



A.D. METALNA INDUSTRIJA VRANJE  
Radnička br: 1

## Kitchen Stove Installation and Operation Manual

### REGULAR-46



*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.*

## INSTRUCTIONS FOR INSTALLATION, ADJUSTMENT AND USE

# KITCHEN STOVE INSTALLATION, USE AND OPERATING INSTRUCTIONS

These installation, use and operating instructions are applicable only for the following kitchen stove type:

## REGULAR-46

### Before using the stove for the first time:

- \* In order to ensure uninterrupted operation of the stove, you must carefully read these Instructions before using the stove for the first time and comply with the specified recommendations.

- \* Use only the recommended types of fuel, such as logs. In connection to the allowed types of fuel, please refer to 1<sup>st</sup> Federal Emission Protection Decree.

- \* Required discharge pressure in the chimney under normal operating load must equal 12 Pa. For discharge pressure exceeding 15 Pa, a damper needs to be installed inside the draft air duct.

- \* Inside the room where the stove is to be installed, sufficient fresh air supply needs to be provided. If windows and doors in the room are well sealed when shut, or if air consuming appliances are installed in the same room (such as extractor hoods, tumble dryers etc.) fresh air should be occasionally introduced into the room (by opening the doors and windows). In any event, before installing the stove, consult a chimney sweeper.

- \* Combustible materials cannot be disposed in the ash pan. Ash layer height cannot exceed the height of the side walls.

Firebox and ash pan door must be kept closed at all times (except while lighting the fire, adding fuel and removing ash), so as to prevent escape of hot gas.

Modifications cannot be made to the stove, unless original parts are used which have been made available and tested by our company, or if modifications are made by a representative of the manufacturer's customer service.

In the event of fire inside the flue duct, keep the stove doors closed and shut the air regulators. Never extinguish the fire inside the flue duct using water. An explosion may occur inside the flue duct due to rapid formation of vapor. In the event of an emergency, call the fire department!

In the event of faulty operation, shut all air regulators and do not add any more fuel until the necessary repairs are done.

During construction of the structure and the chimney, relevant civil engineering and fire protection regulations must be complied with, as well as all local, national and European regulations and standards.

- \* **WARNING:** do not use things and materials that can cause a fire in any way (wooden parts, gasoline, rags, oils, curtains, paper and all flammable parts) near the appliance (stove) in working condition. Take all necessary measures to prevent such items from igniting.

- \* **ADVICE:** the device must not be used as an incinerator (fuels that are not already prescribed are not recommended: clothes, rubber, plastic, ...)

- \* **RECOMMENDATION:** the power of the stove should be proportional to the size of the room in which it will be located.

The estimated power of the stove of 8 kW is 194 m<sup>3</sup> for planned heating.

- \* With a stove with a nominal power of 1 kW, we can heat a room of up to 10 m<sup>2</sup>, assuming that the room is well insulated and that the doors and windows are well closed. In a less insulated house, 1 kW can heat between 5 and 8 m<sup>2</sup>.

## CAUTION

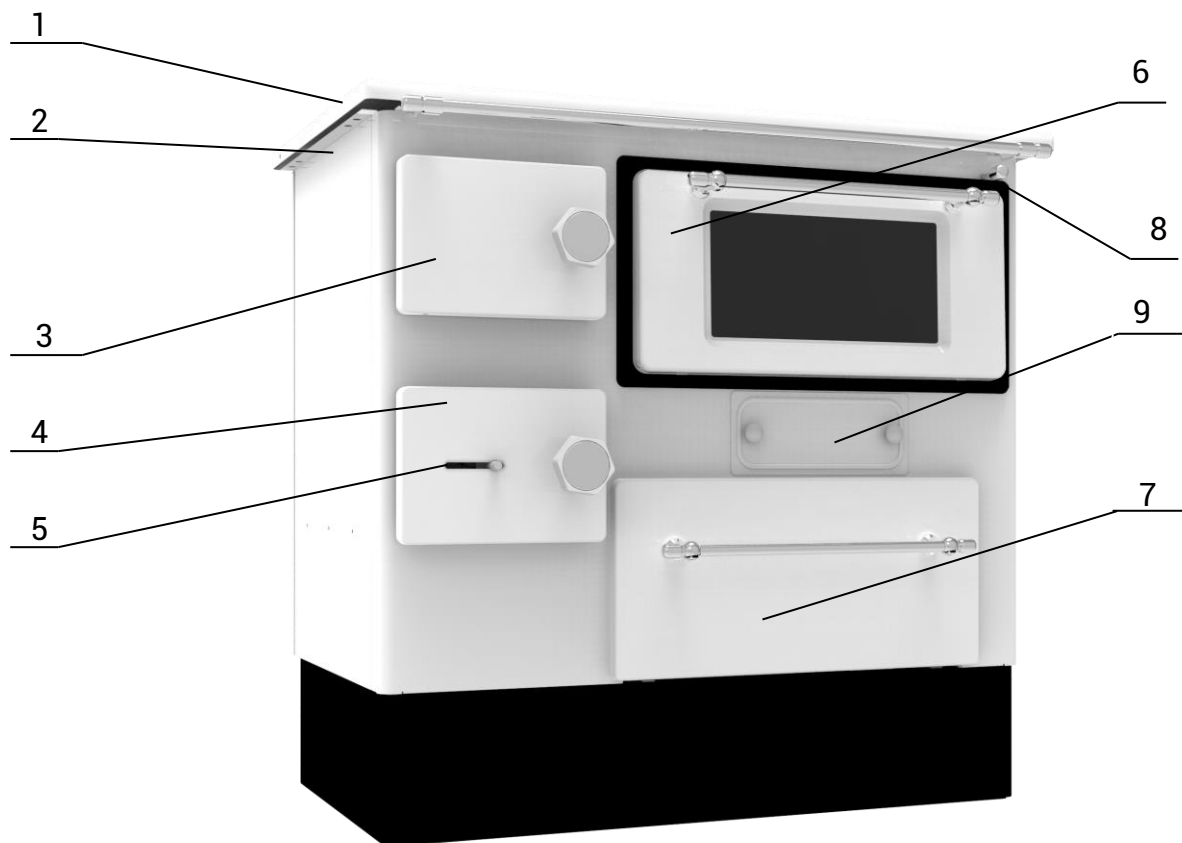
- MAKE SURE TO USE FIREWOOD WITH A HUMIDITY PERCENTAGE OF LESS THAN 25% OR FIREWOOD THAT HAS BEEN STORED IN A DRY AND OPEN SPACE FOR TWO YEARS.

- 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.



*Figure 1*

REGULAR-46 Kitchen Stove

1. Stove cover
2. Cooktop frame
3. Firebox door
4. Ash pan door
5. Primary air control damper
6. Oven door
7. Fuel box
8. Draft regulator lever
9. Cover of the opening for cleaning

## The content:

|        |  |   |
|--------|--|---|
| 1.     | SPECIFICATIONS.....                                      | 1 |
| 2.     | THE RESPONSIBILITY OF THE MANUFACTURER .....             | 1 |
| 2.1.   | THE BASIC CHARACTERISTICS OF THE USER.....               | 1 |
| 2.2.   | THE TRANSPORTATION AND USE OF THE STOVE – HANDLING ..... | 1 |
| 2.3.   | THE RESPONSIBILITY OF THE INSTALLER .....                | 1 |
| 3.     | STOVE INSTALLATION .....                                 | 2 |
| 3.1.   | AIR USED FOR COMBUSTION .....                            | 2 |
| 4.     | INSTALLATION TO THE FLUE .....                           | 3 |
| 5.     | AIR REGULATION .....                                     | 4 |
| 5.1.   | PRIMARY AIR .....  | 5 |
| 5.2.   | USE OF FIREBOX DOOR HANDLE .....                         | 5 |
| 5.3.   | DRAFT REGULATOR LEVER .....                              | 5 |
| 5.4.   | Fuel Box .....   | 6 |
| 6.     | STARTING THE STOVE .....                                 | 6 |
| 6.1.   | STARTING AND OPERATING THE STOVE .....                   | 6 |
| 6.2.   | COOKING.....   | 6 |
| 6.2.1. | COOKING DURING SUMMER.....                               | 6 |
| 6.2.2. | COOKING DURING WINTER .....                              | 6 |
| 6.3.   | BAKING AND FRYING .....                                  | 6 |
| 7.     | DISPOSAL OF ASH .....                                    | 7 |
| 7.1.   | CLEANING AND MAINTENANCE OF THE STOVE.....               | 7 |
| 7.2.   | MAINTENANCE AND CLEANING OF COOKTOP .....                | 7 |
| 7.3.   | REMOVAL OF SLAG AND ASH.....                             | 7 |
| 8.     | GENERAL RECOMMENDATIONS .....                            | 7 |
| 9.     | DETERMINING THE REQUIRED HEAT OUTPUT .....               | 8 |
| 10.    | TURNING THE APPLIANCE OFF .....                          | 8 |

# 1. SPECIFICATIONS

|  | Jedinica | REGULAR-46      |
|--|----------|-----------------|
| Nominal heating power                          | (kw)     | 8               |
| Flue gas temperature (logs)                    | (°C)     | 166             |
| Flue gas flow (logs)                           | (g/s)    | 8,3             |
| Necessary pressure (logs)                      | (Pa)     | 12              |
| Stove dimensions (width x depth x height)      | (mm)     | 915 x 565 x 850 |
| Oven dimension (width x depth x height)        | (mm)     | 460 x 485 x 185 |
| Flue duct connection diameter                  | (mm)     | 120             |
| Height from floor to center of duct connection | (mm)     | side 700        |
| Weight   | ( kg)    | 87              |

## 2. THE RESPONSIBILITY OF THE MANUFACTURER

Upon publishing this Manual, ALFA PLAM **will not accept any civil or legal responsibility, either direct or indirect, due to:**

- Accidents occurred due to the non-observance of the standards and specifications stated in this Manual,
- Accidents occurred due to the improper operation or use of the stove by the user,
- Accidents occurred due to any modifications and repairs not approved by ALFA PLAM,
- Poor maintenance,
- Unpredictable events,
- Accidents occurred due to the use of spare parts that are not original spare parts or that are not intended for these models of the stove.

**The installer of the stove shall take the full responsibility for the installation.**

### 2.1. THE BASIC CHARACTERISTICS OF THE USER

The stove must be used by adult and responsible people.

Make sure that children do not approach the stove, when it is in use, with the intention of playing.

Children must not approach the stove, while in function, with the intention of playing. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge. If they are supervised by an elderly person who is familiar with the instructions of use. Children cannot carry out the cleaning and maintenance of the stove, if they are not supervised by an elderly person.

### 2.2. THE TRANSPORTATION AND USE OF THE STOVE – HANDLING

During the use of the stove care should be taken that the stove is not leaned forward because the centre of gravity of the stove is oriented forward.

While moving the stove, which must be carried out absolutely safely, ensure that the forklift truck has a carrying capacity that is higher than the weight of the stove it should lift. Avoid twitches and abrupt movements.

ALL THE PACKAGING MATERIAL SHOULD BE REMOVED AWAY FROM THE REACH OF CHILDREN AS THE MATERIALS CONTAINED IN THE PACKAGING MAY CAUSE SUFFOCATION. THESE INCLUDE PLASTIC BAGS, FILMS, STYROFOAM, ETC.

### 2.3. THE RESPONSIBILITY OF THE INSTALLER

**The responsibility of the installer is** to perform all the checkups of the flue piping, air intake/supply, as well as all the solutions required for the installation (incorporation) of your stove.

**The responsibility of the installer is** to ensure that the stove is in compliance with local regulations applicable in the place where the stove is installed (incorporated).

**The use of the stove** must be in accordance with the instructions given in this Manual for use and maintenance, as well as with all the safety standards prescribed by local legal regulations applicable in the place where the stove is installed (incorporated).

The installer must **verify (confirm)**:

- The type of the stove that is being installed,
- Whether the room in which the stove is being installed is appropriate, which is expressed as the minimum size of the room required for the installation as prescribed by the stove manufacturer,
- Instructions of the heat generator manufacturer, related to the requirements of the smoke discharge system (smoke discharge ducts and pipes),
- The internal cross section of the chimney, material the chimney is made of, cross-sectional uniformity, whether there are any obstacles and barriers in the chimney,
- The height and vertical extension of the chimney,
- The height above the sea level at the place of installation/incorporation,
- The existence and suitability of a wind resistant protective cover of the chimney,
- The possibility of providing the external air intake and the size of required openings,
- The possibility of the simultaneous use of the stove which is to be installed, together with the other equipment already existing in that place.

If the results of all the checkups are positive, then the installer may proceed with the incorporation/installation of the stove. The instructions provided by the stove manufacturer, as well as the fire prevention standards and safety standards must also be observed.

When the installation is completed, the system must be put into a trial operation for at least 30 minutes in order to check up all the packing and seals of the system.

When the incorporation and significant details are completed, the installer is obliged to provide the client with the following:

- The Use and Maintenance Manual issued by the stove manufacturer (if such a manual has not been delivered with the stove),
- The documents required for the compliance with existing standards.

### 3. STOVE INSTALLATION

The stove must be installed in accordance with applicable civil engineering regulations and fire protection regulations.

The stove is connected to the chimney laterally and in a downward direction, whereas, selection between the left or the right side is optional.

The stove must be placed in a horizontal position.

If the floor is made of combustible material (wood, plastics, carpeting...), make sure to place a protective underlay made of steel, copper or other fire-resistant material. The dimensions of protective underlay must be larger than the dimensions of the stove by at least 30 cm on both sides and by at least 50 cm at the front of the stove.

Pieces of furniture made of wood or plastics must be at a distance of at least 40 cm from both sides of the firebox. Installation elements made of combustible elements must be at a distance of at least 80 cm from the lateral side of the firebox opening.

The walls must also be fire-resistant along their entire height and at least 40 cm of their width on both sides, as well as in front of the firebox. Safe clearances to objects which need to be protected (e.g. combustible walls, walls containing combustible elements, kitchen furniture and reinforced concrete load-bearing walls) must be at least 40 cm at the side of the firebox.

Around the stove, sufficient clearance to combustible objects (objects covered with wood, furniture, curtains etc) needs to be provided.

If the stove's steel plate is to be used, additional elements may not be installed above the stove.

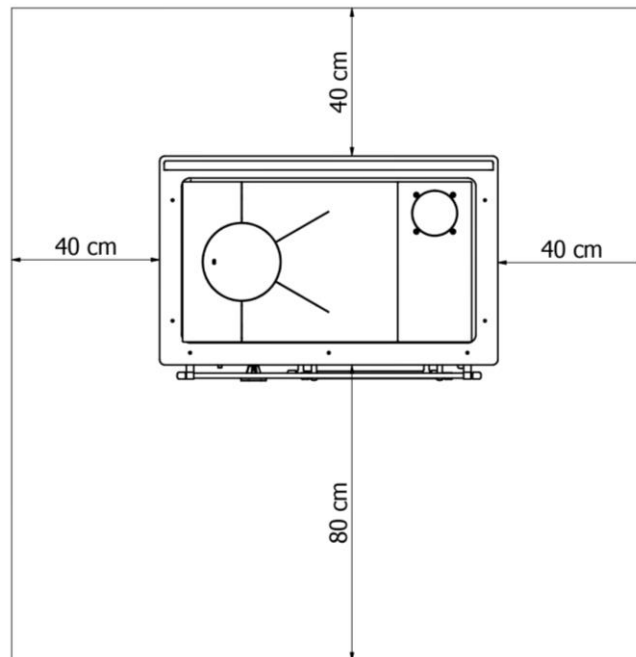
Minimum clearances from combustible materials must be provided when installing fixing elements. Wall clearance must be 20 cm and ceiling clearance must be 40 cm. Before connecting the stove to the chimney, you must consult your local chimneysweeper. Stoves are connected to the chimney by using appropriate flue duct connection elements in accordance with the standard JUS.M.R4.031 (DIN 1298 or DIN EN 1856-2). Make sure that the width of the flue duct connection is not smaller than the diameter of the stove's flue duct and that it is appropriately sealed. In general, you should conform to the standard DIN 18160.

In order to achieve the desired stove efficiency, it must be properly installed and the chimney must operate perfectly.

Before you start using your stove, test the existing pressure in the chimney.

Draft intensity in the chimney can be easily checked, by placing a candle near the chimney opening. The draft is satisfactory if the candlelight bends towards the chimney. If the candlelight slightly bends, this indicates low draft intensity.

For installation of two stoves on the same floor and for their connection to one chimney, their connecting points must be located at a distance of at least 50 cm.



*All minimum safety distances are indicated on the product data plate, DO NOT use lower values than specified (see INFORMATION ON CE MARKING).*

#### 3.1. AIR USED FOR COMBUSTION

Combustion air must be supplied to the rooms where the range is installed. The room must be constantly ventilated. An fresh air opening must be located in the lower part of the room and air should enter through it.

A) Supply of combustion air by means of a pipeline through the basement. This connection option leads to a preheating of the combustion air, which is useful for a good and clean combustion. The installation of pipelines in the basement is simple.

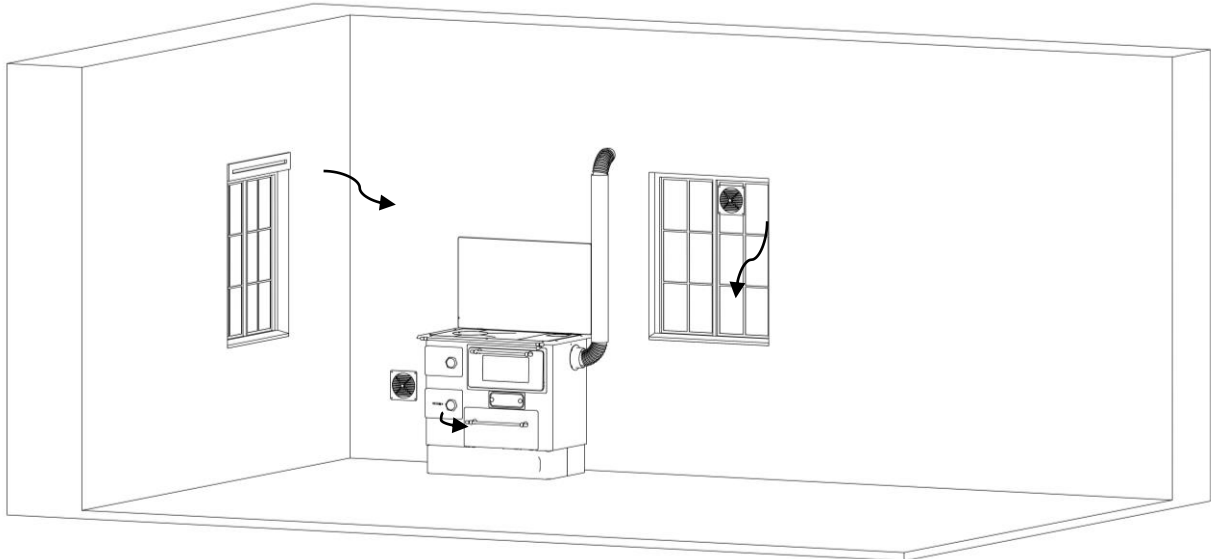
B) Supply of combustion air through the basement. The combustion air is preheated. The basement space must be separated from the ventilation system of the house and open to the outside. High levels of dust and moisture should be avoided.

C) Supply of combustion air from above. Air supply from above can only be performed with tested chimney systems. In this case, it is necessary to calculate the dimensions of the chimney!

D) Supply of combustion air directly from outside. If combustion air is directly supplied through the outer wall, it shall be only be slightly preheated, which is unfavorable for a clean combustion. In this case there is also risk of condensation!

NOTE: We do not recommend these versions of air supply! However, if you use these options, consult a qualified professional.

In the room where the heating device is installed, it is necessary to ensure sufficient supply of fresh air. If the windows and doors are hermetically sealed or if there are air-extracting devices, such as hoods, hair dryers, fans etc., in the room where the range is installed, combustion air (fresh air) must be supplied from outside. In any case, this should be discussed with a competent chimney sweep before installing the range.



*Supply of fresh air in the room where the range is installed*

## 4. INSTALLATION TO THE FLUE

Inspect the unpacked stove and get acquainted with the parts of the stove and accessories, and pay special attention to the following:

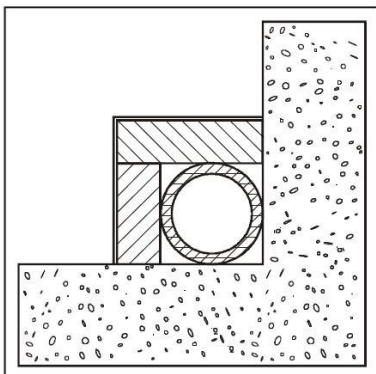
- The door must be well sealed, and the lid is on the hob so to prevent uncontrolled air inflow into the stove.
- The power regulator must open and close the regulator valve properly by using the regulation knob (Figure 1 pos. 5).
- The flue connection must be well sealed with asbestos-free tape during relocation to side or back, which depends on the position in relation to the flue.

### **SPECIAL CONSIDERATIONS**

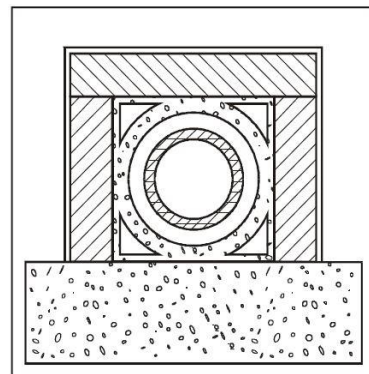
- The flue connection should be placed upwards;
- The flue connection, flue pipes and the flue must not be narrowed;
- All connections, as well as the flue must be well sealed, without soot and dirt in the flue ducts.

The corresponding flue and meeting other requirements are a precondition for flawless stove functioning.

The stove can be installed in the kitchen or other suitable place, taking care that a non-flammable base is placed under the stove, and if the floor is hardwood, then place a special sheet metal plate which will prevent damage to the floor and fire due to careless handling.

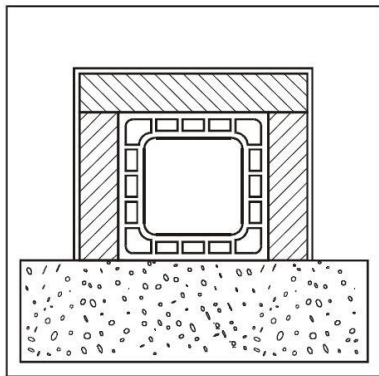


AISI 316 steel chimney with double insulated chamber,



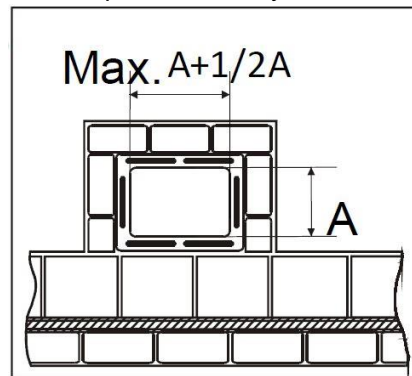
Fireproof chimney with double insulated chamber and an

made of material resistant to 400°C. Optimal efficiency 100%

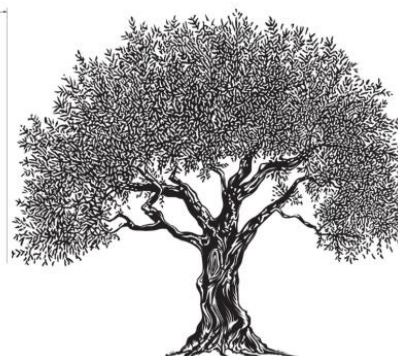
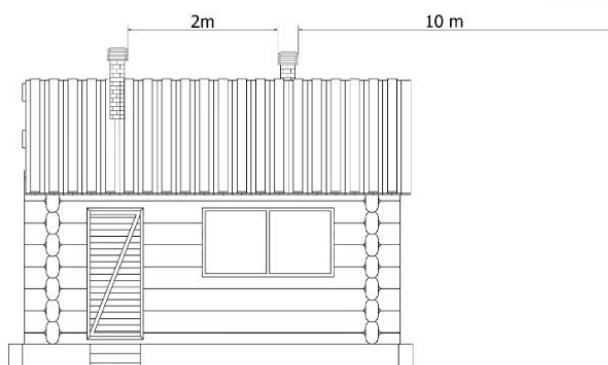
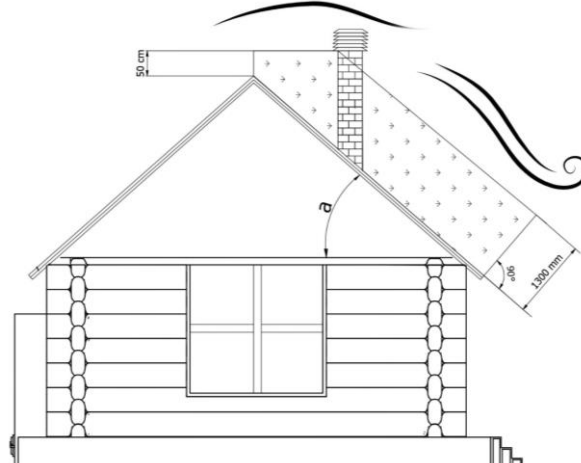
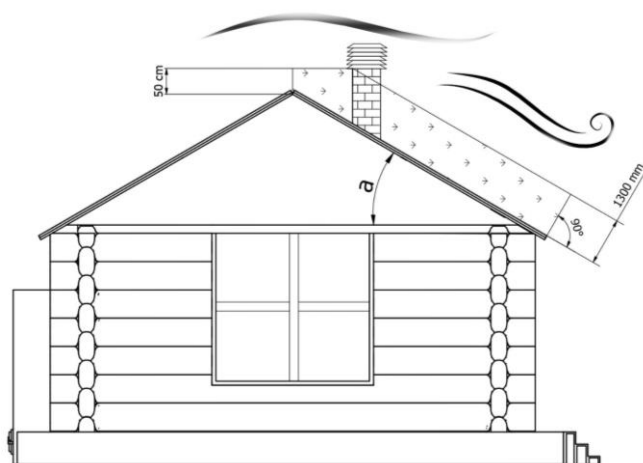


Traditional clay chimney with recesses. Optimal efficiency 80%

outer lining of lightweight concrete. Optimal efficiency 100%



It is forbidden to use chimney pipes that have a rectangular internal cross-section with a ratio that differs from the plan. Modest efficiency 40%



Chimney - positioning and distance

## 5. AIR REGULATION



Figure 2



### 5.1. PRIMARY AIR

Primary air enables combustion of fuel. Primary air is adjusted using primary air control damper handle, which is located at the ash pan door (Figure 2, Item 9).

When lighting the fire, the primary air control damper (Figure 2, Item 9) must be fully open.

Note: To avoid overheating of the stove, the quantity of the fuel, with properly controlled combustion air, must not exceed 2,18 kg/h (logs).

### 5.2. USE OF FIREBOX DOOR HANDLE



Figure 3

*If the firebox door handle becomes overheated, the door is opened and closed using a special wrench, which is a part of special accessories (Figure 3).*



### 5.3. DRAFT REGULATOR LEVER



Figure 5

Draft regulator is activated using the handle (Figure 4, Item 11) located above the oven door. Regulator is opened by pulling the handle out. The regulator is closed by pushing the handle in. This regulator reduces the flue gas flow when lighting the fire.

Draft regulator should be opened only when lighting the fuel, while the stove is cold.

If the draft regulator is open after lighting the fire, the stove may become overheated and its parts may become damaged as a result, and the oven baking quality may be affected.

In addition thereto, an open draft regulator results in higher consumption of the fuel.

## 5.4. Fuel Box

The fuel box is located at the bottom part of the stove (Figure 1, Item 8) and it can be easily moved using guides.

**Warning!** Flammable material such as paper and similar material may not be stored in this box. Be careful of the height to which the box is filled.

## 6. STARTING THE STOVE

**Before lighting the fire for the first time, all enameled surfaces should be wiped off with a soft cloth** to prevent staining.

After you have studied the operating instructions, you may start the stove. When lighting the fire for the first time, open the windows because when the fire starts burning, the corrosion prevention agent briefly develops unpleasant smoke and smell, which is normal. It stops after a short period of time.

You must take into account that some installed parts (flue duct, firebox door) become overheated and create a fire hazard. All areas of the stove may become very hot during its operation. It creates a fire hazard. Considering the fact that all serviceable parts of the stove become heated (door handles), use a special purpose wrench, which is delivered together with the stove.

Keep small children at sufficient distance from the stove.

When lighting the fire for the first time, first light a fire which is three times smaller, to avoid rupture of fire bricks.

### 6.1. STARTING AND OPERATING THE STOVE

- \* Pull out the draft regulator lever handle to light the stove,
- \* fully open the primary air control handle (Figure 1, Item 5),
- \* open the firebox door,
- \* place woodchips, sawdust or paper inside the box,
- \* on this pile, place 2-3 small pieces of wood,
- \* light the fire,
- \* close the firebox door,
- \* let the wood catch fire,
- \* after the fire has been successfully lighted and the stove is well heated, push the draft regulator handle in.

After a layer of hot fragments is formed, add the fuel.

When adding the fuel, slowly open the firebox door to keep the smoke moving in the right direction and prevent it from entering the room.

Nominal heating power is reached when the following quantities of fuel and by adjusting air flow in accordance with the information given in the following table.

| Fuel | Quantity | Combustion time | Primary air |
|------|----------|-----------------|-------------|
| Logs | 2,18 kg  | 1.0 h           | 3 mm opened |

Make sure that you never add a larger quantity of firewood than necessary. The quantity of fuel must not exceed the ones specified above, because it may cause the stove to become overheated.

It is recommended to use naturally dried firewood.

Burning varnished, coated, veneered and impregnated wood, as well as wood containing adhesive, is forbidden. In such events, the manufacturer's warranty shall be invalid. Burning waste is very harmful to the environment and it is prohibited by law. Firewood must be dry (max. remaining moisture 20%). This is achieved by storing the wood for two years in a well ventilated dry place. Damp wood has a lower heating power and causes formation of deposits in the chimney's flue ducts.

Under unfavorable air flow conditions, flue gases cannot be fully disposed off. In such events, the stove may not be used for safety reasons.

## 6.2. COOKING

### 6.2.1. COOKING DURING SUMMER

During warm weather periods, the stove is used mainly for cooking.

Fully open the draft regulator. It is recommended to use thick-bottomed pans with appropriate lids.

### 6.2.2. COOKING DURING WINTER

During cold weather periods, the stove is mainly used for both heating of rooms and for cooking. For faster cooking, use dry wood. Draft regulator must be closed and primary air control damper should be fully opened.

## 6.3. BAKING AND FRYING

Equal distribution of heat is required for baking cakes and meat. To achieve equal distribution of heat and sufficient temperature, draft regulator must be closed. Depending on the baking method, the oven must be preheated. When the desired temperature of the oven is reached, you may place the food you want to bake inside the oven. Make sure that not too many hot fragments of fuel are accumulated. Constantly add smaller quantities of fuel.

Thicker cakes are baked at a moderate oven temperature. Thinner cakes are baked at fairly higher temperatures. For baking meat, the temperature needs to be higher than for baking cakes. Preparation (heating) takes longer and it is a necessary part of the process. Baking is done in a circular-shaped pan placed at the bottom of the oven.

During baking, regularly rotate the pan. The pan is not included with the stove.

## 7. DISPOSAL OF ASH

Ash is disposed by using accessories provided and by removing cover of the opening for cleaning. Empty the ash pan before each use. Grills should be cleaned 1-2 times a week. When the air opening on the grill is clogged due to accumulation of ash or other burned material, the grill should be removed and carefully cleaned.

### 7.1. CLEANING AND MAINTENANCE OF THE STOVE

Proper cleaning of the stove is essential for its proper and reliable operation. Cleaning of enameled areas of the stove is recommended only when the stove is cold. The stove is cleaned with clear water and soft cloth, and under special circumstances, with soapy water. Cleaning intervals mostly depend on the type of fuel and period and manner of use of the stove.

Unnecessary formation of dust during cleaning can be avoided by adhering to the following sequence:

- \* remove the cooktop and carefully clean it outdoors,
- \* remove the soot and deposits from the upper part of the oven and from the parts exposed to the flow of hot gases,
- \* put the cooktop back,
- \* remove cover of the opening for cleaning (Figure 6, Item 13),
- \* remove soot and ash from the upper part of the stove,
- \* push the cover of the opening for cleaning back.



Figure 6

### 7.2. MAINTENANCE AND CLEANING OF COOKTOP

Only sand paper or cleaning agent is used for cleaning the cooktop. After cleaning, wipe the cooktop with a wet cloth and then with a dry cloth. Make sure that flexible grooves are free, so as to enable cooktop expansion during heating. Burnt food and ash on the grooves may cause deformations to the cooktop. Never leave dishes on the cold cooktop. This causes corrosion on the edges, which is later difficult to remove.

#### INSTRUCTIONS

The stove, flue ducts and chimney must be regularly cleaned.

All of the mentioned parts should be regularly inspected by a qualified person.

### 7.3. REMOVAL OF SLAG AND ASH

Slag is removed with the supplied tool, through the slide opening. The ashtray should be emptied regularly, every time before lighting the fire. 1 - 2 times a week the grid should be cleaned. If the air vents are clogged with slag, baked crust or other burnt residues, completely remove the grid and clean it.

## 8. GENERAL RECOMMENDATIONS

If all installation and operation instructions are complied with, this stove will be a reliable kitchen appliance.

Any problems which may arise in connection to your stove can be handled by our customer service. Contact our customer service in the event of any problems or malfunction.

Our customer service will also help you when ordering spare parts.

## 9. DETERMINING THE REQUIRED HEAT OUTPUT

There is no absolute rule that would allow the calculation of the required heat output. This power is determined by the space you want to heat, but it also largely depends on the insulation. On average, the required heat output for a properly insulated room would be **30 kcal h per m<sup>3</sup>** (at an outdoor temperature of 0°C).

| Fuel                    | Unit | Indicative combustion value |     | Required quantity in the ratio of 1 kg of dry wood |
|-------------------------|------|-----------------------------|-----|--|
|                         |      | kcal/h                      | kW  |  |
| Dry wood (15% moisture) | kg   | 3600                        | 4.2 | 1.00   |
| Wet wood (50% moisture) | kg   | 1850                        | 2.2 | 1.95   |

## 10. TURNING THE APPLIANCE OFF

In the event of fire or overheating, close the air inlet covers and DO NOT open the fireplace door. Extinguish the fire with appropriate means (home fire extinguisher...). NEVER USE WATER TO EXTINGUISH THE FIRE! Also notify local firefighters in case of fire. Follow local fire protection regulations!