



A.D. METALNA INDUSTRIJA VRANJE  
Radnička br: 1

**PELLET STOVE**

**CFA XILA**



*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.*

**INSTALLATION, USE, AND MAINTENANCE MANUAL**

ENG\_v.2.0

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## Introduction


First of all, we would like to use the opportunity to express our gratitude to you for buying this ALFA PLAM product.

We have prepared this short manual for you in order to make the use of our product as easy as possible.

Special technical problems mentioned here should be considered by persons included in assembling, installation, and putting the product into operation, in order to provide operations to be carried out as proper as possible.

- This booklet about installation, use, and maintenance should be read carefully before the installation and use of the product. It should be considered an integral part of the product and must be kept at a safe place.
- Installation, networking, control, maintenance, and repair procedures must be performed by qualified personnel
- We recommend that the first ignition, or to say more precisely, putting into operation, is carried out only by qualified staff.
- Do not use any flammable liquids for the ignition process.
- This product should not be used by persons with reduced physical, sensory, and mental abilities or a lack of experience or skills (including children), unless they are supervised and given instructions by someone who can guarantee their safety.
- Children should always be supervised by an adult in order to protect them from an accidental contact with hot surfaces of the stove, and to prevent them from using, or touching the stove adjustment buttons.
- Please ask the sales assistant for additional information you need, which is not included in this Manual.

The following symbols are used in this Manual:

 **CAUTION:** Safety warning,

**IT IS FORBIDDEN TO:** Forbidden action,

**INFORMATION:** Important information.

ALFA PLAM a.d. shall not be held responsible or liable for any direct or indirect personal injury or property damage arising from non-compliance with the indications given and highlighted in this Manual.

# CONTENT:

1. INTRODUCTION .....	1
1.1 Product serial number .....	1
1.2 Materials .....	1
1.3 Certification .....	1
1.4 Dimension characteristics .....	1
1.4.1. In detail .....	2
1.5 Technical characteristics of the product .....	2
1.6 Fuel properties .....	2
1.7 Safety recommendations .....	4
1.8 General recommendations .....	4
2. INSTALLATION .....	5
2.1 Placing the device .....	5
2.2 Characteristics of the flue pipe .....	6
2.2.1. FLUE CONVEYANCE TOWARDS THE EXTERIOR WALL .....	6
2.2.2. SMOKE EXHAUST TOWARDS THEROOF VIA TRADITIONAL CHIMNEY .....	7
2.3 Disassembling and waste disposal .....	8
2.4 Electrical connections .....	8
2.5 Room temperature measuring device .....	8
2.6 Electrical scheme of connection .....	8
3. USING THE PRODUCT .....	9
3.1 First ignition .....	9
3.2 Safety devices .....	10
3.3 The control panel (display): use and features .....	11
3.3.1 K100 display .....	11
3.3.2 Alarms .....	11
3.3.3 Other messages .....	11
3.3.4 Visualizations .....	12
3.4 User menu 1 .....	12
3.4.1 Chrono .....	12
3.5 User Menu 2 .....	14
3.6 Turning the furnace on and the state function .....	14
3.6.1. Check Up .....	14
3.6.2. Ignition .....	14
3.6.3. Stabilization .....	15
3.6.4. Normal – Run Mode .....	15
3.6.5. Modulation .....	15
3.6.6. Safety .....	15
3.6.7. Extinguishing .....	15
3.6.8. OFF .....	15
3.6.9. Block .....	15
3.6.10. Ignition Recovery .....	15
3.7 Other functions .....	15
3.7.1. Management of the absence of power .....	15
3.7.2. Management of pellet loading calibration .....	16
3.7.3. Management of flue gas engine correction .....	16
3.7.4. Safety thermostat .....	16
3.7.5. Periodic cleaning of the furnace .....	16
3.7.6. Shutting down during the ignition phase .....	16
3.8 Possible problems and solutions (Troubleshooting) .....	16
4. MAINTENANCE .....	18
4.1 Special maintenance .....	22
5. QUALITY CONTROL .....	23

# 1. INTRODUCTION

## 1.1 Product serial number

The product serial number can be found on the nameplate affixed to the back of the device as well as on the cover of this manual. The product serial number shall be required any time when a customer requests ancillary services.

## 1.2 Materials

Products of ALFA PLAM a.d. commonly use materials that have the following characteristics:

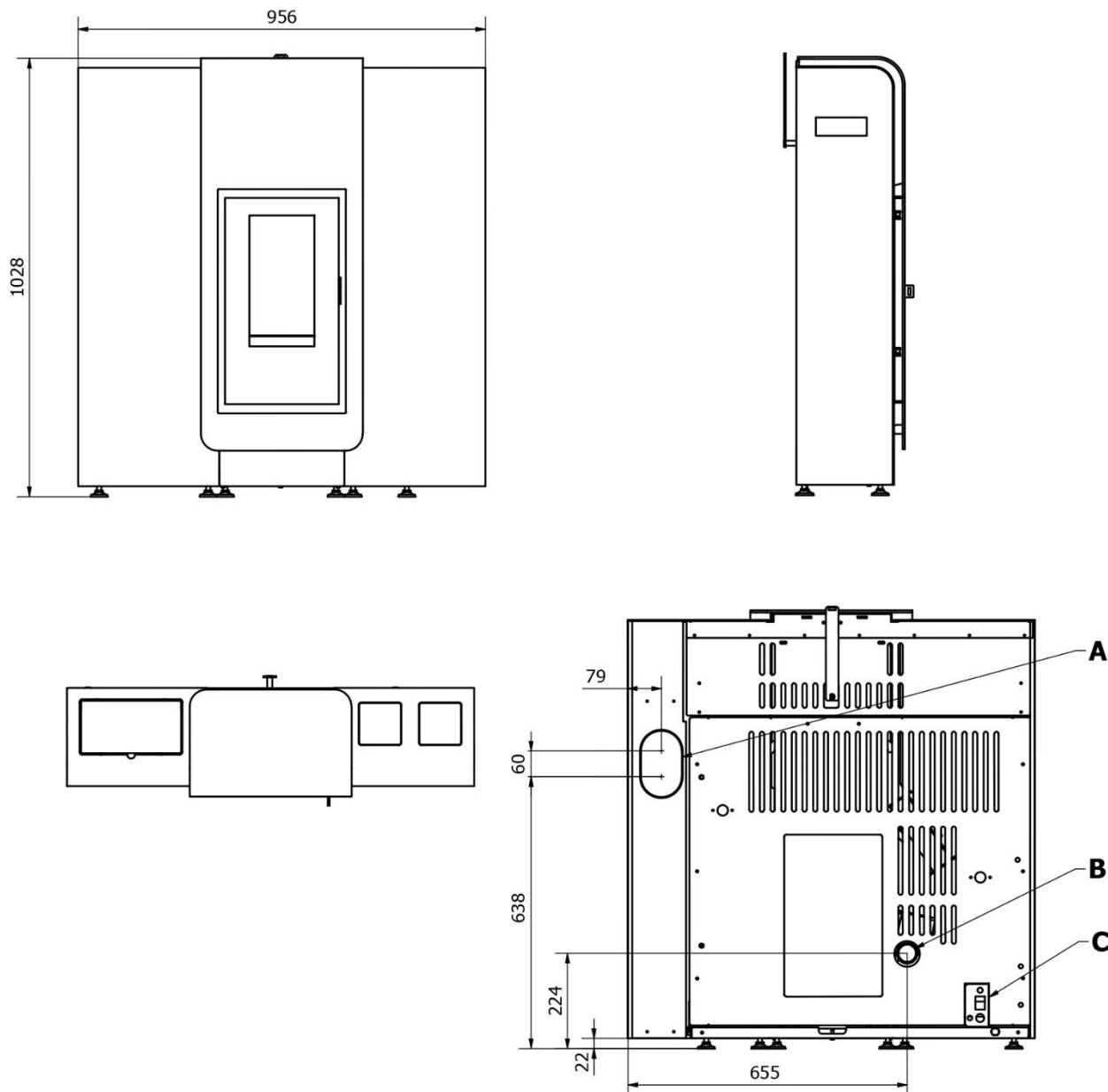
- Very thick sheets that provide a solid structure of the equipment;
- For certain models very thick majolica and materials from cast iron are used to give the product a unique design and elegant finish;
- Before they are painted on a high temperature, metal parts are exposed to phosphate treatment to lead the painting process to the best level and improve the end product;
- Gaskets, which enable air-tight sealing of the combustion chamber, must be checked periodically to prevent improper heating that may result from excessive wearing of the gaskets;
- Glass and ceramic elements for the combustion chamber door. For information related to the cleaning procedures, please refer to the maintenance section.

## 1.3 Certification

This product is compliant with the EN 14785 Standard on Residential space heating appliances fired by wood pellets. It also complies with the Serbian laws that implement the following European directives:

- 2014/30 EU Directive (relating to electromagnetic compatibility);
- 2014/35 EU Directive (Low Voltage Directive);
- Regulation (EU) 305/2011 (Construction Products Regulation)

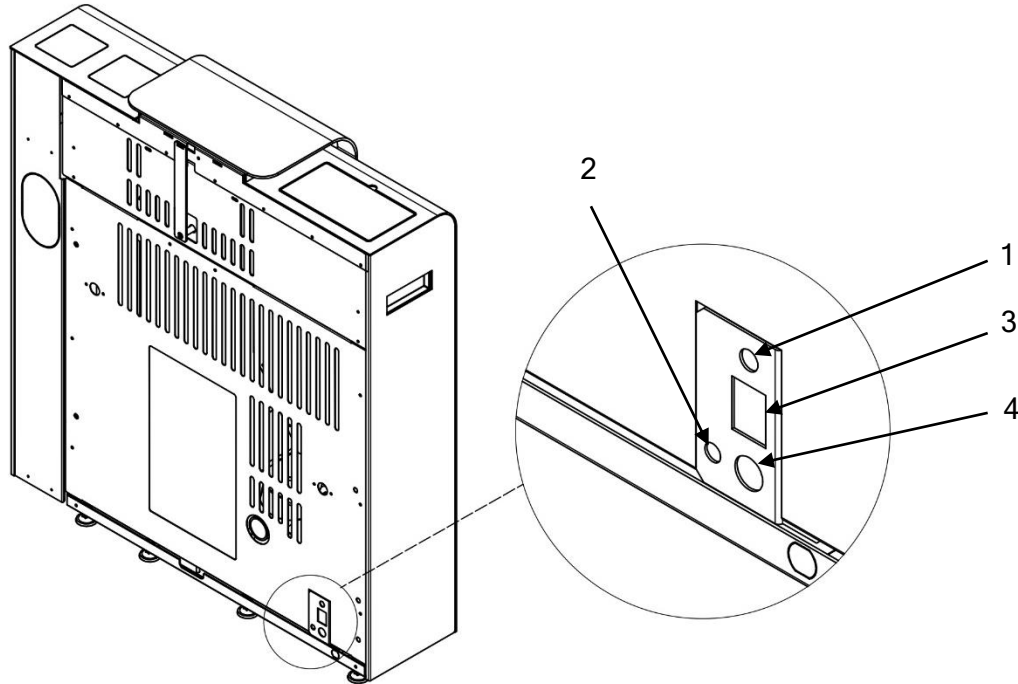
## 1.4 Dimension characteristics



Dimensions in mm gas pipe  $\phi$  80

- A: Flue gas pipe diameter  $\varnothing$  80
- B: Air intake  $\varnothing$  50
- C: Electric connections

### 1.4.1. In detail



- 1: Manual resetting thermostat
- 2: Room temperature sensor
- 3: On/off switch
- 4: Power supply cable

## 1.5 Technical characteristics of the product

Product: CFA XILA			
	Unit measures	Max.	Min.
Heating power	kW	6,5	4,25
CO Emission (at 13% of oxygen)	%	0,0071	0,0071
Efficiency	%	92,9	95,22
Rated power	W	420	
Rated voltage	V	230	
Rated frequency	Hz	50	
Fuel		Drveni pelet	
Fuel consumption per hour	kg/h	1,450	0,925
Gas mass flow	g/s	4,96	3,08
Gas combustion temperature	$^{\circ}$ C	100	76
Min. draft in the chimney	Pa	11	9,3
Tank capacity	kg/h	18	
Autonomy	h	12,4	19,4
Required power for functioning	W	90	
Flue gas outlet diameter	mm	$\varnothing$ 80	
Combustion air inlet diameter	mm	$\varnothing$ 50	
Net weight	kg/h	80	
Heating volume*	m <sup>3</sup>	157	

\*Values are calculated in line with the thermal needs of 35 W/m<sup>3</sup> and height of 3 m.

## 1.6 Fuel properties

Use of liquid or any other solid fuel other than wood pellets is strictly forbidden.

The main characteristic of this stove is that it burns natural fuel (wood pellets), which is ecologically produced from waste in the wood-processing industry (chips/sawdust). Having been properly cleaned and dried, the chips and the sawdust which are produced in the wood-processing processes, are compressed under extremely high pressure to produce small cylinders of pure wood: pellets. Each tiny cylinder can vary in length and thickness, from 1 to 3 cm in length and 6 to 8 mm in diameter.

Wood pellets are primarily distinctive by a low moisture content (below 12%) and high density ( $\approx$ 600 kg/m<sup>3</sup>), as well as with their uniformity and compactness, which gives this type of fuel characteristics of high caloric value (DTV 4100-5000 kcal/kg).



Wood pellets that are used as fuel for this stove must have excellent quality properties such as the ones prescribed by the standards DIN 51731, ONORM M 7135, and EN plus A1, for which numerous basic items are given below.

**⚠ CAUTION:** To achieve the best possible level of operation of the stove, we recommend the use of the wood pellets that are verified by the accredited body. Use of pellet types other than those defined by the manufacturer may cause defect of the stove and annul the warranty.

Storage and handling of the wood pellets are important tasks that must be performed carefully.

- The fuel must be stored at a dry and warm place.
- The pellets must be handled in such a way as to prevent their excessive crushing and becoming fine powder.

Adherence to these two simple rules shall enable better efficiency of the combustion and even preserve the proper operation of the movable mechanical parts of the device.

**⚠ CAUTION:** If the device is not used for a sufficient period of time (more than fifteen days), all remaining pellets should be removed from the tank in order to prevent their excessive moisture since it may lead to deterioration of the product.

Wood pellet quality standards	Unit measure	ONORM M 7135	DIN 51731	DIN plus	EN plus A1
Diameter	mm	from 4 to 10	from 4 to 10	from 4 to 10	6 ± 1
Length	mm	5 x P1	< 50	5 x P1	3.75 < D < 40 3
Density	kg/dm <sup>3</sup>	> 1.12	1.0-1.4	> 1.12	>0.6 (average bulk density)
Moisture	%	< 10	< 12	< 10	< 10
Ash	%	< 0.50	< 1.50	< 0.50	< 0.50
Thermal power	kWh/kg	> 5	4.86-5.42	> 5	> 4.5
Sulphur	%	< 0.04	< 0.08	< 0.04	< 0.05
Nitrogen	%	< 0.3	< 0.3	< 0.3	< 0.3
Chlorine	%	< 0.02	< 0.03	< 0.02	< 0.02
Dust	% by weight	< 2.3	-	< 2.3	< 1
Binding agents	% of the pressed weight	< 2	2	< 2	
1 More than 20% of the pellets should not have length 7.5 times greater than diameter D.					
2 DIN prohibits the use of any other additional substances. However, this prohibition does not apply for small heating systems.					
3 More than 5% of the pellets should not have length greater than 40 mm, maximum 45 mm.					

## FUEL LOADING

Open the top door of the product to insert the pellet. Regarding fuel, you must follow the notes found in the relevant part of this manual.

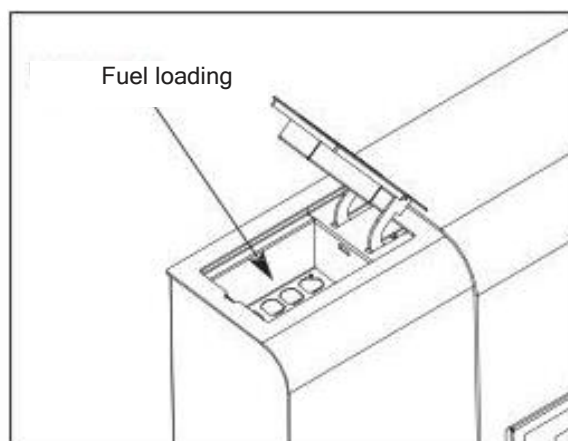
**⚠ CAUTION:** Do not let the bag with wood pellets come into contact with the hot parts of the product during the fuel loading.

**⚠ CAUTION:** Do not remove the protection grid inside the part for the pellets loading.

**⚠ CAUTION:** Do not lean the full weight of the bag containing the fuel on the product.

**⚠ CAUTION:** When you finish the pellets loading, close the upper door.

Periodically check the quantity of wood pellets that is contained in the tank and load it on time. This will prevent the stove from entering into alarm mode due to the lack of fuel, when the sound signal is activated until the user reacts and resolves the situation.



## 1.7 Safety recommendations

⚠ **CAUTION:** Read carefully the enclosed manual with instructions before installation.

⚠ **CAUTION:** the burner must be emptied before turning on the device in case there are any difficulties when turning on the device itself.

It is strictly forbidden to use any other type of solid or liquid fuel except wood pellets with a diameter of 6 mm, for which the stove is designed. Avoid using wet or crushed pellets.

To achieve the best possible level of operation of the stove, the use of wood pellets certified by an accredited body is recommended. Use of pellet types other than those defined by the manufacturer may cause defect of the stove and annul the warranty.

When loading the pellets, take care to avoid dropping of pellets by accident into some other internal part of the product other than the corresponding tank.

⚠ **CAUTION:** If you are unable to light the stove, it will be necessary to empty the burner. If you do not perform this procedure, excessively strong burning may occur, which may lead to the occurrence of significant quantities of smoke.

⚠ **CAUTION:** Do not open the door and do not switch off the electric cable during the phases of ignition or extinguishing, or while the stove is in operation, even if the combustion chamber is blocked or too loaded; initiate the extinguishing procedure and wait until the stove completes the operation phases before you solve the problem. Do not try to ignite the stove again until the problem is solved.

⚠ **CAUTION:** Do not disturb the process of extinguishing the stove (for example, by switching off the electric cable) until it is completed.

⚠ **CAUTION:** If the wood pellets are accumulated in the combustion chamber until the device is operational, immediately switch off the device and switch it on using the program of larger ventilation. If the pellet continues to accumulate, try using a different type of wood pellet or call an authorized service technician.

⚠ **CAUTION:** Never feed pellets manually into the burner.

⚠ **CAUTION:** To prevent possible accidents, always follow the instructions for proper use found in this manual for the device and its electrical components.

⚠ **CAUTION:** Installation, networking, control, maintenance and repair procedures can only be performed by qualified personnel.

⚠ **CAUTION:** The product must be installed with full adherence to the applicable legal standards.

⚠ **CAUTION:** Always adhere to the safety recommendations and safety standards which this manual refers to.

⚠ **CAUTION:** Anyone who performs intervention on the product must read and fully understand the content of this manual in advance and must be fully acquainted with the control panel of this product.

⚠ **CAUTION:** The product may be used, changed, and programmed only by adults. Incorrect or arbitrary adjustments can lead to dangerous situations or failures.

⚠ **CAUTION:** ALFA PLAM a.d. shall not bear any civil or criminal liability for damages in the event that the product is subjected to unauthorised repair or replacement of parts.

⚠ **CAUTION:** While the product is in operation, some of its surfaces can reach extremely high temperatures. Therefore, the user is recommended to undertake all necessary pre **CAUTION** measures, especially when children or adults or disabled persons are present.

⚠ **CAUTION:** Do not cover or choke the hot air discharge in any way. Do not cover the product with cloth or any similar material.

⚠ **CAUTION:** To avoid accidental overturning of the device, never lean or place excessive weight on the open door while the cleaning procedure is in progress. Avoiding of such a type of pressure and undertaking the necessary measures of pre **CAUTION** is recommended, especially when children or adults or disabled persons are present.

## 1.8 General recommendations

⚠ **CAUTION:** Never use the product for purposes other than those for which it is designed and manufactured.

⚠ **CAUTION:** The product should not be used for cooking.

⚠ **CAUTION:** The product should not be used in case of occurrence of any defect or failure. In such a case immediately disconnect the power cord of the product from the wall socket.

NEVER leave the product door opened while it is functioning.

Flue pipes should be regularly inspected.

NEVER use steam for the product cleaning.

Always refer to qualified and authorised staff for any servicing that may be necessary. Use only original spare parts for replacement.

Fuel can be loaded into the hearth only through the automatic loading system, not directly by the user.

⚠ **CAUTION:** In case of "failed ignition", all pellets settled in the hearth must be removed before Environment for use

⚠ **CAUTION:** The device must be installed in a ventilated environment, it must be provided with sufficient air for combustion, in line with applicable regulations.

This is important for securing its proper operation.

⚠ **CAUTION:** The room should be of the volume not less than 20 m<sup>3</sup> and should possess all the necessary ventilation conditions, as described in the Section 2 of this Manual. These conditions shall provide the necessary air flow to enable proper combustion (40 m<sup>3</sup>/h).

It is FORBIDDEN to use the product in bedrooms and bathrooms.

It is FORBIDDEN to use the product in rooms in which another heating device, which does not have its own system for air entry, is installed.

It is FORBIDDEN to install the product near flammable materials.

It is FORBIDDEN to install the product on a floor made of flammable materials unless a protective sheet made of fire-proof material is used.

It is FORBIDDEN to use the product in explosive or potentially explosive atmospheres.

The new ignition of the stove is tried. The pellets removed from the hearth should never be returned to the tank.



This manual must be considered an integral part of the product and must be used during its full useful time. It must be kept at a safe place. If the Manual is lost or damaged, ask for a replacement copy from your seller.

#### Environment for use

**CAUTION:** The device must be installed in a ventilated environment, it must be provided with sufficient air for combustion, in line with applicable regulations. This is important for securing its proper operation.

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It is FORBIDDEN to use the product in explosive or potentially explosive atmospheres.

## 2. INSTALLATION

To install the product successfully and avoid the occurrence of failures, we give you below a number of simple advice for assembling, in line with applicable relevant regulations. You must adhere to all local and national laws and the European standards when installing, using and maintaining the device.

### 2.1 Placing the device

Our product produces heat by entering air necessary for the combustion process directly from the environment that is to be heated.

For this reason, as well as for the reason of safety of users of the stove, the device has always to be installed within an adequately ventilated environment to ensure a constant flow of air for combustion. Therefore, it is necessary to install openings for the air intake that is connected to the outside air (as shown in the Figure 2.1).

The openings for the air intake must have the following properties:

1. They must have internal cross-section not smaller than 80 cm<sup>2</sup>;
2. They must be placed at the approximate floor height;
3. They must be appropriately protected with a wire mesh or a grate in order not to decrease the minimal condition of the radius for the air flow;
4. They must be installed so as not to be blocked in any way
5. Proper flow of fresh air can also be provided by using an opening to the adjacent room, if it is a room equipped with direct ventilation and if it does not present a risk of fire, such as a warehouse, garage, or storage area.

You are recommended to avoid installation of the heating device in rooms where there are devices that cannot operate in a closed mode relative to the environment or in rooms where there are devices that can decrease the pressure in the room itself relative to the outside environment, since it can lead to problems of poor intake of air for our product.

**CAUTION:** It is forbidden to place the stove in a common chimney.

During the check of the system compatibility, you are recommended to verify that the supporting area (the floor) has the adequate weight capacity (kg) to withstand the weight of the product. If this is not so, you are recommended to undertake adequate safety measures (e.g. use of a panel for the weight distribution).

**CAUTION:** Place the external parts of the stove at a distance from any fuel or flammable material: 30 cm from the rear, 30 cm from the lateral and 80 cm from the front side. If keeping of the above distances is not possible, please provide corresponding thermal protection.

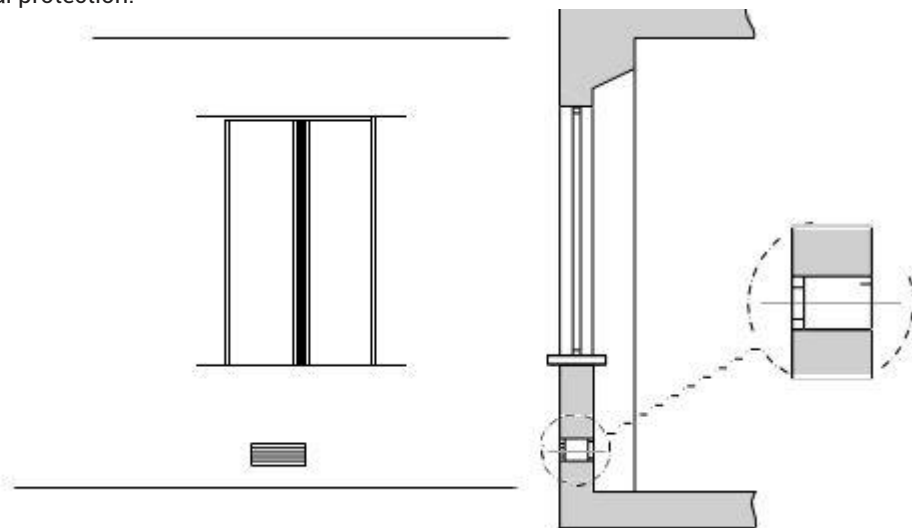


Figure 2.1: Example of required air intake openings

**CAUTION:** Never allow the flammable materials to get close to each other, or even get into contact with the external surfaces of the combustion chamber, since they may reach extremely high temperatures while the product is operational.

**CAUTION:** If the floor is made of flammable material (e.g. hard wood), you are recommended to protect it by placing a layer of non-combustible material below and around the stove.

During the installation phase, pay attention that the electrical cable is accessible when the installation is completed.

**CAUTION:** The electrical cable must be equipped with corresponding earthing terminal.



⚠ **CAUTION:** Avoid touching the electrical cables with wet hands.

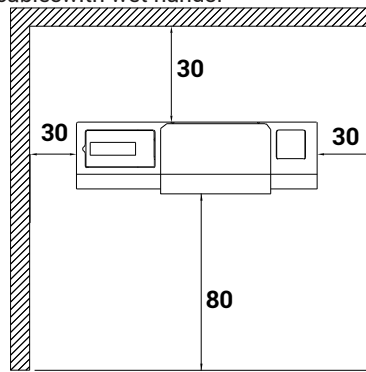


Figure 2.2: Maximum safety distance of the combustion material [cm]

**CAUTION:** After determining the place where you will place the stove, it is possible to adjust the legs on the side of the stove to achieve the desired height. Two persons are needed for the lateral movement of the stove. After you adjust the legs, place down the stove very carefully.

## 2.2 Characteristics of the flue pipe

Main properties of the flue pipe are listed below:

- Inspection opening (I);
- Maximum height of the pipe directly connected to the opening of the flue exit on the stove must be 2 to 3 m;
- If you need a horizontal segment, please do not exceed 1.5 m in length and a slope of 3 to 5% in order to facilitate the exit of smoke;

- Use a wind and water resistant end piece on the flue to minimize the change in draft value.

Use the end part that is resistant to wind and water to prevent change of the state of somewhat larger pressure of the flue pipe itself (do not place a horizontal part at the end of the flue pipe);

The state of somewhat larger pressure of the flue pipe is needed to make easier flow of the smoke from the combustion chamber towards the outside environment.

Have in mind that any removal of excessive heat is made by the electrical control part (modulation, extinguishing, etc.).

- The exhaust channel must be made of materials that are resistant to the products of combustion and to moisture (the check shall enable removal of any kind of moisture);
- The channels should be manufactured in such a way as to prevent any smoke leakage;
- The channel should be insulated, especially the external part that is exposed to weather conditions.

Avoid using completely horizontal segments.

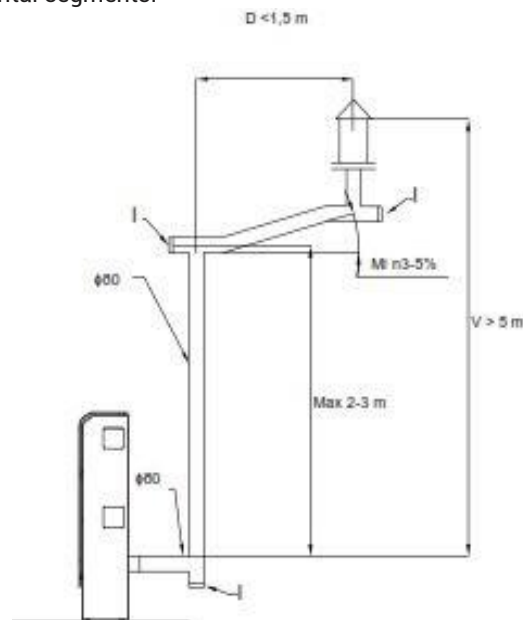


Figure 2.3: Exhaust channel

The room where the heating system is to be installed should not have hoods since they may reduce the pressure of the environment.

Closing of air openings is strictly forbidden.

The exhaust channel must be cleaned at least once a year; we recommend thorough cleaning of both the exhaust channel and its connections.

After a period of inactivity and before the start, check that there is no congestion.

⚠ **CAUTION:** The exhaust channel must be constructed in line with the provisions of applicable regulations.

⚠ **CAUTION:** Check with the appropriate tool whether the chimney has a minimum (draft) of 10 Pa.

### 2.2.1. FLUE CONVEYANCE TOWARDS THE EXTERIOR WALL

One of the solutions that may be applied includes installation of the wood pellet stove near the external wall of the house to let the exhaust gases escape directly to the outside environment. (Figure 2.4). Some notes highlighted by the standard for

this type of system configuration are given below:

- Always ensure that there is an inspection opening (I) to allow for regular cleaning procedures as well as the removal of moisture that may form.
- The chimney pot (T) must be made so as to be resistant to wind and water;
- Pay attention that the chimney is properly insulated in the part that passes through the wall.

If the flue is located entirely outside, it must be made of double wall stainless steel to ensure greater resistance to atmospheric conditions, as well as the correct temperature of the exhaust gases themselves.

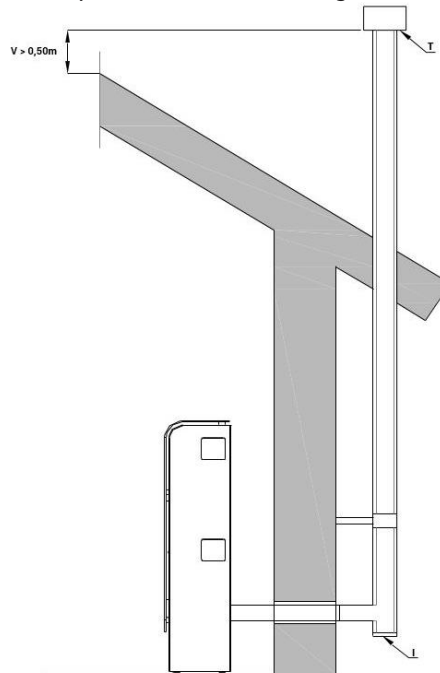


Figure 2.4: Smoke exhaust toward the external wall

### 2.2.2. SMOKE EXHAUST TOWARDS THE ROOF VIA TRADITIONAL CHIMNEY

Flue gases of a stove may be removed via a traditional, already constructed chimney (Figure 2.5), if it meets the applicable standards. The main properties of a good chimney (T) are concisely listed below:

- Proper insulation, first of the external part that is exposed to atmospheric conditions;
- Constant internal diameter (there must be no segments with a smaller diameter);
- It must be made of material that is resistant to high temperatures, to the effects of the combustion product and to corrosion effect of the moisture that may be formed;
- Mainly vertical position, with no deviations of vertical angles exceeding 45°.

We recommend that the base of the chimney is equipped with a chamber for collecting of solid particles or moisture (R). The chamber must be accessible via hermetical door (I).

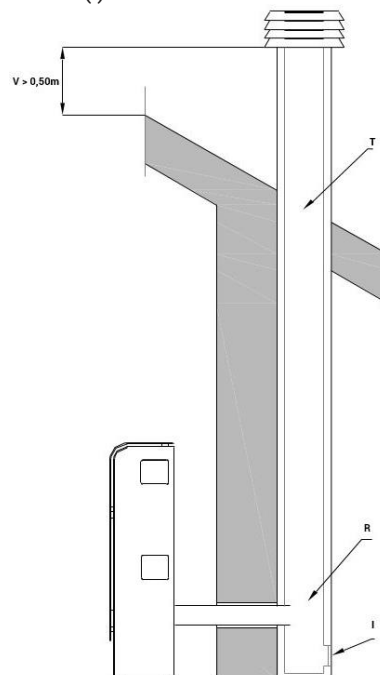


Figure 2.5: Smoke exhaust towards the roof via traditional chimney

It is recommended to follow the guidelines established by the standards UNI 9615 and UNI 9731 in relation to the size and diameter of the chimney (T). However, never use an exhaust duct with an internal diameter of less than 100 mm.

In the case of exhaust ducts with a larger diameter, a steel pipe (A) must be placed inside the brick or mortar of the chimney (C), as shown in Figure 2.6.

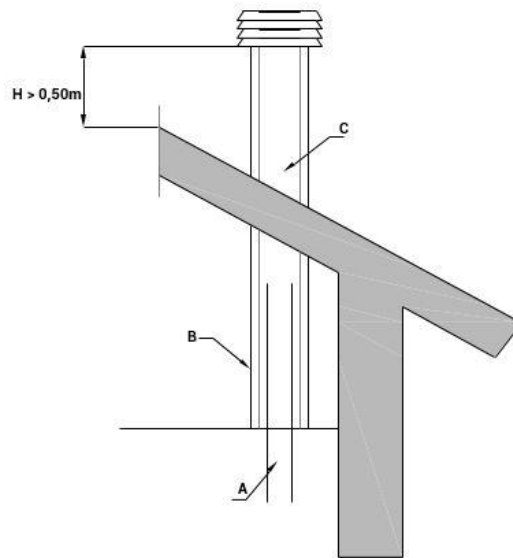


Figure 2.6: Example of the connection with the chimney

In case of fire in the chimney or the flue pipe, immediately extinguish the stove and disconnect it from the power system.

### 2.3 Disassembling and waste disposal

The packaging consists of materials that are not toxic or harmful. There is no need for special conditions for its disposal. Disposal of other components of the packaging is the responsibility of the user. He/she must perform corresponding disposal procedures in line with applicable standards in the country where the product is installed.

⚠ **CAUTION:** Packaging elements must be kept out of the reach of children not supervised or persons with disabilities.

### 2.4 Electrical connections

Connect the product to your household power supply.

Just press the main switch on the back of the device if you want to turn on the device. After you do this, the stove is ready for ignition. For processes of ignition and programming, refer to Section 3.1.

### 2.5 Room temperature measuring device

The room temperature meter allows the temperature in the room where the stove is installed to be continuously monitored. This device enables permanent monitoring of the temperature in the room where the stove is installed.

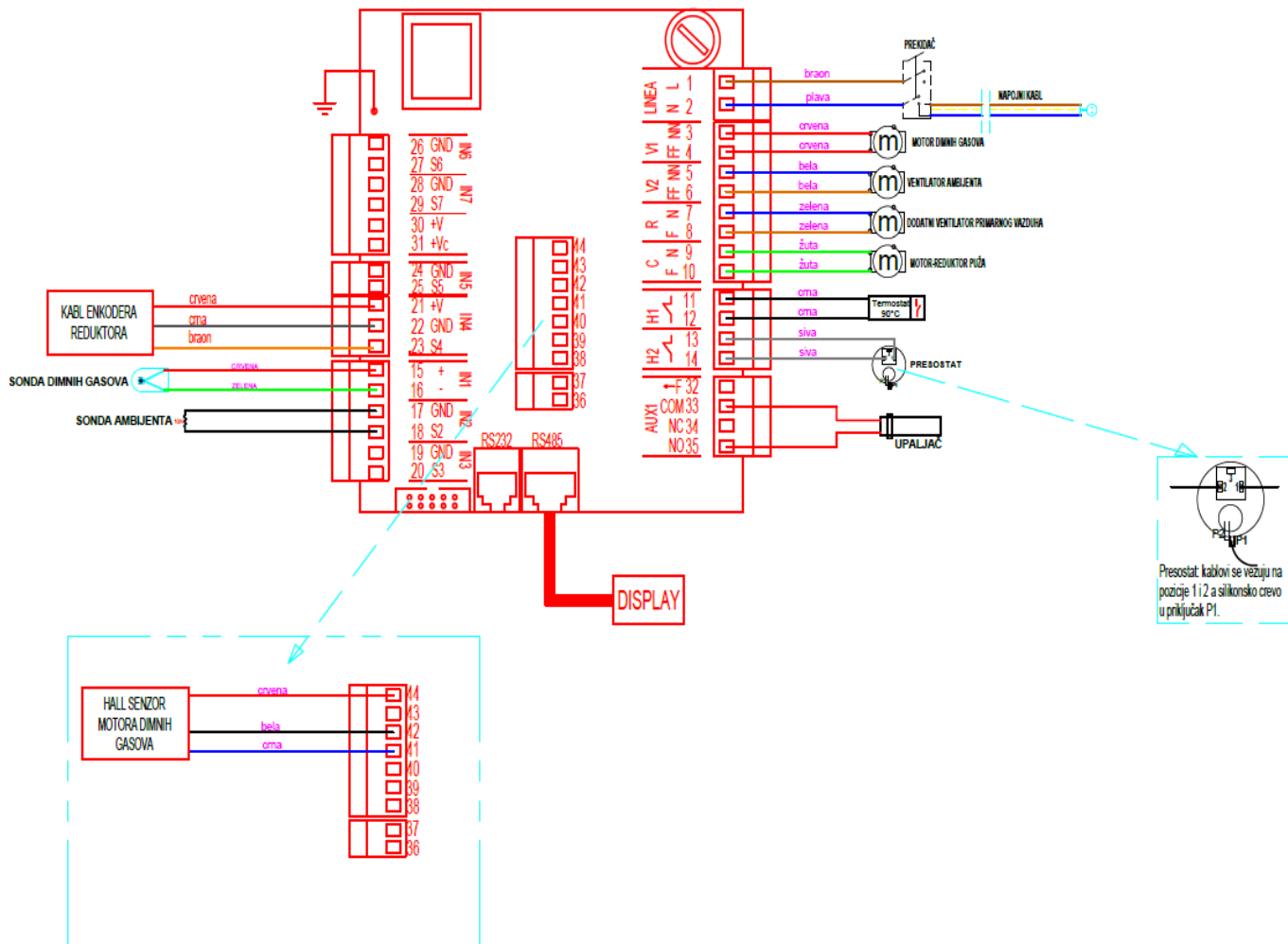
Installation of the room temperature measuring device at an appropriate place shall enable proper work of the product.

### 2.6 Electrical scheme of connection

For completeness, the electrical scheme of connection is provided. The scheme is specifically intended for technical personnel responsible for installation and maintenance.

⚠ **CAUTION:** The main switch does not guarantee that the stove will be disconnected from the power supply. Therefore, the cable of the stove must be disconnected from the socket before the coverings or screws that hold the section of the integrated circuit in place are removed.

In order to test the electronic card, it is necessary to remove the coverings on the left side.



\* Optional terminals

### 3. USING THE PRODUCT

Before we describe in detail the operation of the product, we would like to remind you that, while using it, you must observe the relevant national and local provisions, rules and applicable laws. For a better understanding of how the product works, diagrams of the display control panel are shown, followed by a detailed description, as well as what needs to be done to start the stove for the first time. The product is easily ignited when the electrical cable is connected and the button IGNITION is pressed.

To ignite the stove, connect the electrical cable to the power socket and press the ignition button on the rear

During the several first ignitions of the stove, vapours and unpleasant odours may spread from painted parts. These inconveniences are a necessary result of the process of chemical stabilisation of special dyes that are used; therefore, good venting of the room is necessary in this phase.

**CAUTION:** Pay attention for the door of the stove to be closed while the product is operational.

**CAUTION:** Although surface temperatures reached by our product are not excessively high, you are recommended to be careful when touching them. Especially the external surfaces of the combustion chamber can reach high temperatures during long-term use.

**CAUTION:** Place the external part of the stove at a distance from any fuel or flammable material: 30 cm from the rear, 30 cm from the lateral and 80 cm from the front side. If keeping of the above distances is not possible, please provide corresponding thermal protection.

To avoid failures that may lead to injuries and damages to persons or property, you are recommended to avoid sudden and constant ignition and extinguishing of the product, but to follow the schedule provided by the manufacturer for these procedures.

**CAUTION:** The house wiring must be equipped with grounding (in good condition), otherwise the electronic card may malfunction.

We recommend not to use the stove in an instable supply mode: continuous power cuts may lead to failures.

You are recommended to clean the chimney and the connections with the flue pipe thoroughly (at least once during the whole heating season) in order to prevent the risk of fire.

Pay attention that the door of the stove is closed while the product is operational.

Any unauthorised change on the device is forbidden.

Use only replacement parts recommended by the manufacturer.

#### 3.1 First ignition

Pay particular attention to cleaning the burner before starting the ignition process and check whether the braid under the burner is tight, i.e. whether it rests with its entire surface on the burner support.

Proper operation of the device is performed when there is no uncontrolled air inlet; therefore, the door SHOULD be firmly closed and, in the same way, it is necessary to check whether all other ways are closed except the intended one. Therefore, it is a good habit to check that the door seal adheres well to the chamber, over its entire circumference (whether it seals well).

Regulation related to the installation of pellet products EN14785 provides that it is necessary to have a vacuum of 10 Pa on the basis of the chimney, so special attention must be paid to the smoke removal system. If the chimney is lower, if there are too many flue pipes, the air intake required for combustion (which can change and affect the combustion itself) is also lower. The lower and more bended the flue pipe is, the lower the air intake required for combustion (which may change and affect the combustion itself). Slow smoke flow in certain cases may cause the increase of temperature that creates a change of the operating power.

Since there are different types of pellets in the market, the operation of the product must be adjusted for the specific type of fuel that will be used.

To allow the user to adjust the stove for different pellet types and different installation types, the user's menu offers four types that are indicated in the ascending order from 1 to 4. The ascending order of the type indicates the higher ventilation of the system. In the extreme case, if neither of the factory types provides efficient combustion, it should be remembered that the operating parameters can be changed ONLY with the support of specialized technicians of ALFA PLAM a.d. who will specifically analyse the situation and provide the best solution for any case.

In order for the stove to heat up properly, it is recommended that you set the power of the product to value "4" or to value "5" during the ignition phase and a few minutes after.

To provide more assistance to the user, please find below a sequence of steps that should be undertaken in order to switch on the product.

- 1) Fill the tank with pellets to the optimal level. We recommend that you do not completely fill the part for fuel intake, the optimal level is achieved by adding fuel until it touches the grid with openings in the tank.
- 2) Connect the product onto the power socket.
- 3) Press the switch at the rear of the stove.
- 4) Follow the instructions described in section 3.3.

⚠ **CAUTION:** Do not place your hand for whatever reason inside the auger for loading of pellets while the stove is operational.

⚠ **CAUTION:** Do not open the door or disconnect the stove from the power socket, even if there is a blockage or accumulation of fuel in the burner. Initiate the extinguishing process and solve the problem before you initiate again the ignition process.

#### **EXTINGUISHING OF THE PRODUCT**

Press and hold the Ignition button for a few seconds. The stove shall initiate the extinguishing process as set in the planning phase (the extinguishing interval is variable and may take a few minutes).

⚠ **CAUTION:** You are recommended not to interrupt the extinguishing process before it is fully completed by, for example, disconnecting the product from the power socket.

If the flame goes out due to the lack of pellets, switch off the stove. You need to put more fuel in the tank and restart the ignition process only when it is off.

It is forbidden to insert pellets into the burner by hand.

⚠ **CAUTION:** The door of the stove must always be closed when you are using it; its opening is allowed only for the purpose of maintenance, when the product is cold.

Change of the stove is not possible.

⚠ Unsolicited repairs, as well as the use of spare parts that are not genuine or unauthorized replacement of parts of the product, as well as the cancellation of the warranty may lead to failures and serious risks for users who are in direct contact with the product.

**CAUTION:** During the use, please avoid to cover the vents that enable uninterrupted flow of the combustion air and the air slot on the rear side of the product.

## **3.2 Safety devices**

The product is equipped with the following safety devices:

- **Thermostat for determination of the tank temperature:** this device switches off the operation of the product any time the set safety limit is exceeded;
- **Device for measuring the smoke temperature:** this element determines the smoke temperature and constantly monitors the proper operation of the product;
- **Pressure switch:** this element determines whether there is a clogging of drains, i.e. flue pipes;
- **Ambient thermometer:** this element constantly monitors the temperature in the room where the stove is located;
- **Operation modulation mode:** if the smoke temperature exceeds the set safety threshold, the device automatically decreases the quantity of pellets for combustion until the temperature drops below the set limit.

Incorrect parameter settings can lead to exceeding the safety limits and can lead to excessive consumption of pellets. Exceeding of the safety limits may also occur due to the poor ventilation of the environment where the stove is located, which do not provide sufficient cool air for the device.

Safety devices MUST NOT be switched off. When the cause for activation of the safety system is eliminated, the device can be started again in order to restore its proper functioning.

⚠ **CAUTION:** The device must be installed so as to provide easy access to its electrical cable.

Note: The section on safety is composed taking into account normal conditions for the use of the product, which are described and detailed in Section 3. ALFA PLAM a.d. shall not be held responsible for any personal injuries or damage of property that can result from the use of the stove contrary to the conditions given in this User's Manual. In addition, ALFA PLAM a.d. shall not be held responsible for any personal injuries or damage of property if the user fails to comply with the following instructions:

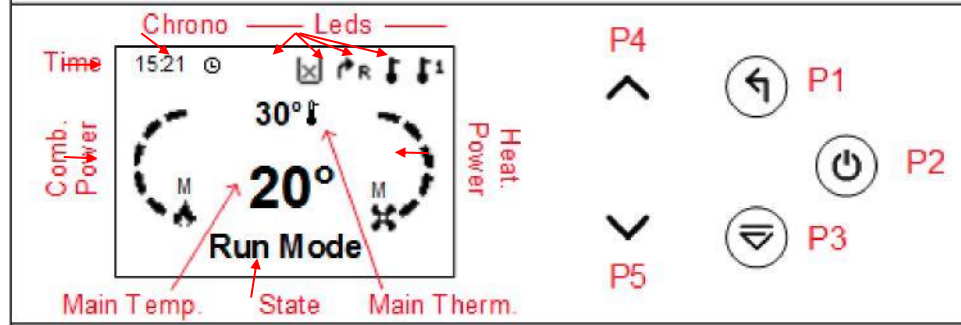
- A) All necessary measures and pre **CAUTIONS** must be taken to secure that no party starts the equipment during repair, setting, replacement of parts, or maintenance works;
- B) Do not remove or replace any safety device on the stove;
- C) The device must be connected to a properly functional system for smoke removal;

D) Check whether the environment in which the device is installed is ventilated sufficiently, as prescribed in this Manual.

### 3.3 The control panel (display): use and features

#### 3.3.1 K100 display

The main frame shows: time and date, chrono activation, combustion energy, heat energy, functional state, current room temperature, set room temperature, LEDs



Display	Meaning
Main Temp.	The current value of the room temperature
State	Functional state of the furnace
Main Therm.	Set room temperature
Comb. Power	Combustion power
Heat Power	Heating power
Time	Time
Chrono	Scheduled operation

Push button	Feature
P1	Exit menu/submenu
P2	Turning on and off (hold down for 3 seconds), reset errors (hold down for 3 seconds), chrono activation and deactivation
P3	Enter the user menu 1/submenu, enter the user menu 2 (hold down for 3 seconds), saving data
P4	Enter the visualization menu, maximizing
P5	Enter the visualization menu, minimizing

Led	Feature	Led	Feature
	Lack of pellets		Preset room temperature reached
	The direction of air flow		Remote thermostat temperature reached (if connected to the remote thermostat)

#### 3.3.2 Alarms

Description	System state	Code
Safety error - safety thermostat: signals when the system is off	Block	Er01
Safety error - pressure switch: signals only if the combustion fan is turned on	Block	Er02
Shutdown in case of flue gas temperatures lower than permissible	Block	Er03
Shutdown in case of flue gas temperatures exceeding the permissible temperatures	Block	Er05
The pellet thermostat is activated	Block	Er06
Encoder fan error: no encoder signal	Block	Er07
Encoder fan error: failed combustion fan regulation	Block	Er08
Date and time are not correct due to a prolonged power outage	Block	Er011
Ignition failed	Block	Er012
Power outage	Block	Er15
Communication error - display disconnected	Block	Er16
Air flux regulator error	Block	Er17
No more pellets	Block	Er18
Faulty air flux sensor	Block	Er39
The minimum air flux is not reached during the testing phase	Block	Er41
Maximum airflow reached (F40)	Block	Er42
Error: door open	Block	Er44
Auger encoder error: no encoder signal	Block	Er47
Auger encoder error: auger speed control failed	Block	Er48
Module error I/O 12C	Block	Er52
Service error. This informs that the planned period of operation has been reached (after preload): the system will stop when it goes into operation mode.	Block	Service

#### 3.3.3 Other messages

Description	Code
-------------	------

Probe error when controlling during the testing phase	Prob
This informs that the planned period of operation has been reached. It is necessary to clean the furnace or boiler.	Clean
Door open	Door
The message appears if the system is turned off during ignition (after preload) by the external device: the system will stop when it goes into operation mode.	Block ignition
No communication between the motherboard and the display (keypad).	Link Error
Periodic cleaning is in progress.	Cleaning On

### 3.3.4 Visualizations

Pressing P4 and P5 opens the visualization menu.

Here you can see the value of the ambient temperature, flue gases, engine speed of flue gases, ON auger time\*, etc, at all times. The following indicators of the furnace operation can be checked in the visualization menu:

Display	Description
Exhaust T. [°C] 103	Flue gas temperature
Room T. [°C] 25	Local room temperature
Rem. Room T. [°C] 25	Remote room temperature; visible only if the remote thermostat is active
Air Flux 750	Air flux; visible if the primary air flux gauge is active
Fan Speed [rpm] 1250	The exhaust gas fan speed;
Auger [°C] 1.2	ON auger time;
Cleaning [h] 450	Work time left before cleaning the furnace; visible only if the timer is active
Work time [h] 2985	Total furnace work time in the work mode, modulations and security
Ignitions [h] 106	Number of ignition attempts
Product Code: 494- 0000	Product code

### 3.4 User menu 1

Short press P3 to activate user menu 1.

Keys P4 and P5 list different submenus (combustion management, heating management ...); pressing the P3 key opens any selected submenu.

Combustion Management	Power In this submenu it is possible to modify the power of the combustion system. Keys P4 and P5 select between the 5 powers (Power 1, Power 2, Power 3, Power 4 and Power 5). When you select the desired power press the P3 key to confirm. Exit the submenu by pressing P1.
	Auger Calibration Allows modification of the set value for the duration of the ON auger time. The values range from -7 to 7. The default value is 0 (see Section 4.6.2)
	Fan Calibration Allows modification of the set value for the speed of the flue gas engine. The values range from -7 to 7. The default value is 0 (see Section 4.6.3)
Heating Management	Room Thermostat This menu allows modification of the set temperature value in the local room (the room where the furnace is assembled). The temperature value set up in this menu is a requirement for <b>furnace operation</b> . Namely, the furnace will work in the selected mode until it reaches the preset value of the room temperature. When the preset value is reached then the furnace goes into a modulation state or it works using minimum power. The furnace exits the modulation state and returns to the mode of normal operation as soon as the room temperature falls below the preset value. The temperature value is set up using the P4 and P5 keys and then the set value is confirmed by pressing P3. Exit the submenu by pressing P1.
	Remote Room Thermostat This menu allows you to modify the value of the thermostat in a distant room. It is visible only if the external thermostat is installed, while a heating plant that uses it is set up to use an external thermostat.
Remote Control	This menu allows turning the remote control options on and off.
Chrono	Chrono program It is used for scheduling operation of the furnace and for turning the furnace on and off in certain time periods.
Manual Load	This procedure activates the manual loading of pellets with the activation of the preset modality of the auger engine. Loading stops automatically after 600 seconds. The system must be turned off in order for the function to be activated.
Cleaning Reset	Menu for resetting the "System Maintenance 2" function. Visible only if the option "System Maintenance 2" is active.

#### 3.4.1 Chrono

In order to adjust the programmed operation of the furnace it is necessary to access the Chrono menu.

The Chrono menu is accessed in the following manner:

- Short press P3 to activate user menu 1.



- Press P4 and P5 to list the submenus until you reach the Chrono submenu.
- Press P3 once again and enter the Chrono submenu
- The following is shown on the display:

Chrono
Modality
Modality
<b>Chrono program</b>

Press P4 and P5 to select the Modality or Chrono program and then press P3 to enter one of the two submenus.

### 3.4.1.1 Modality

Allows selection of desired modality or disables all set programs.

- Programming is enabled or disabled by pressing **P2**
- Use P4 and P5 to select the desired way of programming the Daily, Weekly and Weekend furnace operation.
- Pressing **P3** confirms the selected way of programming furnace operation.
- Save your settings by pressing **P1**.

Disabled  
Daily Weekly

**Week End**

### 3.4.1.2 Chrono Program

Chrono program provides three types of programming: daily, weekly and weekend programming. The following is shown on the display in the Chrono Program:

Chrono
<b>Daily</b>
Weekly
Week-end

The system provides three types of programming: daily, weekly and weekend programming. Selection is made by pressing P4 and P5 after which the user enters the selected program by pressing P3.

#### 1. Daily Programming

The following is shown on the display once the **Daily** submenu or the daily program is entered:

<b>Monday</b>
Tuesday
Wednesday
Thursday
Friday

Days of the week are selected by pressing P4 and P5. When you select the date press P3.

Setting the activation and deactivation time of the program for the selected day is done as follows:

- Enter the change of time (the preset time is blinking) by pressing **P3**.
- Change the time by pressing **P4** or **P5**.
- Save by pressing **P3**.
- Activate ("●" appears) or deactivate the time period ("○" remains) by pressing **P2**.

**Example:** For example, select Monday and press P3. Then press P3 and *ON time* (time of turning on of the furnace) starts blinking. By pressing P4 and P5 you can set up the desired *ON time* and confirm it by pressing P3. In this way *ON time* can be set up to, for example, 9:30 AM. When *ON time* is set up press P5 and then the *OFF time* (time of turning off of the furnace) starts blinking. By pressing P4 and P5 you can set up the desired *OFF time* and confirm it by pressing P3. In this way *OFF time* can be set up to, for example, 11:15 AM. In the end press P2 in order to activate the program. The following is shown on the display:

<b>Daily</b>	
<b>Monday</b>	
ON	OFF
● 09:30 -	11:15
○ 00:00 -	00:00
○ 00:00 -	00:00

This program schedules the furnace to turn on on Monday at 9:30 AM and turn off at 11:15 AM.

Save your settings by pressing **P1**.

For daily programming it is possible to switch the program from the previous day to the next day.

The procedure is as follows:

Select the day of the week for programming and setting up the turn on and turn off time.

Set the clock to ON on the previous day at the desired time: e.g., 8:30 PM.

Set the clock to OFF on the previous day at 11:59 PM.

Set the clock to ON on the next day at 12:00 AM.

Set the clock to OFF on the next day at the desired time: e.g., 6:30 AM.

The system will turn on at 8:30 AM on Tuesday and will turn off at 6:30 AM on Wednesday.

#### 2. Weekly Programming

In terms of weekly programming, programs are the same for all days of the week.

Weekly

Mon-Sun

The following is shown on the display once the **Weekly** submenu or the weekly program is entered.

The programs are activated and deactivated in the same way as with the daily programming.

3. Weekend Programming  
In terms of weekend programming it is possible to choose between programs:

- Mon-Fri
- Sat-Sun

Selected programs will be active from Monday to Friday or Saturday and Sunday.

The programs are activated and deactivated in the same way as with the daily programming.

ON	OFF
<input type="radio"/> 00:00	00:00
<input type="radio"/> 00:00	00:00
<input type="radio"/> 00:00	00:00

Mon-Fri  
Sat-Sun

Week-end	
Mon-Fri	
ON	OFF
<input type="radio"/> 00:00	00:00
<input type="radio"/> 00:00	00:00
<input type="radio"/> 00:00	00:00

### 3.5 User Menu 2

Long press P3 (3 seconds) to activate user menu 2.  
Keys P4 and P5 list different submenus ((Keyboard Settings, Keyboard Menu ...)); pressing P3 opens any selected submenu.

<b>Keyboard Settings</b>	<p><b>Time and Date</b> Used for setting up the day, month, year and current time.</p> <p><b>Language</b> Menu for changing the language</p>								
<b>Keyboard Menu</b>	<p><b>Learn Menu</b> Allows manual updating of the menu; access is protected by a four-digit password and the procedure cannot be stopped once it is started. In the event of a failed save or change of the menu, this procedure starts automatically.</p>								
	<p><b>Set Contrast</b> Menu used to regulate the contrast of the LCD screen.</p>								
	<p><b>Set Minimum Light</b> Menu used to regulate the brightness of the LCD screen when controls are not used.</p>								
	<p><b>Keyboard Address</b> This menu is password protected and is not available to the user.</p>								
	<p><b>Node List</b> This menu displays the following: table communication address, table typology, firmware code and firmware version. Data cannot be changed. Table typology that can be displayed are as follows:</p> <table style="width: 100%; border: none;"> <tr> <td>MSTR Master</td> <td>INP</td> <td>KEYB</td> <td>OUT</td> </tr> <tr> <td>CMPS composite</td> <td></td> <td>SENS Sensor</td> <td>COM Communication</td> </tr> </table>	MSTR Master	INP	KEYB	OUT	CMPS composite		SENS Sensor	COM Communication
MSTR Master	INP	KEYB	OUT						
CMPS composite		SENS Sensor	COM Communication						
	<p><b>Acoustic Alarm</b> Allows enabling or disabling of the keyboard alarm.</p>								
<b>System menu</b>	<p>Menu for entering the technical menu. This menu is password protected and is not available to the user.</p>								

### 3.6 Turning the furnace on and the state function

The furnace is turned on by long pressing P2 for 3 seconds. After that come the next function states of the furnace:

#### 3.6.1. Check Up

During the check up phase the initial checks of the input signals or the probity of safety probes and pressure switches of the furnace are done. In this phase the flue gas engine runs at maximum speed while the auger and igniter are turned off. The check up phase lasts for a few seconds, and a successful check up is followed by the ignition phase.

#### 3.6.2. Ignition

The ignition phase consists of four sub phases which alternate, and those are:

- Preheating phase
- Pellet preload phase
- Fixed ignition phase
- Variable ignition phase

The message IGNITION is displayed during the entire ignition phase. There are no special markings on the display for sub phases.

##### 3.6.2.1 Ignition Preheating

At this stage there is warming of the igniter before dispensing of the pellets starts. In order for pellet burning to be as efficient as possible, it is desirable that the igniter is already preheated at the time when dispensing the pellets starts. At this stage the igniter is active and the auger is inactive. Flue gas engine runs on lower rpm in order to promote heating of

the igniter.

### 3.6.2.2 Ignition Preload

In this phase there is the initial dispensing of pellets or the auger loads a certain amount of pellets necessary for ignition. In this phase the igniter, auger and flue gas engine are active.

### 3.6.2.3 Ignition – Fixed Phase

This phase is a fixed time period that lasts for 180 seconds and in case that the furnace ignition requirement is reached before the expiry of this phase it will always last until the end and only after the expiration of the fixed time period will the furnace move into stabilization phase. In this phase the igniter, auger and flue gas engine are active.

### 3.6.2.4 Ignition – Variable Phase

This phase occurs after the fixed ignition phase. The duration of this phase is a variable period that lasts until the moment of fulfillment of the ignition requirements or until the moment when the flue gas temperature of 50 °C is reached. In case the furnace ignition requirement is met before the expiry of the duration of this phase, it is stopped and the next phase follows, which is the stabilization phase. In this phase the igniter, auger and flue gas engine are active.

## 3.6.3. Stabilization

The stabilization phase is a transitional phase between the ignition phase and the run mode phase. This phase occurs when the ignition requirement is met, that is, when flue gas temperature reaches 50 °C. It lasts for three minutes and during that time the auger, flue gas engine and the igniter are active.

## 3.6.4. Normal – Run Mode

The normal run mode begins following the stabilization phase. In this phase there are five levels of power that can be set up as explained in the user menu 1. In this phase the igniter is turned off while the auger, flue gas engine and area engine are active and run with different intensity depending on the level of power of the furnace. The furnace runs on the given power until the modulation requirements are met.

## 3.6.5. Modulation

The furnace goes into the modulation phase when one of the two conditions are met:

1. When the furnace reaches the preset ambient temperature
2. When the flue gas temperature reaches a value greater than 250 °C

In the modulation phase the furnace runs on minimal power - power 1, until the moment when the temperature decreases below the threshold value.

## 3.6.6. Safety

The Safety status occurs when flue gas temperature exceeds 275 °C. In this phase dispensing the pellets stops until the temperature of flue gases decreases. If there is no decrease in temperature in the next 60 seconds the furnace goes into an alarm stage and displays the **Er05** message.

## 3.6.7. Extinguishing

The furnace is turned off by long pressing P2 for more than 3 seconds. The extinguishing phase occurs next during which dispensing of pellets stops and the flue gas engine and the ambient fan operate at maximum capacity in order for the furnace to cool down as soon as possible. Minimum duration of the extinguishing phase is 30 seconds and the requirement for the furnace to completely turn off is for the flue gas temperature to be less than 68 °C.

## 3.6.8. OFF

During this phase the furnace is turned off, that is, no furnace output (flue gas engine, ambient fan, igniter and auger) is active.

## 3.6.9. Block

The block state occurs in the event of a fault or alarm. In the block state the exhaust gas fan, auger and igniter are turned off. To exit press P2 for 3 seconds: if there is no more block and no cause for alarm the system will turn off.

## 3.6.10. Ignition Recovery

The furnace goes into this phase in two cases:

1. If there is a power failure in the operating mode and the flue gas temperature is greater than 50 °C.
2. By pressing the main switch at a time while the furnace is in the extinguishing phase.

## 3.7 Other functions

### 3.7.1. Management of the absence of power

In the absence of power, the system keeps the most important functional data. When the power is restored the system evaluates the saved data and:

- If the furnace is turned on and the temperature of exhaust gases is greater than 50°C, the system enters the **recovery point**. Pressing P1 can lead to a sudden new system ignition.

<ul style="list-style-type: none"> <li>If the furnace is turned on but the temperature of exhaust gases is lower than 50°C, the system enters the <b>shutdown point</b> with error <b>Er15</b>.</li> <li>If the furnace is turned off or in extinguish or block phase, the system returns to its previous state.</li> <li>In the absence of power for more than a week the system goes into <b>block</b> with an error message <b>Er11</b> indicating that the DATE/TIME values are incorrect. When P1 is enabled the TIME value starts to blink signaling the need for updating the TIME and DATE with the CLOCK function.</li> </ul>						
<b>3.7.2. Management of pellet loading calibration</b>						
The user has the option to calibrate the dispensing of pellets in the user menu 1. Calibration ranges between -7 ÷ 7. 1=5%. Each calibration of dispensing the pellets is applied to all workforce in percentages. For example, if -1 is set up then the dispensing of pellets will be reduced by 5% in all operating modes (Power 1 - 5).						
Example	Before calibration	Power 1 = 2.0	Power 2 = 3.0	Power 3 = 4.0	Power 4 = 5.0	Power 5 = 6.0
	Step = -1	Power 1 = 1.9	Power 2 = 2.85	Power 3 = 3.8	Power 4 = 4.75	Power 5 = 5.7
Never calibrate dispensing of pellets without consulting with the service center first.						

<b>3.7.3. Management of flue gas engine correction</b>						
The user has the option to calibrate the rpm of the flue gas engine in the user menu 1. Calibration ranges between -7 ÷ 7. 1=5%. Each calibration is applied to all workforce in percentages. For example, if it is set up to 3 then the rpm of the flue gas engine will be increased by 15% (3x5%) in all operating modes (Power 1 - 5).						
Example	Before calibration	Power 1 = 1000	Power 2 = 1200	Power 3 = 1400	Power 4 = 1600	Power 5 = 1800
	Step = +3	Power 1 = 1150	Power 2 = 1380	Power 3 = 1610	Power 4 = 1840	Power 5 = 2070
Never calibrate the rpm of the flue gas engine without consulting with the service center first.						

<b>3.7.4. Safety thermostat</b>						
In the event that the temperature in the pellet tank reaches the value higher than 90 °C, the safety thermostat activates in order to prevent the ignition of pellets in the tank. The system goes into block mode and there is an alarm message <b>Er01</b> .						

<b>3.7.5. Periodic cleaning of the furnace</b>						
When the system is stable after a specified time interval (every 45 minutes), the system automatically performs periodic cleaning which lasts for 30 seconds.						
During the periodic cleaning, the flue gas engine works with increased intensity while dispensing of pellets stops.						

<b>3.7.6. Shutting down during the ignition phase</b>						
When the system shuts down during the ignition phase (after the preheating phase) through an external device or an internal chrono device, the system goes into shutdown mode when it enters running mode at the end of ignition phase. Message <i>Block ignition</i> is shown on the display.						
If an error occurs, the system immediately goes into shutdown; if P2 is pressed, it is possible to immediately introduce the system into the turning on or off.						

### 3.8 Possible problems and solutions (Troubleshooting)

Message on the display	Description	Possible causes	Resetting errors	Possible solution of alarm causes
Er01	Activation of the safety thermostat	High temperature inside the furnace	Wait until the furnace has cooled and then unscrew the plastic cap on the thermostat and press the reset button	Check the heat sink and check that there is no obstacle for the hot air to get out
		Too high a temperature in the room where the furnace is assembled		Contact the service center
		Faulty thermostat		
Er02	Activation of the safety pressure switch	Obstruction of flue gas drain	Press and the P2 key for more than 3 seconds	Check contamination of flue pipes and funnel
		Incorrect funnel installation		Contact the service center
		Faulty pressure switch		
Er03	Shutting down due to very low flue gas temperatures	Poor combustion (too few or too many pellets remain in the combustion chamber)	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Check the size of the pellet granules
		Empty pellet tank		Check for contamination of the furnace chamber
		Faulty flue gas probe		Check the status of flue pipes Contact the service center
Er05	Shutting down due to very high flue gas temperatures	The temperature of flue gases exceeds the limit	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Insufficient heat transfer - contact the service center
		Obstruction of flue gas drain		Check contamination of the flue drain and funnel
		Faulty flue gas probe		

Er07	Encoder error	Missing encoder signal	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Contact the service center
Er08	Encoder error	Flue gas engine is not responding	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Contact the service center
		Flue gas engine operates at a speed that is different from the set speed		
Er011	Clock error	Problems with the internal clock	Press and hold P2 for more than 3 seconds	Check the accuracy of the preset time
		Insufficient capacity of the internal battery		Check the correctness of programming in the Chrono mode
Er012	Ignition failed	Ignition error	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Contact the service center
		During the ignition phase adequate temp. of flue gases is not reached		Check the state and quality of the used pellets
		Faulty flue gas probe		Check contamination and draft of the flue drain
Er15	Interruption of power supply	Loss of power supply during furnace operation	Press and hold P2 for more than 3 seconds	Check to see if the system and installation are in order
				Contact the service center
Er16	Communication error between the electronics and the display	Interruption of the display cable	Press and hold P2 for more than 3 seconds	Check the cable and display cable connectors
		Damage to the display cable connector		Contact the service center
Er17	Primary air flux meter error	Primary air flux meter does not adjust the operation of the furnace	The furnace continues to run without adjustment of primary air. Turn the furnace off to reactivate the air flux meter. Wait for the furnace to shut down and then press P2 for more than 3 seconds	Check pipe contamination for primary air inlet
				Check contamination and draft of the flue drain and funnel
				Contact the service center
Er39	Primary air flux meter sensor is damaged	Faulty sensor	The furnace continues to run without adjustment of primary air	Contact the service center
Er41	The minimum primary air flux is not reached during the testing stage	There is an obstacle or large contamination in the pipe for primary air inlet	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Check and clean the pipe for primary air inlet
		Obstruction of flue gas drain		Check contamination and draft of the flue drain and funnel
		Doors not properly closed during the ignition phase		Check if the doors close well
Er42	Primary air flux is greater than the maximum permissible value	Too much air intake	Wait for the furnace to shut down and then press P2 for more than 3 seconds	Contact the service center
				Check the pipe for primary air inlet
				Check contamination and draft of the flue drain and funnel

Description	Possible solution of causes
The stove is not receiving electrical power (led indicator not lit)	The power cable could be damaged or else could be disconnected from the electrical outlet
	The fuse inside the circuit board may have burnt out (in this case, request technical assistance)
Repeated failed ignitions take place	The combustion chamber may not have been subjected to regular maintenance (see section 5.1.3.4)
	The ignition heating element or smoke temperature sensor may have malfunctioned (in this case, request technical assistance)

The ventilation is not working	The fan may be blocked or malfunctioning (in this case, request technical assistance)
The burner is being filled with too many pellet (with pellet overflowing)	The door's seal may be worn or damaged
	The holes in the burner may be blocked by deposits (see section 5.1.3.4)
	The stove may not have been subjected to regular maintenance (see sections 5.1.3 and 5.2)
	There may not be sufficient combustion air (if the problem still persists after cleaning the stove, request technical assistance)
	The smoke extractor's motor may not be working properly (in this case, request technical assistance)
	The fuel may be damp
	The combustion air intake could be obstructed
	The set pellet parameter may not be set to proper value and may need to be corrected (in this case, request technical assistance)
Presence of smoke in the room	The door's seal may be worn or damaged
	The stove may not have been subjected to regular maintenance (see sections 5.1.3 and 5.2)
	There may be another functional (stove, fireplace, wood burning range or fume hood) or non-functional (open fire) unit in the same room whose draught is limiting or impeding that of the pellet stove, or vice versa
	The smoke extraction duct (flue duct and chimney) may not be clean or may be not airtight
	The point for inserting the flue duct into the chimney may be flawed
	The size of the flue duct may not comply with the indications provided in this manual (see section 2.2)
	The room should be well ventilated during the first start up phases as the paint normally releases unpleasant odours
	There could be obstacles (trees, buildings, etc.) that exceed the height of the chimney and prevent the smoke from flowing out; the draught in the chimney may not be sufficient

**NOTE:** If the recommended troubleshooting does not eliminate the direct cause of alarm, YOU MUST CONTACT THE ALFA PLUM CALL CENTER.

## 4. MAINTENANCE

### Routine maintenance

Proper and efficient operation of the stove requires periodical maintenance procedures.

Regular maintenance is carried out by the user.

To provide long and proper operation, the device is designed to apply the least possible number of movable parts that may endanger its operation by leading to uncontrolled air intake, which may be very harmful for the combustion quality.

**⚠ CAUTION:** Cleaning procedures described below must be carried out only when the stove is completely cold and disconnected from the power supply.

**⚠ CAUTION:** The stove can be disconnected from its electrical supply by performing two simple procedures: the first consists of turning off the switch on the back of the stove, and the second consists of disconnecting the stove's electrical cable from the power outlet.

The combustion chamber (arrow A in Figure 6.1) is automatically cleaned during the stove extinguishing phase in order to provide proper flow of the combustion air in the combustion chamber. If there is pellet residues in the combustion chamber, remove it manually using a brush or a vacuum cleaner.

**⚠ CAUTION:** However, it is recommended that you clean the lateral areas of the combustion chamber using a vacuum cleaner before you activate the device.

Do not make any changes on the combustion chamber.

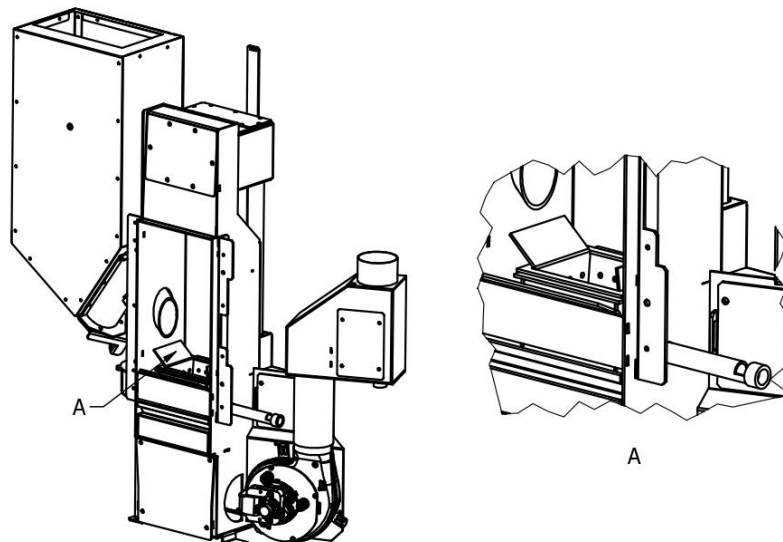


Figure 6.1: Combustion chamber

In the upper part of the chamber there is a cleaning cover attached with 6 nuts (shown by arrow A in the picture, picture 6.2). Unscrewing the nuts and removing the cover leads to the part inside the chamber (arrow B) where ash accumulates due to the burning of the pellets. Accumulated ash should be cleaned using a brush (which comes with the stove) and a vacuum cleaner.

**⚠ ATTENTION:** After cleaning, check whether the braid on the cleaning cover is in good condition, and after checking, the cover is tightened on the chamber using nuts. The tightening of the nuts should be strong enough, in order to achieve a seal between the cover and the stove, which is a condition for good operation of the stove and reducing the risk of malfunctions.

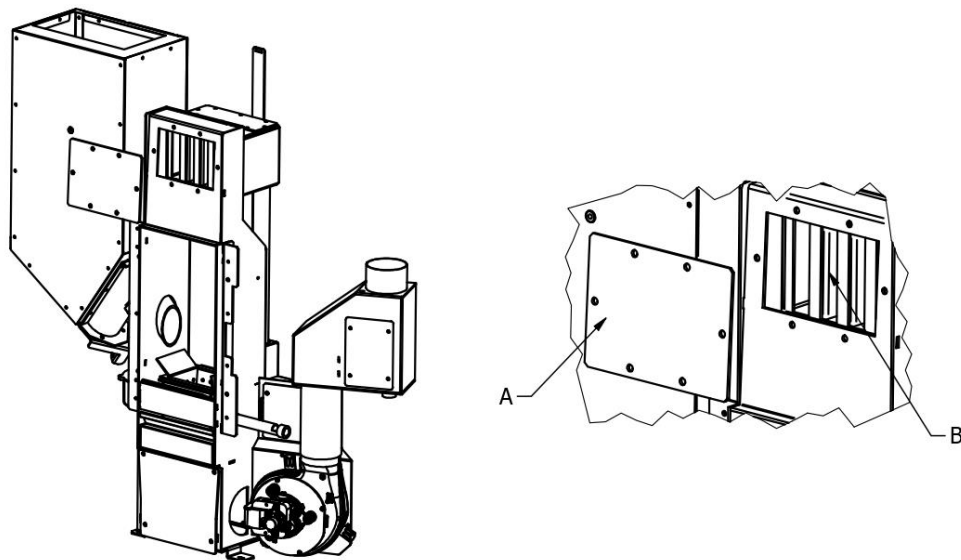
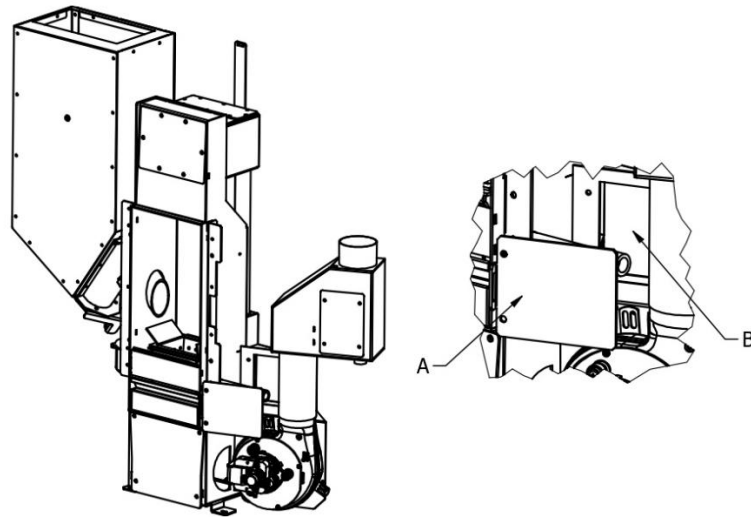


Figure 6.2: Opening the cover for cleaning in the upper part of the chamber

In the lower part of the chamber, directly above the smoke engine, there is a cleaning cover attached with two butterfly nuts (arrow A in Figure 6.3). Unscrewing these nuts and removing the cover leads to the space (arrow B in Figure 6.3) through which flue gases pass. Due to the burning of the pellets, there is an accumulation of ash, so it needs to be cleaned using a vacuum cleaner.

**⚠ ATTENTION:** After cleaning, check whether the braid on the cleaning cover is in good condition, and after checking, the cover is tightened on the chamber using nuts. The tightening of the nuts should be strong enough, in order to achieve a seal between the cover and the stove, which is a condition for good operation of the stove and reducing the risk of malfunctions.



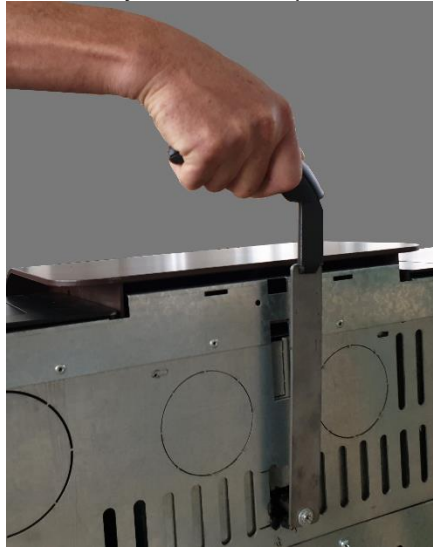


**Figure 6.3:** *Opening the cover for cleaning in the lower part of the chamber*

⚠ **CAUTION:** Cleaning procedures may be carried out only when the stove is completely cold.

⚠ **CAUTION:** Disconnect the power cord from the power socket.

- By using a special handle delivered with the stove, the customer has to move left and right a laver at the back side of the stove at least once per day. Moving the laver left and right, activates special mechanism which cleans smoke pipes integrated inside of combustion chamber and in this way makes smoke path clean. The operation is shown in the photo below.



- The glass may be cleaned more frequently due to the inevitable residues of the combustion that will accumulate on it. The frequency of this physical phenomenon depends on the nature and the quantity of used fuel. Clean the glass when it is completely cold by using nonabrasive detergents.



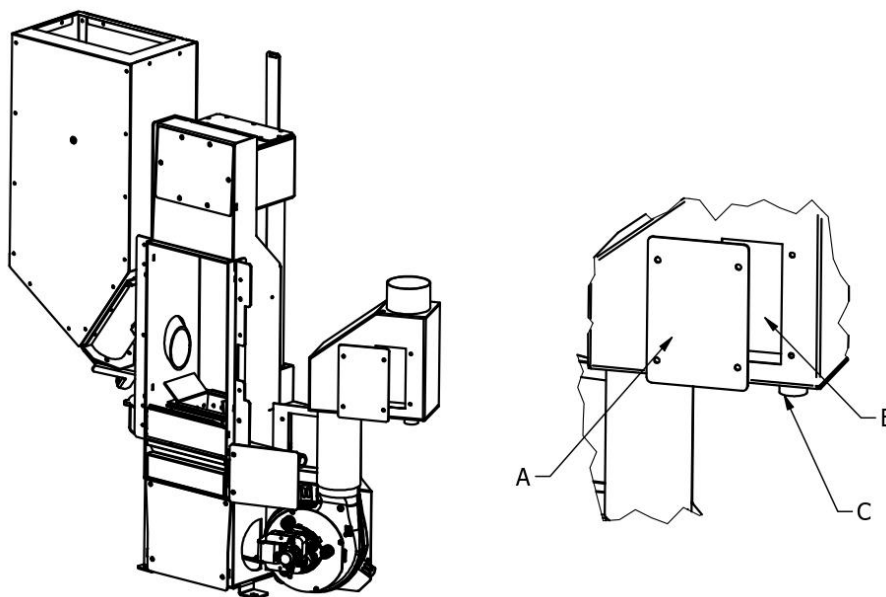


After the winter, it is recommended that you empty all remaining pellets from the tank and store it in accordance with the notes given in the first section.

Flue pipes and chimney should be thoroughly cleaned (at least once during the season of use) to prevent the risk of fire.

You are recommended to check the gaskets of the combustion chamber, since their excessive wearing may lead to the disruption of the combustion process. Open the door and check if the combustion chamber gasket is whole.

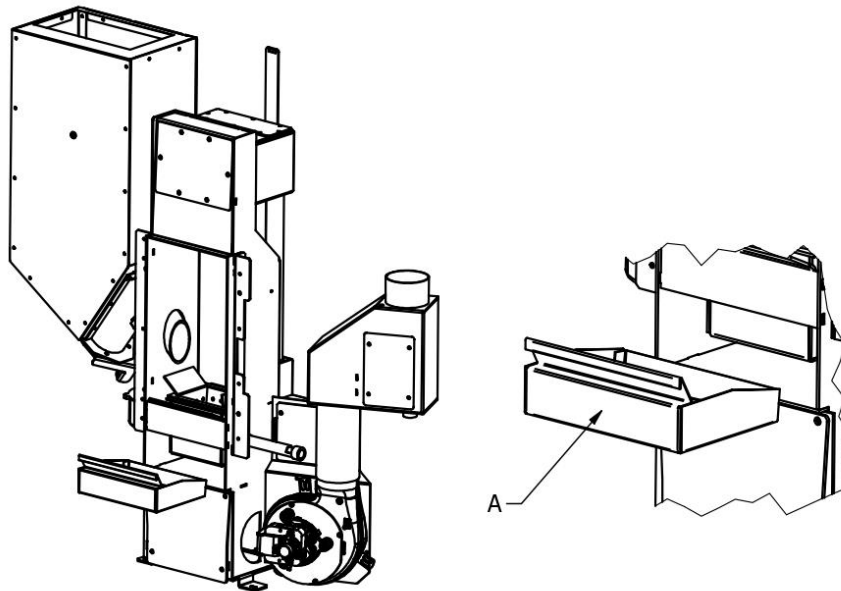
#### Cleaning of condensate and ash collectors



**Figure 6.4:** *Opening the cover for cleaning in the lower part of the chamber*

At the outlet of the smoke engine pipe, a condensate and ash collector is mounted, which has a cleaning cover (arrow A in Figure 6.4) and is attached to the collector by means of 4 nuts. By unscrewing the nuts and removing the cover, you get to the inside of the collector (arrow B), where the ash from pellet combustion settles and which needs to be cleaned using a vacuum cleaner. By unscrewing the galvanized plug (arrow C) from the collector, you can also remove the liquid that may have formed due to condensation.

**⚠ ATTENTION:** After cleaning, it is checked whether the braid on the cleaning cover is in good condition, and after checking, the cover is tightened on the collector using nuts. The tightening of the nuts should be strong enough, in order to achieve a seal between the lid and the collector, which is a condition for good operation of the furnace and reducing the risk of malfunctions.



**Figure 6.5: Cleaning the ashtray**

Under the burner support there is an ashtray box (arrow A in Figure 6.5) that collects ash as a combustion product as some particles of unburned pellets. The ashtray is easily accessible by opening the oven door. It is simply pulled back using its handle and the accumulated ash is released.

**⚠ ATTENTION:** This cleaning is done daily, it is done when the stove has cooled down and before it is turned on. In this case, the remains of the unburned pellet will be completely burned and the possible ignition of the combustible material in the ash delivery container will be avoided. If the user is impatient and wants to empty the ashtray immediately after turning off the stove, it is MANDATORY to deliver the ashes in a special metal container containing water in order to extinguish the remains of unburned pellets.

## 4.1 Special maintenance

This section is intended only for technicians and specialized staff when they are called to make an intervention on our product or to provide useful notes for carrying out procedures that are necessary for the device to be maintained in excellent operational condition.

Detailed equipment maintenance is recommended every season.

**⚠ ATTENTION:** Detailed maintenance procedures can only be carried out by authorized persons, while the stove is completely cold and disconnected from the electrical supply.

**⚠ ATTENTION:** The stove can be disconnected from its electrical supply by performing two simple procedures: the first consists of turning off the switch on the back of the stove, and the second consists of disconnecting the stove's electrical cable from the power supply.

In the event that the maintenance procedures described in the previous points prove to be insufficient (poor operation of the device, poor yield, excessive fuel burning, etc.), as well as every two years regardless of everything, an authorized person must be invited to perform a more thorough cleaning of the device components that are in direct contact with highly heated exhaust gases).

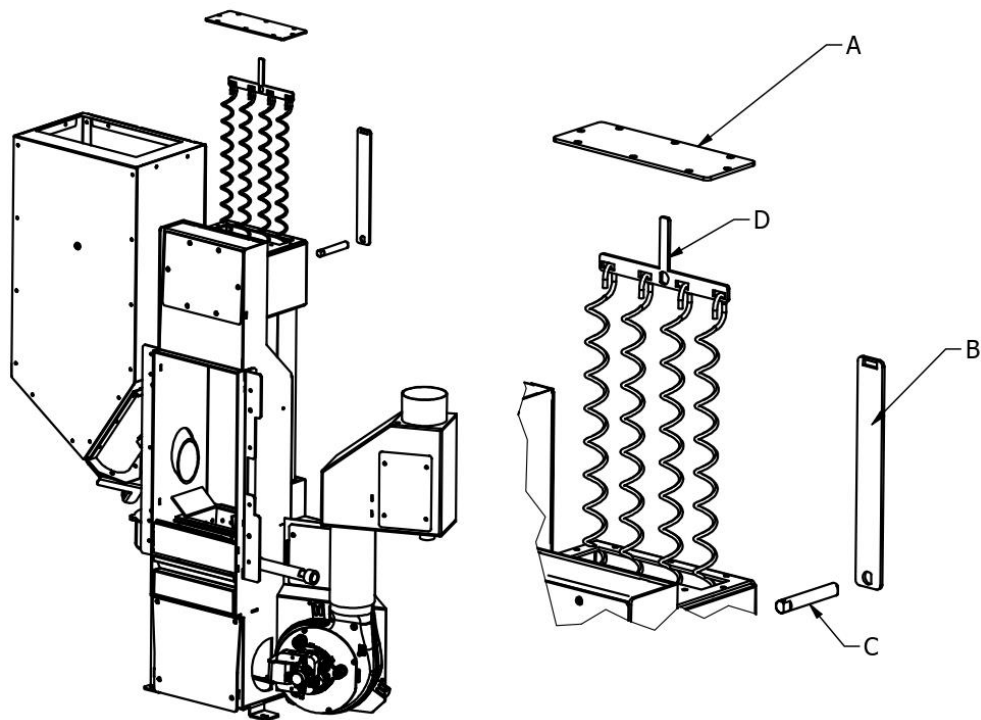
The product has an upper opening for cleaning (arrow A in Figure 6.6) of the exchanger (tubes), which is done 1-2 times per season, but this frequency may depend on the conditions of use of the stove.

The opening can be accessed only after removing the jacket of the stove's heat chamber made of galvanized sheet.

When you remove the cover, unscrew the cover fixing screws (There are 8 of them) to access the exchanger - pipes. Next, removing the appropriate screws and split, separate the roast shaker lever (arrow B) and roast shaker shaft (arrow C) from the turbulator support (arrow D). Remove the turbulator holder together with 4 turbulators (arrow D) from the exchanger (tube).

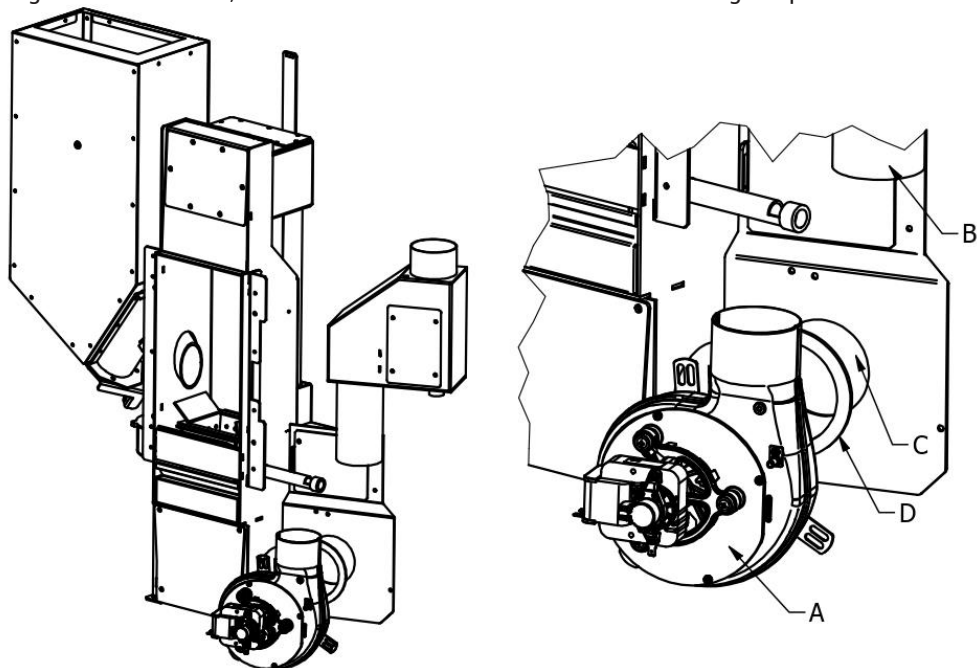
It is now possible to start cleaning using a cleaning brush and a vacuum cleaner. After cleaning, return all parts to their original position.

**⚠ ATTENTION:** After cleaning, check whether the braid on the cleaning cover is in good condition, and after checking, the cover is tightened on the chamber using screws. The tightening of the screws should be strong enough, in order to achieve a seal between the lid and the stove, which is a condition for good operation of the stove and reducing the risk of malfunctions.



**Figure 6.6:** Access to the exchanger (tube)

The smoke engine with housing (arrow A in Figure 6.7) must be cleaned at least once every two years. After removing the condensate collector (arrow B) from the exhaust pipe of the smoke engine housing, it is necessary to unscrew the 3 nuts with which the motor housing is attached to the furnace chamber. After that, the smoke engine can be thoroughly cleaned together with the housing, from residual ash as a product of pellet combustion. In the chamber space behind the motor housing (arrow C) residual ash can be cleaned using a vacuum cleaner. In the factory, the seal between the engine housing and the flame chamber is achieved with a circular ceramic felt (arrow D). When disassembling the motor housing from the motor, damage will inevitably occur and, therefore, the ceramic felt will remain unusable. Therefore, when returning the motor housing and attaching it to the chamber, it is best to achieve a seal between them using temperature-resistant silicone.



**Figure 6.7:** Smoke engine with housing

You are recommended to refer to the support centre of the manufacturer in order to obtain additional information and advice that refer to ordering of spare parts for the purchased products.

## 5. QUALITY CONTROL

ALFA PLAM a.d. reserves the right to amend this Manual any time and without prior notice, with the only purpose to improve the product. ALFA PLAM a.d. shall not be held responsible in any case for any faults or inaccuracy in the content of this Manual. Any full or partial reproduction of this Manual without a written permission of ALFA PLAM a.d. is strictly forbidden.

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