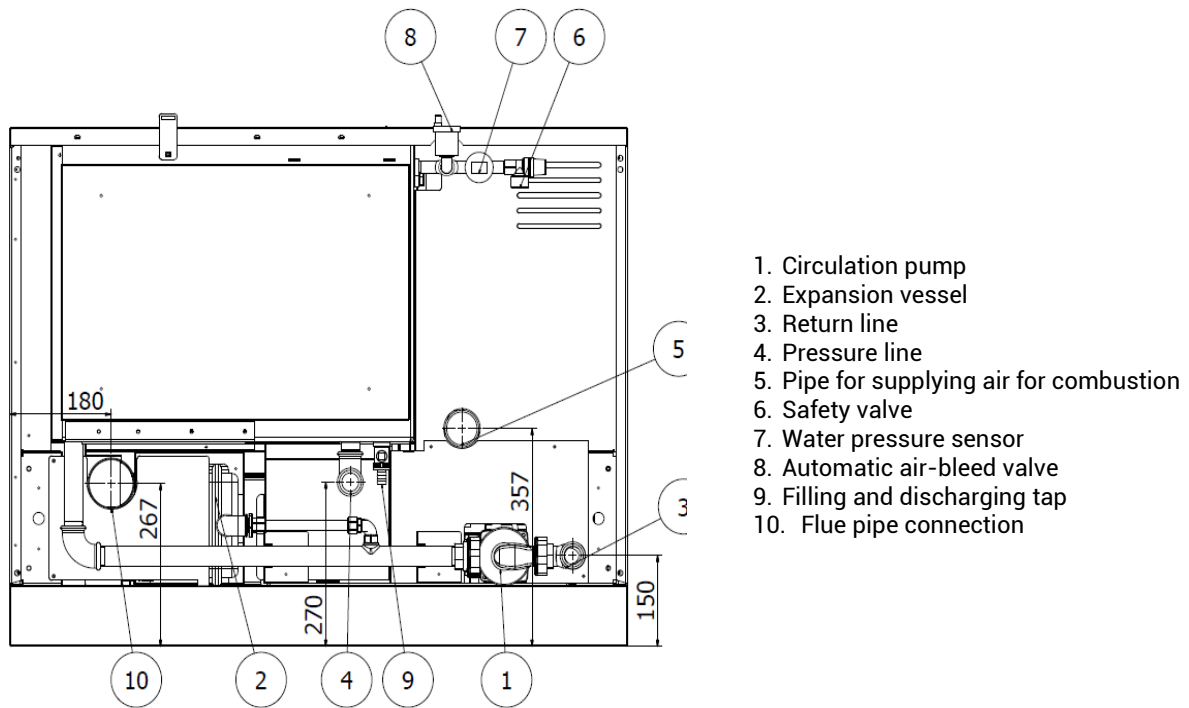


Figure 18

### 10.3. PRESSURE AND RETURN LINE

Outlets from the pressure and return lines on the boiler are 1" and you must not narrow them additionally until the first branching. Use 1" steel tube or copper tube Ø28mm (or larger diameter). When carrying out the installation, be sure to pay attention to the slopes of the pipes, which should be 0.5% (5mm per meter length of the pipe) and to the air-bleed from the system (boiler, pipes, radiators).

### 10.4. COOKER EMBEDDED COMPONENTS

The following components are embedded into the cooker:

- safety valve,
- circulation pump,
- automatic air-bleed valve (pot),
- expansion vessel,
- tap for filling and discharging the lines, and
- water pressure sensor.

For those reasons, it is not necessary to additionally embed the listed components, which is a great advantage because it reduces the time and space for installing the specified components.

### 10.5. SAFETY VALVE (Figure 18, Position 6)

It is placed on the backside of the cooker behind the frame of the cooktop. Inlet connection is of R1/2". It opens at water pressure of 2.5 bar. The outlet of the safety valve should be piped to the sewer.

### 10.6. CIRCULATION PUMP (Figure 18, Position 1)

A high-quality circulation pump is installed on the cooker, on the return line with the R1" connection. It is switched on and off by the electronics according to the set water temperature. The pump axis must be in the horizontal position. When connecting with the installation, make sure the pump does not turn over!

#### Note:

If the cooker and the pump do not work for a long time (e.g. for a month), the pump shaft may be blocked, causing the pump to stop. In this case, you should not commission the cooker, because the blockage of the pump leads to the cessation of water circulation in the heating and water overheating lines. In order to unblock the pump shaft, the following should be done:

- remove the protective grille,
- place a cloth under the pump,
- unscrew the screw on the pump front using the flat screwdriver with a tip width of 5-7mm. A little water will run from the pump, which is quite normal,
- insert the screwdriver in the pump opening, place the screwdriver in the pump shaft groove and by turning the screwdriver and the shaft left – right release the pump shaft,
- return the pump screw to its place in the pump opening, fasten it well and take care not to drop the rubber gasket on the pump screw. Turn on the pump and check if it works.

Check pump operation at the beginning of each heating season.

### 10.7. AUTOMATIC AIR-BLEEDING VALVE (Figure 18, Position 8)

The automatic air-bleeding valve is installed on the pressure line, behind the frame of the cooktop. Its role is to remove air from the boiler and lines.

**The valve cap must be slightly unscrewed so that the air flows freely from the boiler and the lines.**

### 10.8. EXPANSION VESSEL (Figure 18, Position 2)

The cooker has an 8 liter expansion vessel installed. Its function is the stabilization of water pressure in the boiler and the heating installation. The factory preset pressure in the vessel is 1 bar.

### 10.9. TAP FOR FILLING AND DISCHARGING (Figure 18, Position 9)

The tap for filling and discharging is located in the lower part of the back side.

The inlet connector is R1/2" and the outlet connector has the hose extension joint.

### 10.10. WATER PRESSURE SENSOR (Figure 18, Position 7)

This sensor measures the water pressure in the installation and this value can be read from the dashboard.

## 11. FILLING THE INSTALLATIONS AND COMMISSIONING

Before starting fire in the boiler, the entire central heating system must be filled with water and well air-bleeded, and the cooker must be properly connected to the chimney. We recommend operating water pressure from 1 to 1.9 bar, and it is best to be within the limits of 1.2 to 1.6 bar. The installation test pressure can be up to 1.9 bar.

**NOTE: The cooker should not be used without water. It must be connected to the installation to which consumers (radiators) with a minimum power of 8 KW are connected.**

## 12. TIPS FOR THE USE OF THE HEATING SYSTEM

- All connections must be well sealed and tightened. There must be no leak of water.
- Before putting into operation, the complete installation should be tested with water at a maximum pressure of 1.9 bar.
- It is desirable to drain the water out of the system at least once due to the dirt that is in the system.
- Make sure all valves between the cooker and the installation are open.
- Make sure that all the air from the boiler and the installation is bled before the boiler is put into operation. For these reasons, the installation should be filled with water slowly so that all air can get out of the installation.
- During the ignition and cooling stage, parts of the cooker may expand and shrink, and a slight cracking sound may occur. It is absolutely normal phenomenon and cannot be regarded as a deficiency.

Basic programming performed at the factory guarantees proper functioning of the cooker, while observing the advices given in these instructions.

### 12.1. COOKING, BAKING/ROASTING AND FRYING

During the heating season, the cooker is mainly used for heating, but also for cooking, baking/roasting and frying. Cooking and frying on the cooktop can be done at any temperature and with any mode of operation.

For baking/roasting, the following must be done:

- set the temperature of water in the lines to 75°C. If the system cannot reach it, close some of the radiators to achieve it,
- turn the operating mode switch 90° to the baking/roasting position using a special key, as in Figure 19,
- wait about 30 minutes for the temperature on the thermometer at the oven door to reach 200-220° (in the center of the oven, the temperature is 20°C higher) and place the baking/roasting tray with the food you want to bake/roast. During the baking/roasting, periodically turn the tray in order to make the dish evenly baked/roasted.

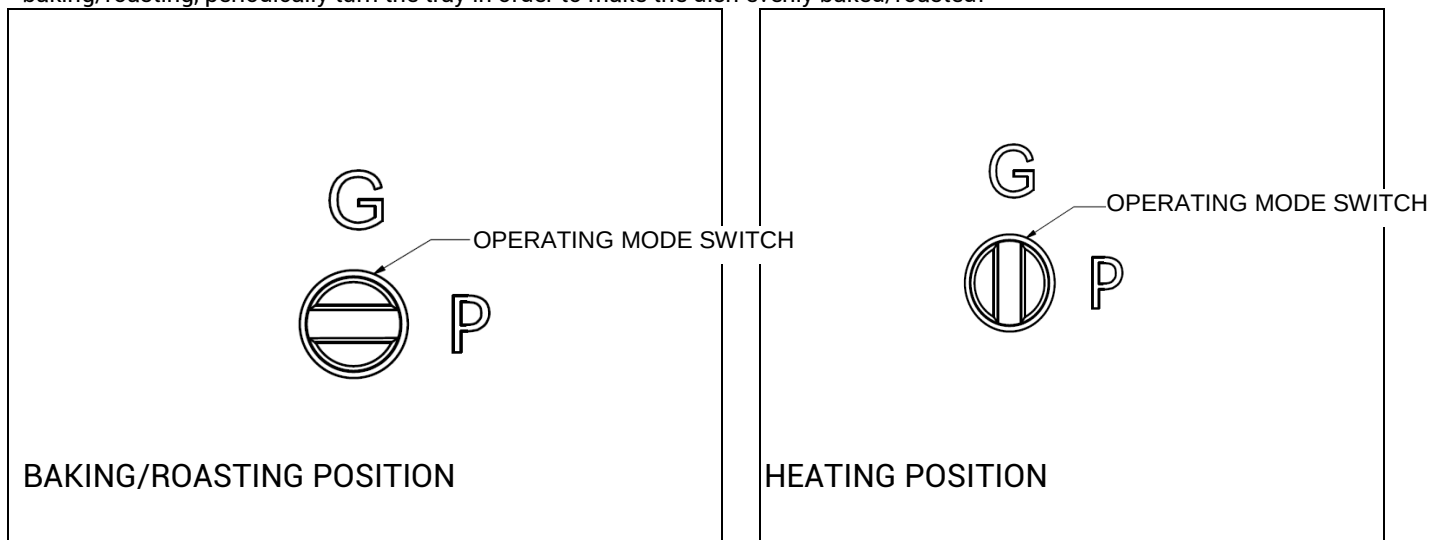


Figure 19

## 13. FEEDING THE PELLETS INTO THE FUEL STORAGE

Feeding the storage is done from the upper side of the cooker, with the cover (Fig. 2, Pos. 19). Lift the cover and feed in the pellets. The capacity of the storage is 30kg. When the storage is filled with pellets, close the cover.

- Do not remove the safety grid from the storage. During the filling of the storage, prevent the bag from coming into contact with hot surfaces.

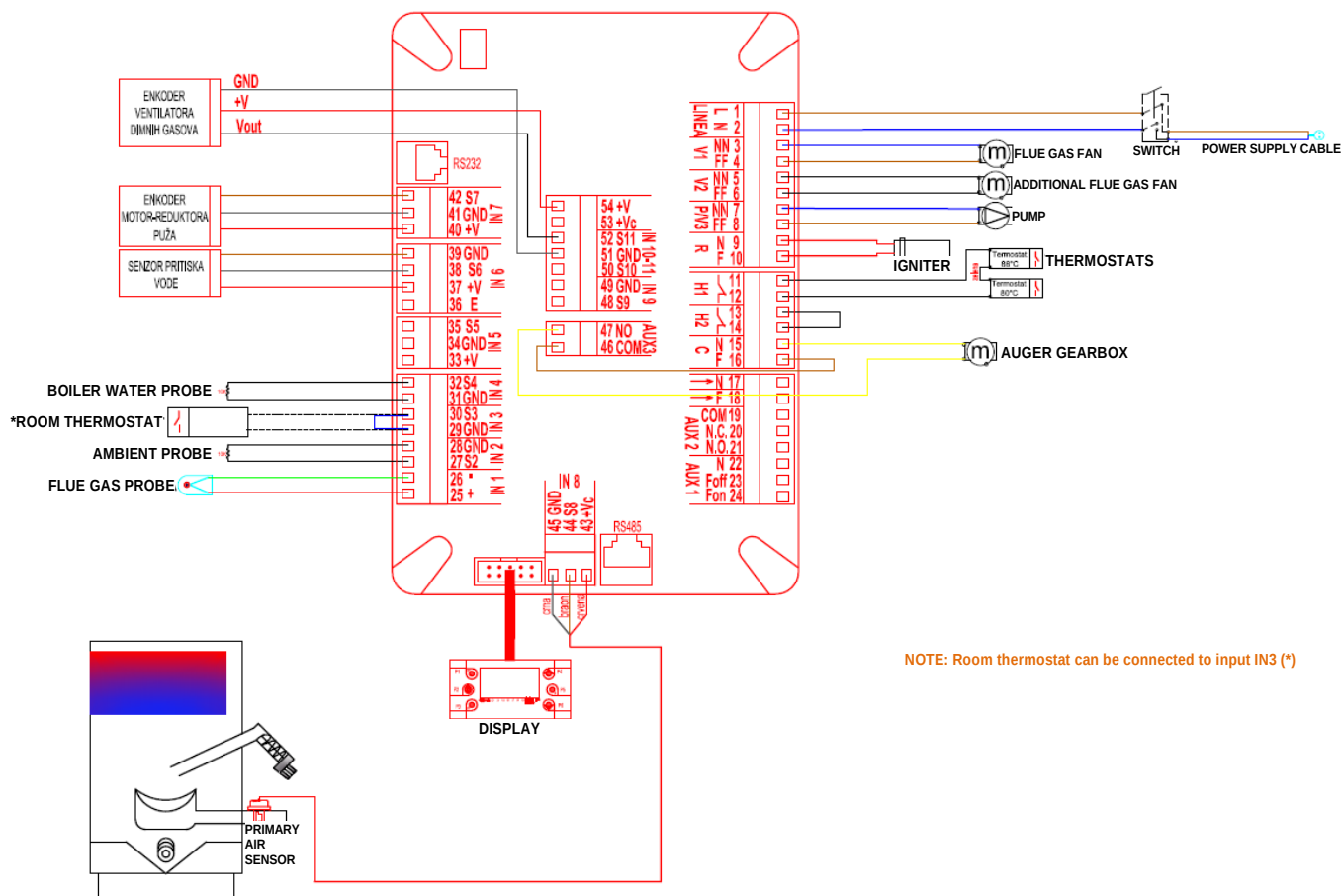
## 14. CONTROL SYSTEM OF THE COOKER

A modern control system **is built into the cooker**, which enables safe, efficient and reliable control over the operation of the cooker and maximum functional utilization of the cooker.

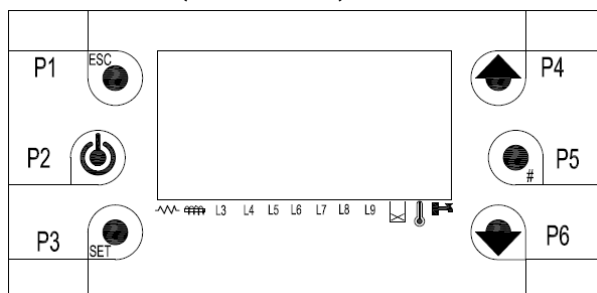
It is characterized by:

- simplicity of setting up and use,
- simple and direct user functions,
- reliable and flexible functional software specially developed for pellets burning appliances,
- advanced features available to installers, for adapting cooker to different configurations and installations.

### 14.1. ELECTRIC CONNECTIONS SCHEME



### 14.2. CONTROL PANEL (DISPLAY) - BUTTONS AND FUNCTIONS



#### Buttons:

| Button | Function | Description                                                                                                    |
|--------|----------|----------------------------------------------------------------------------------------------------------------|
| P2     | On/Off   | Turning the cooker on/off by pressing and holding the button for more than 3 seconds after the acoustic signal |
|        |          | When the system is in the blocked state, by pressing and                                                       |

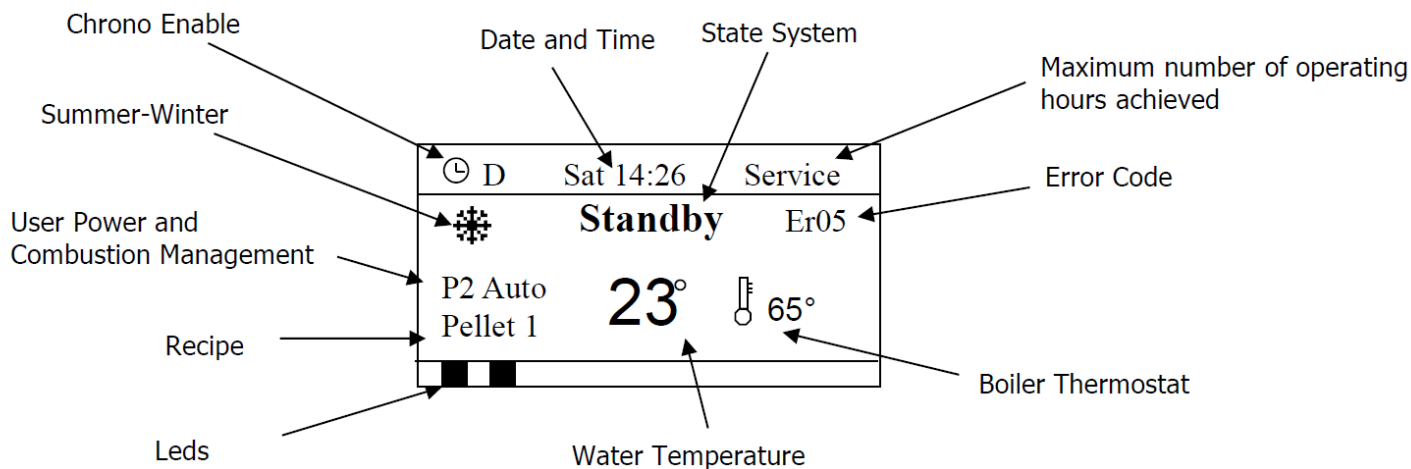


|    |                                       |                                                                                         |
|----|---------------------------------------|-----------------------------------------------------------------------------------------|
|    | Unlocking                             | holding the button for more than 3 s after the acoustic signal, the system is unblocked |
| P4 | Changing values                       | Changing values and settings in menus and submenus                                      |
| P6 | Navigating through menus and submenus | Navigating (changing) the menus and submenus                                            |
|    | Visualizations                        | Access to the visualization menu                                                        |
| P1 | Esc                                   | Leaving the current menu or submenu                                                     |
| P3 | Menu                                  | Entering the menu or submenu                                                            |
|    | Modify                                | Allows a modification in the menu                                                       |
|    | Set                                   | Saves (records) data in the menu                                                        |
| P5 | Reset system maintenance Function     | Resets the timer (only if this option is activated)                                     |
|    | Manual Stanby                         | By pressing the button for more than 3 seconds, the system goes into Standby mode       |

• **LED symbols:**

|                      |                                               |                                                                                      |
|----------------------|-----------------------------------------------|--------------------------------------------------------------------------------------|
| Igniter              | LED is on: Igniter is on                      |   |
| Auger                | LED is on: Auger is active                    |   |
| Pump                 | LED is on: Pump is active                     | L3                                                                                   |
| Aux 1 output         | LED is on: Aux 1 output is activated          | L4                                                                                   |
| Additional engine    | LED is on: Additional engine is activated     | L5                                                                                   |
| Aux 2 output         | LED is on: Aux 2 output is activated          | L6                                                                                   |
| Aux 3 output         | LED is on: Aux 3 output is activated          | L7                                                                                   |
| Not active           |                                               | L8                                                                                   |
| Not active           |                                               | L9                                                                                   |
| Pellets level sensor | LED is on: No pellets                         |   |
| External thermostat  | LED is on: Contact is open                    |   |
| Sanitary water tap   | LED is on: There is a need for sanitary water |  |

• **Display:**



- **Displays:**

- Time and date
- Chrono mode D-Daily, W-Weekly, We-Week-End
- System power (P1, P2, P3, P4 i P5)
- Recipe (Pellet 1)
- System state (Check Up, Ignition, Stabilization, Run Mode, Modulation, Standby, Safety, Extinguishing, Recover Ignition, Block, Off)

- **Errors (Alarms):**

When an error (alarm) occurs, the system is shifted to the Block state.

| Error (alarm) code | Error (alarm) description                                    |
|--------------------|--------------------------------------------------------------|
| Er01               | Safety thermostat activated                                  |
| Er02               | Safety pressure switch activated                             |
| Er03               | Turning off due to the too low temperature of flue gases     |
| Er04               | Turning off due to excessive water temperature in the boiler |
| Er05               | Turning off due to excessive flue gas temperature            |
| Er06               | Safety thermostat activated on the auger housing             |
| Er07               | Encoder error. Missing signal                                |
| Er08               | Encoder error. Inability to adjust number of revolutions     |
| Er09               | Water pressure too low                                       |

|             |                                                             |
|-------------|-------------------------------------------------------------|
| <b>Er10</b> | Water pressure too high                                     |
| <b>Er11</b> | Error due to internal clock problem                         |
| <b>Er12</b> | Turning off due to unsuccessful ignition                    |
| <b>Er15</b> | Power failure longer than 50 minutes                        |
| <b>Er16</b> | Communication error RS485                                   |
| <b>Er17</b> | Airflow regulator error                                     |
| <b>Er18</b> | No pellets                                                  |
| <b>Er25</b> | Cleaning engine error                                       |
| <b>Er39</b> | Airflow regulator broken                                    |
| <b>Er41</b> | Minimum airflow in the CHECK UP stage has not been reached  |
| <b>Er42</b> | Maximum airflow achieved                                    |
| <b>Er47</b> | Auger encoder signal error                                  |
| <b>Er48</b> | Error due to the inability to adjust the speed of the auger |
| <b>Er52</b> | Module I/O I2C Error                                        |

- **Other messages:**

|                       |                                                                                                                                                                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sond</b>           | This message displayed in the Check-Up stage indicates that the temperature at one or more probes is equal to the minimum value (0°C) or the maximum value (depends on the probe type). Ensure that the probe is not open (0°C) or in short circuit (the maximum value on the temperature scale). |
| <b>Service</b>        | This message informs you that the planned number of work hours is reached and that it is necessary to call the service.                                                                                                                                                                           |
| <b>Clean</b>          | This message informs you that the planned number of work hours is reached and that general cleaning of the cooker is necessary.                                                                                                                                                                   |
| <b>Block Ignition</b> | This message appears when the system turns off while it is still in the ignition stage. The system will stop working only when it enters the Run Mode.                                                                                                                                            |
| <b>Link Error</b>     | This message informs you that there is no communication between the LCD display and the controller in the cooker.                                                                                                                                                                                 |
| <b>Standby Man</b>    | Appears if the system is in Standby mode due to the pressed button P5                                                                                                                                                                                                                             |

- **Visualizations:**

By pressing the P4 and P6 buttons the visualization menu is entered. In this menu you can see the values of some system parameters.

|                       |                                                       |
|-----------------------|-------------------------------------------------------|
| L3 On P1 Pump         | LED number and output status of the pump              |
| L4 Off Safety Valve   | LED number and output status Aux 1                    |
| L5 Off Out not used   | LED number and output status of the additional engine |
| L6 On Load Engine     | LED number and output status Aux 2                    |
| L7 Off Out not used   | LED number and output status Aux 3                    |
| Exhaust T.:103        | Flue gases temperature (°C)                           |
| Water T.: 55          | Water temperature (°C)                                |
| Buffer T.: 52         | *Buffer temperature (°C)                              |
| Room T.: 21           | Room temperature (°C)                                 |
| Pressure: 1548        | *Pressure of water in the boiler (mbar)               |
| Air Flux: 680         | Primary air flow rate (cm/s)                          |
| Speed Fan: 1000       | Speed/voltage of flue gas engine (rpm/V)              |
| Auger ON: 800         | Speed/voltage of auger engine (rpm/V)                 |
| Product Code 448-0000 | System code                                           |
| FSYD01000135.0.2      | Controler firmware version                            |
| PSYSF01000209.0.2     | Display firmware version                              |

\*In case the cooker configuration has no installed probes these values are not visible.

### 14.3. MENU

The menu contains the User Menu and the Technical Menu.

The Technical Menu contains the settings and setup, through which the manufacturer can modify the parameters and configuration of the system. The Technical Menu is not available to the user but only to the authorized representative of the manufacturer.

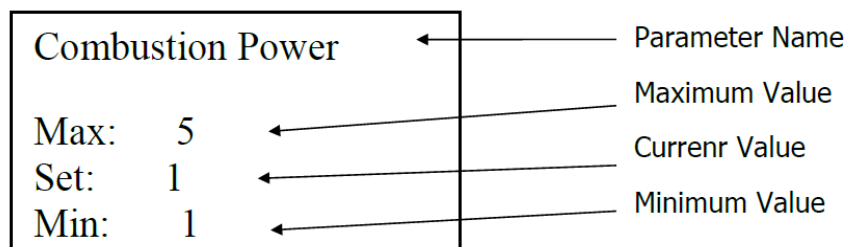
User Menu (User menu)

By pressing the **P3** button the User Menu is entered.

|                                                                                                 |
|-------------------------------------------------------------------------------------------------|
| <b>Combustion Management</b><br>Heating management<br>Chrono<br>Loading Manual<br>Date and Time |
|-------------------------------------------------------------------------------------------------|

**P4** and **P6** buttons are used to select the desired menu or submenu. Then, by pressing the **P3** button the desired menu or submenu is entered.





To increase or decrease the parameter value, press the **P4** or **P6** buttons. To save a new parameter value, press the **P3** button. To cancel all modifications and return to the old values, press the **P1** button.

After the parameter value has been changed, the new value is sent to the main controller.

If the transfer is not successful, the following message appears on the display:

Transfer  
not successful

In this case, it is necessary to modify it once more.

**The User Menu contains several menus and submenus.**

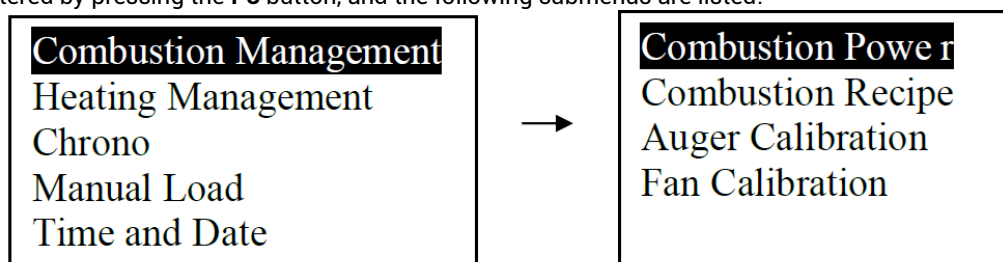
By pressing the **P3** key the User Menu is entered and the following list of submenus is displayed:

| Menu                  | Description                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------|
| Combustion Management | Menu for modification of combustion power, calibration of work gear engine and flue gas engine                   |
| Heating Management    | Menu for modification the setpoints for temperature of water in the boiler, buffer and other heating parameters. |
| Chrono                | Menu for selecting chrono program mode and boiler on/off times                                                   |
| Manual Load           | Menu for manual loading of the auger. It is only feasible when the system is in the OFF state                    |
| Time and Date         | Menu for setting time and date                                                                                   |
| Remote Control        | Radio-command activation menu                                                                                    |
| Language              | Menu for changing the language on the control panel                                                              |
| Keyboard Menu         | Menu for adjusting the contrast and brightness of the LCD panel                                                  |
| System Menu           | Menu for accessing technical settings                                                                            |

#### 14.3.1. COMBUSTION MANAGEMENT MENU

This is a menu for the modification of parameters that determine the combustion of the cooker. It contains several submenus.

The menu is entered by pressing the **P3** button, and the following submenus are listed:

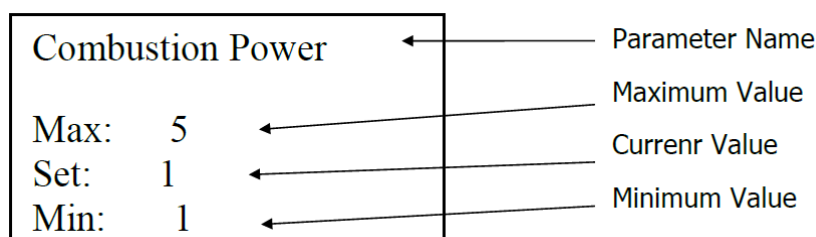


##### 14.3.1.1. COMBUSTION POWER

Menu for setting the system's combustion power in manual or automatic mode (if available). In manual mode, the user can adjust the desired combustion power by himself.

| Combustion                            | Description                                               |
|---------------------------------------|-----------------------------------------------------------|
| 1-5 (Combustion power 1, 2, 3, 4 i 5) | Power is set manually by selecting Power 1, 2, 3, 4 or 5. |
| Auto                                  | Power is set automatically by the system                  |

The Combustion Power menu is entered by pressing the **P3** button.



The desired combustion power is selected via the **P4** and **P6** buttons. Press the **P3** button to save the newly set value of the parameter. To cancel all modifications and return to the old values, press the **P1** button.

#### 14.3.1.2. COMBUSTION RECIPE

Menu for selecting the combustion recipe. If only one recipe is set at the factory, this menu is not visible.

#### 14.3.1.3. AUGER CALIBRATION

Menu for changing the feeding rate of the auger. The system has 10 calibration steps (from -5 to +5, the factory default is 0). The calibration effect is valid in the operating mode and in the modulation. For each step, the value is increased or decreased by 5%.

*Example:* Calibration value = -2;  $(-2 \times 5\% = -10\%)$  - means that the calibrated values of the auger speed will be reduced by 10% compared to the factory values.

|                   |         |         |          |          |          |         |
|-------------------|---------|---------|----------|----------|----------|---------|
| Factory settings  | C03=600 | C04=900 | C05=1200 | C06=1600 | C07=2000 | C11=600 |
| Calibrated values | C03=540 | C04=810 | C05=1080 | C06=1440 | C07=1800 | C11=540 |

#### 14.3.1.4. Combustion Fan Calibration

Menu for changing the number of revolutions of the flue gas fan. The system has 10 calibration steps (from -5 to +5; the factory default is 0). The calibration effect is valid in the operating mode and in the modulation. For each step, the value is increased or decreased by 5%.

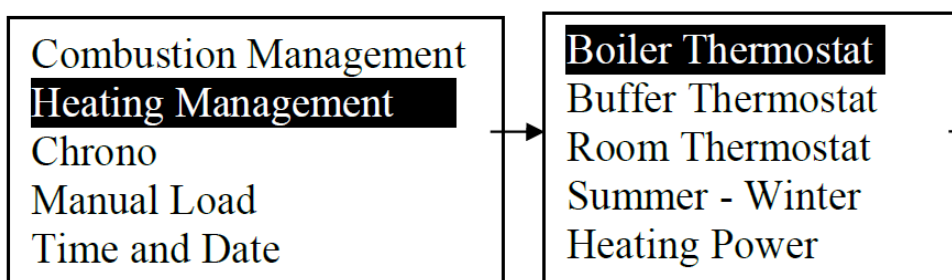
*Example:* Calibration value = +3;  $(+3 \times 5\% = +15\%)$  - means that the calibrated values of the fan speed of the flue gas fans will be increased by 15% compared to the factory values.

|                   |          |          |          |          |          |          |
|-------------------|----------|----------|----------|----------|----------|----------|
| Factory settings  | U03=1000 | U04=1200 | U05=1400 | U06=1600 | U07=1800 | U11=900  |
| Calibrated values | U03=1150 | U04=1380 | U05=1610 | U06=1840 | U07=2070 | U11=1030 |

**Note:** The calibration of the auger and flue gas fan must not be performed without prior consultation of an authorized service or representative of the manufacturer.

### 14.3.2. HEATING MANAGEMENT MENU

This is a menu for modifying parameters that determine the heating performance of the boiler. It contains several submenus. The menu is accessed by pressing the **P3** button and the following submenus appear:



#### 14.3.2.1. Boiler Thermostat

A menu that allows you to adjust the set water temperature in the boiler. The temperature range of the water in the boiler can be adjusted from 30°C to 80°C. By adjusting the set water temperature, the boiler will operate at the set power until it reaches the set water temperature in the boiler. When the set water temperature is reached in the boiler, the boiler goes into the state of modulation and continues to operate at minimum power.

#### 14.3.2.2. Buffer Thermostat

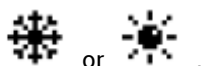
Menu that allows the buffer temperature to be modified. This menu is only active if the buffer is installed.

#### 14.3.2.3. Room Thermostat

In this menu, the set ambient probe temperature is modified. The ambient temperature setting range is from 10°C to 40°C.

#### 14.3.2.4. Summer – Winter

In this menu, the functionalities of the cooker are changed depending on the season. The display shows one of two symbols:



#### 14.3.2.5. Heating Power

This menu is not active.

#### 14.3.2.6. Remote Keyboard

This menu allows control via radio room thermostat. It must be activated by pre-setting a specific parameter.

### 14.3.3. CHRONO MENU

In this menu the system on/off times are set, i.e. the programmed operation of the cooker is set for precisely determined periods of time.

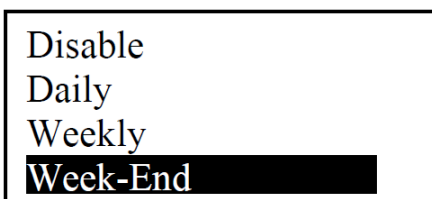
It contains two submenus:

- Modality
- Programming

#### 14.3.3.1. Modality

By entering the Chrono menu, two submenus appear, namely Modalities and Programming.

Via **P4** and **P6** buttons one of the submenus can be selected, and then accessed by pressing the **P3** button. Entering the Modality menu displays the following:



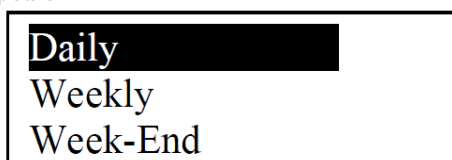
Description of the settings in the Modality menu:

| Description                                      | Buttons   | Display on the screen |
|--------------------------------------------------|-----------|-----------------------|
| Selected modality flashes                        |           |                       |
| Entering the mode of changes                     | P3        | Disable               |
| Selection of required modality                   | P4 and P6 | Daily                 |
| Canceling changes and return to the old modality | P1        | Weekly                |
| Saving changes                                   | P3        | Week-End              |
| Exit menu                                        | P1        |                       |

#### 14.3.3.2. Programming

After accessing the Chrono Menu, there are two submenus, Modality and Programming.

Via **P4** and **P6** buttons one of the submenus can be selected and then accessed by pressing the **P3** button. After entering the Programming menu the following screen appears:



Description of settings in the Programming menu:

| Selection of program         | Buttons | Display on the screen |
|------------------------------|---------|-----------------------|
| Selected program flashes     |         | Daily                 |
| Entering submenu             | P3      | Weekly                |
| Choosing the desired program | P4 i P6 | Week-End              |
| Exit menu                    | P1      |                       |

There are three separate types of programming. For example, if Daily program is activated, other programs remain unchanged. **After completion of the programming, it is necessary to select the desired modality in the Modality menu to enable the system to be turned on/off during the specified time periods.**

Description of the settings of the desired program in the Chrono menu:

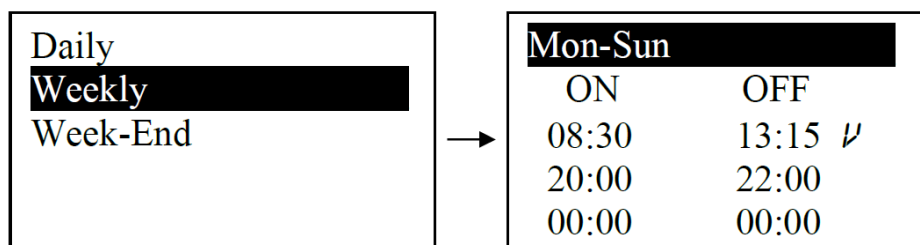
| CHRONO PROGRAM                                                                 | Buttons  |
|--------------------------------------------------------------------------------|----------|
| After selecting the desired program, select the time period for turning on/off | P4 or P6 |
| Entering the change mode (selected time flashes)                               | P3       |
| Change of time                                                                 | P4 or P6 |
| Saving the change in the program                                               | P3       |
| Turning on the program (✓ appears) or turning of the program (✓ disappears)    | P5       |
| Exit                                                                           | P1       |

There are three types of programs that can be chosen:

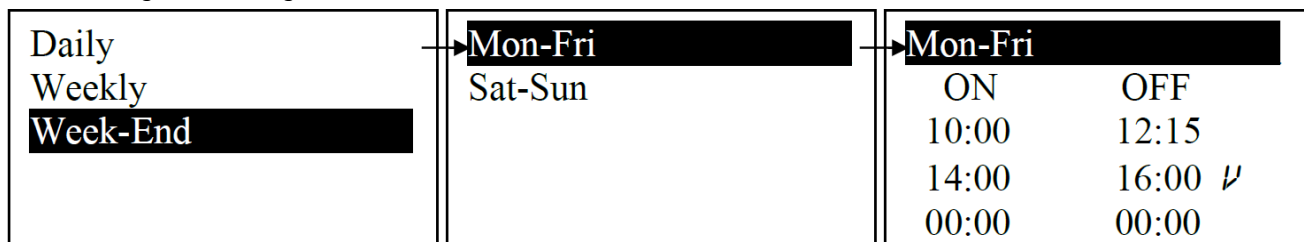
- Daily program - the week day is selected and the system on and off times are programmed. There are three time ranges for each day.

|          |           |               |
|----------|-----------|---------------|
| Daily    | Monday    | Monday        |
| Weekly   | Tuesday   | ON OFF        |
| Week-End | Wednesday | 09:30 11:15 ✓ |
|          | Thursday  | 00:00 00:00   |
|          | Friday    | 00:00 00:00   |

- Weekly program - system on/off times are programmed for the whole week. There are three time ranges for setting up.



- Weekend program - is selected between two periods "Monday-Friday" and "Saturday-Sunday". For both periods there are three time ranges for setting.



#### 14.3.4. MANUAL PELLETS LOADING MENU

This menu allows manual turning on/off of pellets dosing. This operation can be done only when the boiler is in OFF state.

#### 14.3.5. MANUAL LOADING MENU

This menu allows manual pellets loading when the cooker is commissioned for the first time.

**To perform this operation, the system needs to be in OFF state.**

#### 14.3.6. TIME AND DATE MENU

This menu allows you to set the exact time and date.

By pressing the **P4** and **P6** buttons, the hours, minutes, years, months and days are set.

The change mode is entered by pressing the **P3** button, while **P4** and **P6** buttons are used for changing the value.

Changes are saved by pressing the **P3** button and then one can leave the menu by pressing the **P1** button.

#### 14.3.7. REMOTE CONTROL MENU

This menu allows you to activate or deactivate the remote control - Remote Control SYTX. Remote control is not provided as factory setting.

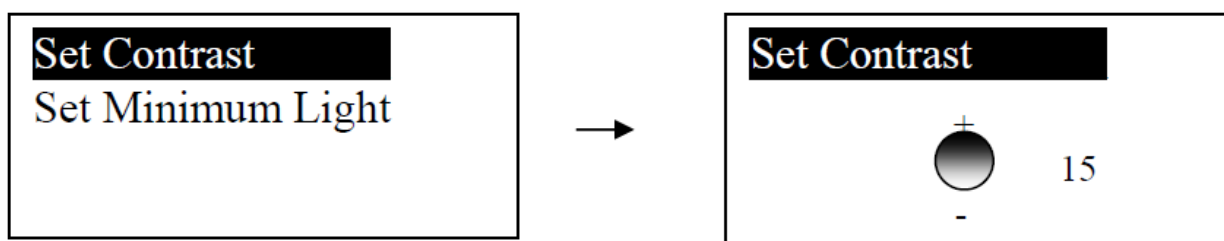
#### 14.3.8. LANGUAGE SELECTION MENU

This menu allows you to change the language on the LCD display.

#### 14.3.9. DISPLAY MENU

| Menu              | Description                                     |
|-------------------|-------------------------------------------------|
| Set contrast      | Menu for setting contrast on the LCD display    |
| Set Minimum Light | Menu for setting brightness on the LCD displeja |

##### 14.3.9.1. SetTING Contrast

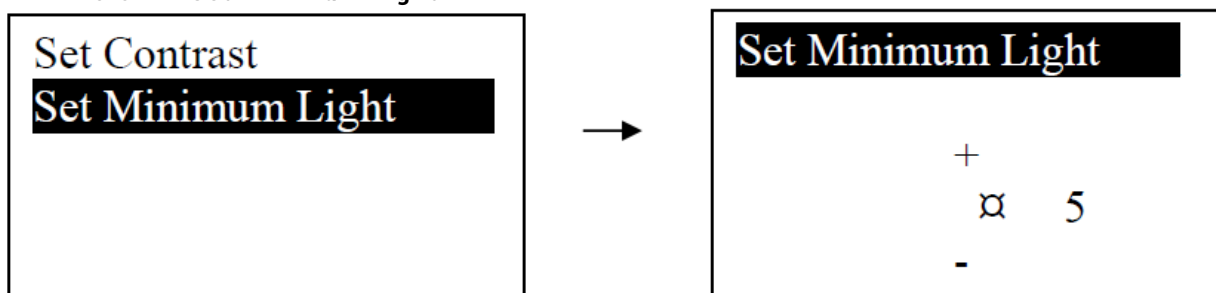


Via **P4** and **P6** buttons contrast is increased or decreased.

By pressing the **P3** button, the changes are saved and one can exit the menu.

Via **P1** button one can exit the menu without saving the changes.

##### 14.3.9.2. Set Minimum Light



Via **P4** and **P6** buttons brightness is increased or decreased (min 0, max 20).  
 By pressing the **P3** button, the changes are saved and one can exit the menu.  
 Via **P1** button one can exit the menu without saving the changes.

#### 14.3.10. SYSTEM MENU

This menu allows access to technical settings. Access is password protected and allowed only to authorized technical staff.

### 14.4. COOKER IGNITION AND FUNCTIONAL CONDITIONS

**The cooker is switched on by pressing the P2 button for more than 3 seconds.** After that you can find the following functional conditions of the cooker:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Check Up</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| In the check up stage, the initial check of the input signals of the cooker and the correctness of the probes is performed. At this stage, the flue gas fan runs at the maximum speed and the auger and igniter are switched off. The check up stage takes a few seconds and after a successful check, the ignition stage starts.                                                                                                                                                                                                                                                                                                                          |
| <b>Ignition</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>The ignition stage consists of the following four sub-stages:</p> <ul style="list-style-type: none"> <li>- Preheating stage</li> <li>- Pellet preloading stage</li> <li>- Fixed ignition stage</li> <li>- Variable ignition stage</li> </ul> <p>For the entire duration of the ignition stage, the IGNITION message is shown on the display. There are no special tags for sub-stages.</p>                                                                                                                                                                                                                                                              |
| <b>Ignition Preheating</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| At this stage, the igniter is started before the pellets inserting starts. In order to make burn the pellets as efficient as possible, it is desirable that the igniter is already heated at the moment when the pellets inserting starts. At this stage, the igniter is active and the auger is inactive. The flue gas fan runs at a lower speed to accelerate the ignition of the igniter.                                                                                                                                                                                                                                                               |
| <b>Ignition Preload</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| At this stage, the initial insertion of pellets occurs, i.e. the auger inserts a certain quantity of pellets that is necessary for ignition. At this stage, the igniter, auger and flue gas fan are active.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Ignition – Fixed Stage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| This stage is a fixed time period of 180 seconds and in case the conditions for cooker ignition are reached before the end of this stage, it will always last until the cooker is switched to the stabilization stage only after the expiration of a fixed period of time. At this stage, the igniter, auger and flue gas fan are active.                                                                                                                                                                                                                                                                                                                  |
| <b>Ignition – Variable Stage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| This stage occurs after a fixed ignition stage. The duration of this stage is a variable time period that lasts up to the moment when the ignition conditions are met, or until the flue gas temperature has reached at 45°C. When the conditions for igniting the boiler is met before the end of this stage, it is interrupted and the next stage - the stabilization stage starts. At this stage, the igniter, auger and flue gas fan are active.                                                                                                                                                                                                       |
| <b>Stabilization</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| The stabilization stage is a transient state between the ignition stage and the stage of operation. This stage occurs when the ignition condition is met, i.e. when the flue gas temperature reaches 45°C. It lasts for three minutes and during this time the auger, flue gas fan and igniter are active.                                                                                                                                                                                                                                                                                                                                                 |
| <b>Run Mode</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| After the stabilization stage, the cooker operation stage starts. At this stage, there are five power levels that can be adjusted. At this stage, the igniter is switched off while the auger, flue gas fan and pump are active and operate at different intensities depending on the power level of the cooker. The cooker works at a given power until the modulation conditions are met.                                                                                                                                                                                                                                                                |
| <b>Modulation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>The cooker goes into the state of modulation when one of the three conditions is fulfilled:</p> <ol style="list-style-type: none"> <li>1. When the cooker reaches the set water temperature</li> <li>2. When the cooker reaches the set ambient temperature</li> <li>3. When the flue gas temperature reaches a value greater than 200°C</li> </ol> <p>In the state of modulation, the cooker works at minimum power - power 1, until the temperature decreases below the limit value.</p>                                                                                                                                                              |
| <b>Standby</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>The cooker goes into Standby when one of the two conditions is met:</p> <ol style="list-style-type: none"> <li>1. When the boiler reaches the set water temperature, it goes into modulation and continues to increase the water temperature by inertia up to the value 4°C higher than the set water temperature in the boiler.</li> <li>2. When an external (room) thermostat is responding</li> </ol> <p>In Standby mode, the pellets insertion stops and the cooker is switched off. The cooker is switched on again when the water temperature in the boiler is reduced by 4°C below the set value or when the room thermostat is deactivated.</p> |
| <b>Safety</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Safety state occurs when the flue gas temperature exceeds 230°C and when the water temperature in the boiler reaches 85°C. At this stage, pellets insertion stops until the flue gas temperature is below 230°C or the water temperature in the boiler is below 85°C. If the temperature is not reduced in the next 60 seconds, the boiler goes into the Alarm state and sends the <b>Er04</b> or <b>Er05</b> message.                                                                                                                                                                                                                                     |
| <b>Extinguishing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>The cooker is switched off by pressing the P2 button for more than 3 seconds.</b> Then an extinguishing stage occurs in which the insertion of pellets is stopped and the flue gas fan and pump work at the maximum capacity in order to cool the boiler down                                                                                                                                                                                                                                                                                                                                                                                           |

as soon as possible. The minimum duration of the extinguishing stage is 300 seconds, and the condition for switching off the cooker completely is when the flue gas temperature is less than 70°C.

#### OFF

In this state, the cooker is switched off, i.e. no outlet on the cooker (flue gas fan, pump, igniter and auger) is not active.

#### Block

The Block state occurs in the event of an error or an alarm. In the Block state, the exhaust fan, the auger and the igniter are off. Hold down the **P2** button for 3 seconds to exit: if there are no more block conditions or there is no cause of alarm, the system will turn off.

#### Recover Ignition

The cooker goes into this stage in two cases:

1. If the power supply is interrupted during the operation and the flue gas temperature is greater than 45°C.
2. Pressing the main switch at the moment the cooker is in the extinguishing stage.

## 14.5. POSSIBLE PROBLEMS AND SOLUTIONS

| Message on display | Description                                                  | Possible causes                                                                   | Resetting the error                                                                                                                                 | Possible solutions to the cause of the alarm                 |
|--------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Er01               | Safety thermostat activated                                  | High water temperature in the boiler                                              | Wait until the cooker completely cools down and then unscrew the plastic cap on the thermostat on the back of the cooker and press the reset button | Check the correctness and functionality of the pump          |
|                    |                                                              | Faulty or poorly connected pump                                                   |                                                                                                                                                     | Contact a service                                            |
|                    |                                                              | Faulty thermostat                                                                 |                                                                                                                                                     |                                                              |
| Er02               | Safety pressure switch activated                             | Flue gas extraction obstruction                                                   | Press and hold the P2 button for more than 3 seconds                                                                                                | Check the level of dirt in the flue pipes and chimney        |
|                    |                                                              | Incorrect installation of chimney                                                 |                                                                                                                                                     | Contact a service                                            |
|                    |                                                              | Faulty pressure switch                                                            |                                                                                                                                                     |                                                              |
| Er03               | Turning off due to the too low temperature of flue gases     | Poor combustion (too little or too much pellets in the firebox)                   | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                | Check the size of the pellets                                |
|                    |                                                              | Pellets storage is empty                                                          |                                                                                                                                                     | Check the amount of dirt in the chamber                      |
|                    |                                                              | Faulty flue gas probe                                                             |                                                                                                                                                     | Check the condition of the flue pipes                        |
|                    |                                                              |                                                                                   |                                                                                                                                                     | Contact a service                                            |
| Er05               | Turning off due to excessive water temperature in the boiler | Flue gas temperature exceeds the limit                                            | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                | Insufficient heat transfer - contact the service             |
|                    |                                                              | Flue gases extraction obstruction                                                 |                                                                                                                                                     | Check the filthiness of the flue pipe outlet and the chimney |
|                    |                                                              | Faulty flue gas probe                                                             |                                                                                                                                                     |                                                              |
| Er07               | Encoder error                                                | Missing encoder signal                                                            | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                | Contact a service                                            |
| Er08               | Encoder error                                                | Flue gas fan does not react                                                       | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                | Contact a service                                            |
|                    |                                                              | Flue gas fan works at speed different than set                                    |                                                                                                                                                     |                                                              |
| Er11               | Clock error                                                  | Problems with internal clock                                                      | Press and hold the P2 button for more than 3 seconds                                                                                                | Check the accuracy of the set time                           |
|                    |                                                              | Insufficient internal battery capacity                                            |                                                                                                                                                     | Verify the correct programming in Chrono mode                |
|                    |                                                              |                                                                                   |                                                                                                                                                     | Contact a service                                            |
| Er12               | Failed ignition of the cooker                                | Cooker ignition error                                                             | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                | Check the condition and quality of the used pellets          |
|                    |                                                              | During the ignition stage, the corresponding flue gas temperature is not achieved |                                                                                                                                                     | Check the filthiness and draft in the flue pipe outlet       |
|                    |                                                              | Faulty flue gas probe                                                             |                                                                                                                                                     | Contact a service                                            |
| Er15               | Power supply failure                                         | Power outage during boiler operation                                              | Press and hold the P2 button for more than 3                                                                                                        | Check system and installation                                |

|      |                                                            |                                                                             |                                                                                                                                                                                                               |                                                                        |
|------|------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|      |                                                            |                                                                             | seconds                                                                                                                                                                                                       | correctness                                                            |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Contact a service                                                      |
| Er16 | Communication error between electronics and display        | Display cable interrupted                                                   | Press and hold the P2 button for more than 3 seconds                                                                                                                                                          | Check the cable and the display cable connectors                       |
|      |                                                            | Display cable connector damaged                                             |                                                                                                                                                                                                               | Contact a service                                                      |
| Er17 | Primary air flow meter error                               | The primary air flow meter does not adjust the boiler operation             | The cooker continues to operate without adjusting the primary air.<br>To reactivate the flow meter, turn off the cooker. Wait until the cooker turns off and then press the P2 button for more than 3 seconds | Check the filthiness of the pipe for primary air supply                |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Check the filthiness and the draft in the flue pipe outlet and chimney |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Contact a service                                                      |
| Er39 | Primary air flow meter sensor is damaged                   | Faulty sensor                                                               | The cooker continues to operate without adjusting the primary air                                                                                                                                             | Contact a service                                                      |
| Er41 | Minimum airflow in the CHECK UP stage has not been reached | Presence of some obstacle or large impurities in the primary air inlet pipe | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                                                                          | Check and clean the primary air inlet pipe                             |
|      |                                                            | Flue pipe outlet obstruction                                                |                                                                                                                                                                                                               | Check filthiness and draft in flue pipes and chimney                   |
|      |                                                            | Poorly closed doors in the ignition stage                                   |                                                                                                                                                                                                               | Check that the door of the chamber closes well                         |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Contact a service                                                      |
| Er42 | Primary air flow is higher than maximum allowed value      | Too much supplied air                                                       | Wait until the cooker turns off and then press the P2 button for more than 3 seconds                                                                                                                          | Check the primary air inlet pipe                                       |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Check filthiness and draft in flue pipes and chimney                   |
|      |                                                            |                                                                             |                                                                                                                                                                                                               | Contact a service                                                      |

**NOTE: If the recommended solution to the problem does not eliminate the direct cause of the alarm, YOU MUST CONTACT ALFA PLAM CALL CENTER or the nearest authorized service.**

## 15. SAFETY MEASURES

**The cooker is equipped with the following safety devices:**

- PRESSURE REGULATOR Checks the pressure in the flue channel. It stops the pellets transport auger when the outlet is clogged, or when it encounters pressure (wind).

- FLUE GAS TEMPERATURE SENSOR

Measures the temperature of the gases and approves the ignition of the cooker, or stops the ignition of the cooker if the flue gas temperature drops below the programmed value.

- CONTACT THERMOSTAT ON THE AUGER HOUSING

When the temperature exceeds the set safe value, the operation of the cooker is immediately interrupted.

- CONTACT THERMOSTAT IN THE BOILER

When the temperature exceeds the set safe value, the operation of the cooker is immediately interrupted.

- WATER TEMPERATURE SENSOR

When the water temperature approaches the stop temperature of 80°C, the sensor starts the cooker to perform a series of cooling cycles or interrupts the operation of the cooker automatically by means of "ECO-STOP" to prevent the blocking of the capillary temperature sensor described above.

- ELECTRICAL SAFETY

The cooker is protected against high current interferences by standard fuses located in the main switch on the back of the cooker and on the control panel.

- FLUE GAS FAN

If the fan stops, the control panel is immediately blocking the pellets feed and the alarm signal is displayed.

- MOTOR WITH REDUCER

When the engine with the gearbox stops working, the cooker continues to operate until the flame goes out due to the lack of oxygen and until the minimum cooling level is reached.

- TEMPORARY POWER OUTAGE



After a short power outage, the cooker automatically switches to cooling.

- NO IGNITION

When the flame does not develop during ignition stage, the cooker switches to alarm state.

## 16. FAULTS - CAUSES - SOLUTIONS

| PROBLEMS                                                                                               | POSSIBLE CAUSES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | SOLUTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pellets not inserted into the firebox.</b>                                                          | <ol style="list-style-type: none"> <li>1. The pellets storage is empty.</li> <li>2. The infinite spiral is blocked.</li> <li>3. The reducer of the infinite spiral is defective.</li> <li>4. The electronic card is defective.</li> </ol>                                                                                                                                                                                                                                                                                                                    | <ol style="list-style-type: none"> <li>1. Refill the storage</li> <li>2. Empty the storage and unblock the spiral - auger</li> <li>3. Replace the reducer</li> <li>4. Replace the electronic card</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Moisture builds up in the boiler</b>                                                                | <ol style="list-style-type: none"> <li>1. Condensation of flue gases</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ol style="list-style-type: none"> <li>1. Compare the total power of the installed radiators with the power of the stove. If the total power of the installed radiators is greater than the total power of the stove delivered to the water, replace the furnace with a stronger one, or adjust the number of radiators to the power of the stove.</li> </ol>                                                                                                                                                                                                                                                                                                                                                         |
| <b>The fire extinguishes or the cooker automatically turns off.</b>                                    | <ol style="list-style-type: none"> <li>1. The pellets storage is empty.</li> <li>2. The combustion chamber is not supplied with pellets.</li> <li>3. Pellets temperature probe intervention.</li> <li>4. Doors are not completely closed or gaskets are worn out.</li> <li>5. Inadequate pellets.</li> <li>6. Poor supply of pellets.</li> <li>7. The combustion chamber is dirty.</li> <li>8. The chimney is blocked.</li> <li>9. Interference or malfunction on the pressure switch.</li> <li>10. The engine of the smoke aspirator is damaged.</li> </ol> | <ol style="list-style-type: none"> <li>1. Fill the storage with pellets.</li> <li>2. See the previous solution.</li> <li>3. Allow the cooker to cool down completely and turn it on again. If the problem persists, contact the technical service.</li> <li>4. Close the door or replace the gaskets with the genuine gaskets.</li> <li>5. Change the pellet type and select the type that is approved by the manufacturer.</li> <li>6. Check dosing and adjustment.</li> <li>7. Clean the combustion chamber according to the instructions in the manual.</li> <li>8. Allow the smoke duct to be cleaned.</li> <li>9. Replace the pressure switch.</li> <li>10. Check the engine and possibly replace it.</li> </ol> |
| <b>The cooker works for a few minutes and then goes out.</b>                                           | <ol style="list-style-type: none"> <li>1. Ignition stage did not end.</li> <li>2. Temporary power outage.</li> <li>3. Flue duct clogged.</li> <li>4. Interference or fault in the temperature probe.</li> <li>5. Spark plug is damaged.</li> </ol>                                                                                                                                                                                                                                                                                                           | <ol style="list-style-type: none"> <li>1. Repeat the ignition stage.</li> <li>2. See the previous instruction.</li> <li>3. Clean the flue duct.</li> <li>4. Check or replace the probe.</li> <li>5. Check or replace the spark plug.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Pellets are deposited in the combustion chamber. The door glass is dirty and the flame is weak.</b> | <ol style="list-style-type: none"> <li>1. Lack of combustion air.</li> <li>2. Moist or inadequate pellets.</li> <li>3. Engine of the flue suction system is defective.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                            | <ol style="list-style-type: none"> <li>1. Clean the combustion chamber and ensure that all openings are passable. Perform the standard cleaning of the combustion chamber and flue duct. Make sure the air supply is not blocked. Check the condition of the gaskets on the door.</li> <li>2. Change the type of pellets.</li> <li>3. Check the engine and possibly replace it.</li> </ol>                                                                                                                                                                                                                                                                                                                            |
| <b>The engine of the vacuum cleaner does not work.</b>                                                 | <ol style="list-style-type: none"> <li>1. Cooker does not receive electricity.</li> <li>2. Engine is damaged.</li> <li>3. Control panel is defective.</li> <li>4. Control panel does not work.</li> </ol>                                                                                                                                                                                                                                                                                                                                                    | <ol style="list-style-type: none"> <li>1. Check the power supply network and the melting resistance safety.</li> <li>2. Check the engine and condenser and possibly replace.</li> <li>3. Replace the electronic card.</li> <li>4. Replace the control panel.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>In automatic mode, the cooker is constantly running at maximum capacity</b>                         | <ol style="list-style-type: none"> <li>1. Thermostat is programmed to the maximum position</li> <li>2. Ambient air thermostat always measures cold air.</li> <li>3. Probe that measures the temperature is damaged.</li> <li>4. Control panel is faulty or not working.</li> </ol>                                                                                                                                                                                                                                                                           | <ol style="list-style-type: none"> <li>1. Set the temperature of the thermostat again.</li> <li>2. Change the position of the probe.</li> <li>3. Check the probe and possibly replace it.</li> <li>4. Check the control panel and possibly replace it.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Cooker does not ignite</b>                                                                          | <ol style="list-style-type: none"> <li>1. Lack of electricity</li> <li>2. Pellets probe is blocked.</li> <li>3. Pressure switch does not work (signals blockage).</li> <li>4. Flue pipes or flue duct are blocked.</li> </ol>                                                                                                                                                                                                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Make sure the plug is pressed and the main switch is in the "I" position.</li> <li>2. Unblock the probe by influencing the thermostat in the back. In case of re-blocking, replace the thermostat.</li> <li>3. Replace the pressure switch.</li> <li>4. Clean flue pipes or flue duct.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                           |

## 17. INFORMATION ON DISPOSAL AND DISASSEMBLING THE COOKER

The disassembly and disposal of the old cooker, which will no longer be used, is entirely the responsibility of the owner of the cooker.

The owner of the cooker must comply with the applicable legal regulations of his country regarding safety and environmental protection. The disassembly and disposal of the cooker can be entrusted to a third party, provided that it is a company authorized for collection and disposal of such materials.

**NOTICE:** In all cases, you must comply with the applicable laws of the country in which the cooker is used regarding the disposal of such materials (items) and, if necessary, report the disposal of such items.

### **ATTENTION**

The disassembly of the cooker must only be performed when the cooker chamber is not in the operation and when the cooker is unplugged (no power supply).

- remove all electrical parts,
- discard the batteries of the electronic card to the appropriate containers in accordance with the standards,
- separate electronic cards batteries that are stored,
- disassemble the construction of the cooker with the assistance of authorized company

### **ATTENTION**

Disposal of the cooker in public places poses a serious risk to people and animals. In such cases, the owner is always responsible for the injuries of humans and animals.

When the cooker is disassembled, the EC marking, these instructions and all other documents relating to the cooker must be destroyed.