



LOCAL HEATING COOKER ALFA TERM 35



INSTRUCTION FOR INSTALLATION, SETTING, AND USE

0. TECHNICAL DATA

HEATING POWER WITH THE GRATE IN LOWER POSITION:	
Rated heating power (wood/brown coal briquette)	32 kW / 32 kW
Heating power by radiation of heat (wood/brown coal briquette)	10 kW / 10 kW
Heating power transferred to water (wood/brown coal briquette)	22 kW / 22 kW
HEATING POWER WITH THE GRATE IN UPPER POSITION:	
Rated heating power (wood/brown coal briquette)	21.6 kW / 21.6 kW
Heating power by radiation of heat (wood/brown coal briquette)	8.85 kW / 8.85 kW
Heating power transferred to water (wood/brown coal briquette)	12.75 kW/12.75 kW
REQUIRED CHIMNEY DRAFT	25 Pa
FLUE PIPE CONNECTION DIAMETER	160 mm
HEIGHT FROM THE FLOOR TO FLUE PIPE CONNECTION AXIS, LATERALLY	685 mm
COOKER DIMENSIONS: width x height x depth [mm]	1100 x 850 x 600
OVEN DIMENSIONS: width x height x depth [mm]	460 x 260 x 440
FIREBOX DIMENSIONS:	
Width	365 mm
Height (min/max)	264/510 mm
Depth	414 mm
FIREBOX DOOR OPENING (width/height)	225/215 mm
FLOW AND RETURN PIPE CONNECTIONS	R5/4" RS
THERMO VALVE AND SAFETY VALVE CONNECTIONS	R1/2" RU
VOLUME OF WATER IN THE BOILER	32 l
HEATING VOLUME WITH THE GRATE IN LOWER POSITION:	350-583 m ³ (total)
Heating volume by radiation of heat	90 –150 m ³
Hot water (radiator) heating volume	260-433m ³
HEATING VOLUME WITH THE GRATE IN UPPER POSITION:	216-360 m ³ (total)
Heating volume by radiation of heat	88 –147m ³
Hot water (radiator) heating volume	128-213m ³
MAXIMUM OPERATING PRESSURE	1.9 bars
MAXIMUM OPERATING TEMPERATURE	90 °C
WEIGHT (gross/net)	-/211 kg
FLUE GAS TEMPERATURE (wood/coal)	305/305 °C
CO CONTENT (13% O ₂) wood/coal	0.30 / 0.30%
ENERGY EFFICIENCY (wood/coal)	71.5 / 69.5%

Note:

Heating power is given for dry beech wood used as firewood, with lower calorific value of Hd = 4255 W/kg, and brown coal Hd = 4926 W/kg.

DEAR CUSTOMERS!

Thank you for placing your trust in us and purchasing our cooker used for local heating.

We assure you that you have chosen a cost-effective, quality product which is the result of our extensive experience in manufacturing cookers and furnaces for local heating.

We hope that we fully met your demands in both design and the size of the living area you need to heat.

CERTIFICATE OF COMPLIANCE

Subject: Asbestos and cadmium absence

We hereby confirm that the materials used for assembly of all our devices are free of asbestos and asbestos derivatives and that the materials used for welding do not contain cadmium, as prescribed by applicable norms.

1. PURPOSE

Solid fuel cooker for local heating is used for:

- cooking;
- baking;
- heating of apartments and houses;
- domestic hot water production.

It is most often used as a cooker for local heating, however, it can also be installed for central heating. This cooker is intended for household use and may not be used for commercial purposes.

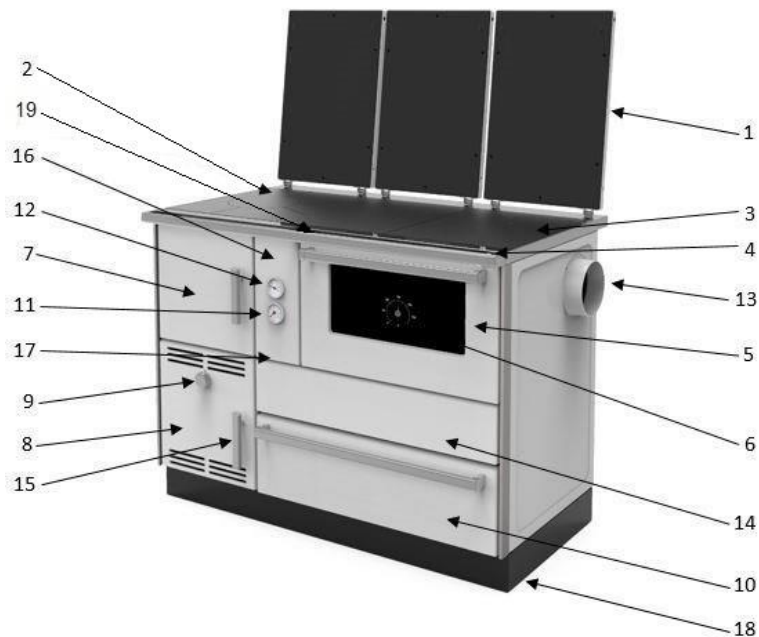


Figure 1

2. APPEARANCE AND STRUCTURE OF COOKER WITH BOILER FOR CENTRAL HEATING (Fig. 1)

- | | |
|---|----------------------------|
| 1. Cooker cover | 10. Wood box |
| 2. Cooktop (hotplate) | 11. Manometer |
| 3. Hotplate extension | 12. Thermometer |
| 4. Butterfly handle | 13. Flue pipe connection |
| 5. Oven door | 14. Opening cover |
| 6. Oven thermometer | 15. Handle |
| 7. Firebox door | 16. Rosette cover |
| 8. Ash pan door | 17. Tertiary air regulator |
| 9. Thermostat button (combustion regulator) | 18. Socle |

Important notes before use

- Before installing up this cooker, please carefully read these instructions and observe all advice provided herein.
- Use only the recommended types of fuel: beech firewood, brown coal.
- In the space where the firing equipment is placed, ensure there is sufficient fresh air. If the windows and doors are sealed (made according to the energy efficiency criteria) or some other devices are also operational, such as hearing devices, vacuum cleaners, laundry driers, fans, etc. in the space where the cooker is being installed, the air required for combustion (fresh air) has to be introduced from outside (Fig. 2). The air grid has to be positioned so that it cannot be blocked.

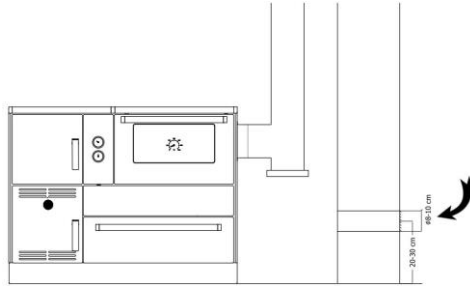


Figure 2

3. SAFETY AND RELIABILITY OF COOKER OPERATION

The cooker used for local heating is designed to ensure maximum operational safety.

Cooker operational safety is ensured by the following three elements:

- combustion regulator (thermostat) (Fig. 1, pos. 9 and Fig. 9, pos. 22), located in the ash pan door, which automatically shuts the air supply into the firebox when the pre-set water temperature in the boiler is reached,
- Thermal release valve (thermal fuse) (Fig. 7, pos. 2 and Fig. 7a), when installed in the heating system, serves as a thermal fuse if the cooker becomes overheated,
- safety valve (Fig. 7, pos. 5 and Fig. 8, pos. 3) which **MUST** be installed on an R1/2" connection (Fig. 4, pos. 4.)

NOTE:

Thermal valve and safety valve are not delivered with the cooker, while the thermostat is installed on the cooker's ash pan door.

4. INSTALLING THE COOKER

- The stove can be installed in the kitchen or at any other appropriate place.
- The substrate under the cooker should be non-combustible.
- In the event of a combustible substrate (wood, plastics), place a metal sheet plate which should extend the sides of the cooker by 10 cm and the front side by 50 cm.
- Furniture and objects adjacent to or in the vicinity of the cooker should not be made of combustible materials. If they are made of combustible materials, minimum clearance to the cooker should be 20 cm on the side and 80 cm in the front.
- During the first two uses, the covers **MUST NOT** be lowered on the hotplate.
- If a cabinet is mounted above the cooker, minimum clearance between the cooker's hotplate and the cabinet should be at least 70 cm.
- Combustible materials (e.g. wallpapers, door casings, doors, etc.) require a clearance to flue pipes of at least 20 cm. This clearance can be reduced if flue pipes are thermally insulated and if the temperature of surrounding objects does not exceed 80°C.
- The cooker should be placed in a horizontal position or with its back slightly raised (3-4 mm).

5. CONNECTING TO CHIMNEY

Inspect the unpacked cooker and study the cooker parts and accessories, and in particular, make sure that:

- asbestos-free sealing wires, which ensure tight sealing and prevent uncontrolled entry of air, are fitted in special ducts of the firebox door, ash pan, cleaning access plate and cooktop frame.
- combustion regulator (thermostat) correctly opens and closes the thermostat damper (Fig. 9, pos. 22), by using the regulation knob (Fig. 1, pos. 9).
- grate holder (Fig. 9, pos. 20) is properly fitted on its supports and that it is easily opened.

Place the chimney connection (collar) (Fig. 1, pos. 13), which is delivered together with the cooker and placed inside the wood box, and screw it on the outlet on the cooktop or on the side outlet. First remove the cover and use the same screws to fasten the collar.

NOTE:

If your chimney is of unsatisfactory or dubious quality, we recommend that you attach the collar on the cooktop outlet and not on the side outlet.

The cooker will reach its nominal heating capacity if the draft in the chimney is 25 Pa. A chimney ensuring good draft is the basis of proper functioning of the cooker. The chimney affects not only the cooker efficiency, but also the combustion quality. The draft in the chimney directly depends on the cross-section of the chimney, height, roughness of the internal wall and the difference in temperature of gases and external air temperature. We recommend the following chimney dimensions that achieve such draft:

Cooker designation	Rated heating power (kW)		Chimney height (m)			
			6	7	8	9
ALFA TERM 35	Brown coal briquette	wood	Clear opening dimensions (mm)			
	35	35	Ø200	Ø200	Ø160	Ø160

- Having a properly operating chimney and observing other requirements with respect to the material specified below, ensures flawless cooker operation.
- If chimney draft exceeds 25 Pa, install a damper inside the flue pipe.
- Chimney connection should be vertically positioned.
- Horizontal pieces of flue pipes over 0.5 m long should slope upwards by 10° toward the chimney.
- Flue pipe connection, flue pipes and chimney may not taper.
- All joints, including the chimney, must be well sealed and there must be no soot or dirt inside the flue pipes.
- Protect the chimney from cold (thermally insulate the chimney). This specially refers to chimneys made of metal sheets or chimneys built on exterior walls.
- Flue pipes that are not thermally insulated and that are not placed in a vertical position may not be over 1.25 m long.

Draft intensity is checked using a candle (Fig. 3).

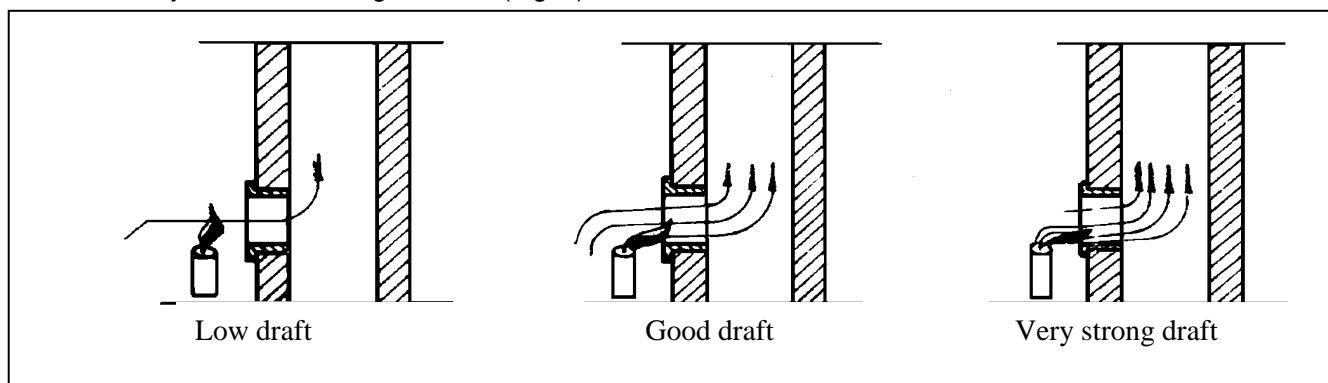


Figure 3

Chimney is properly functioning, if it meets the following conditions (Fig. 4):

- If it extends the height of the rooftop (ridge, highest point) by at least 0.5 m;
- If it extends the height of the house adjacent to the chimney, tree or other barrier;
- If it is built inside house walls or, if the chimney is built on the outside walls, it must be well insulated;
- If the chimney connection is tightly connected to the chimney, if the connection is extended;
- If it is properly cleaned and free of birds' nests, dirt, and soot;
- If the flue pipe does not enter deeply inside chimney opening, since this reduces the space for the smoke to exit;
- If all other required openings and cleaning access plates are well shut (sealed) to prevent generation of "false" air;
- If its duct is independent from other installation and has no cap on top.

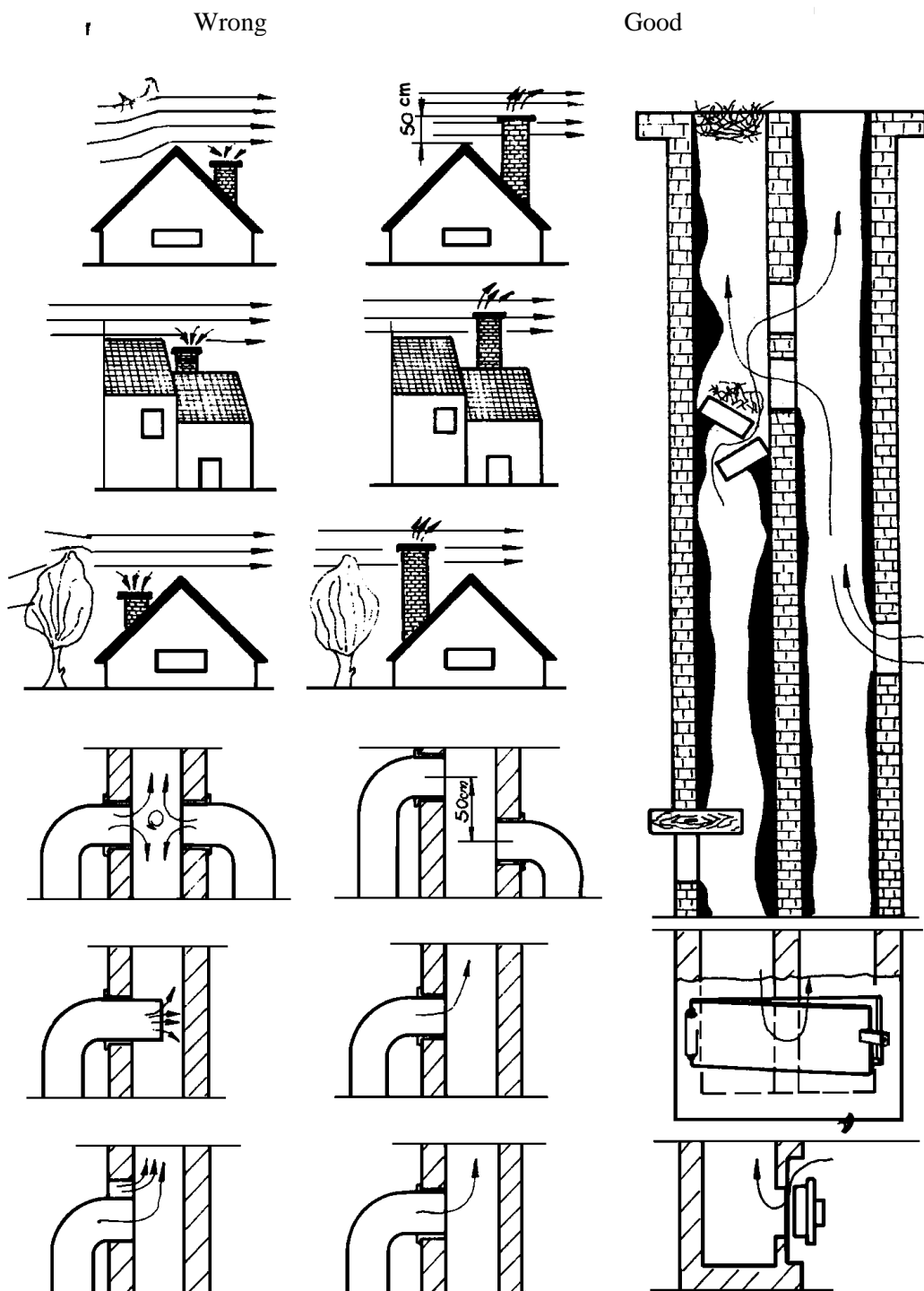


Figure 4

6. INSTALLING THE COOKER IN A WATER HEATING SYSTEM

The cooker should be installed by a professional, in accordance with appropriate design.

The cooker is intended for local and central heating.

The stove can be installed in closed or open heating circuit. Conform to the standards: JUS M.E7.201 and JUS M.E7.202. Closed and open circuit diagrams are shown on Fig. 7 and Fig. 8.

The back of the boiler and connections are shown in Fig. 5 where:

- Position 1 is an G5/4" connection with an inner thread for flow pipe;
- Position 2 is an G5/4" connection with an inner thread for return pipe;
- Position 3 is an R1/2" connection with an inner thread for installation of the thermal release valve safety pipe;
- Position 4 is an R1/2" connection with an inner thread for safety valve installation.

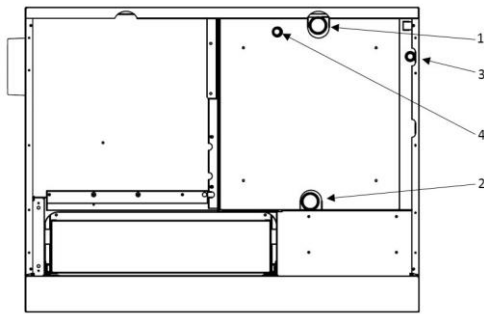


Figure 5

6.1 FLOW PIPE AND RETURN PIPE (Fig. 5, pos. 1 and 2 and Fig. 7, pos. 18 and 19, Fig. 8, pos. 13 and 14)

The size of the flow pipe and return pipe outlets is 5/4" and may not be reduced or tapered before the first branch. Use steel 5/4" pipe or copper pipe with external diameter Ø32mm (or larger).

While installing the system, absolutely make sure that pipe slopes are 0.5% (5 mm per one meter of pipe length) and that the air is released from the system (from the boiler, pipes, radiators).

You can install a combination of temperature and pressure gauge on the flow pipe, although both thermometer and pressure gauge are installed at the front of the cooker.

On the return pipe, install a pump, expansion vessel and a spigot for filling and discharging of the system. When you install the pump, take note of the pump's direction.

6.2 THERMAL RELEASE VALVE WITH INSTALLED THERMAL PROTECTION AND ADDITIONAL CONNECTION ELEMENTS

For the purpose of installation of the thermal release valve, you should procure and install the following:

1. Thermal release valve with built-in thermal protection type 544, 1/2", Caleffi product (Fig. 7a) and Fig. 7, pos. 2.
2. Slope pressure regulator 1/2" with manometer, the same or similar as shown in Fig. 7b and Fig. 7, pos. 13.
3. Filter for cold water at the input of the water supply to the thermal valve, Fig. 7, pos. 12.
4. Filter for hot water intake of the boiler and water outlet of thermal valve, Fig. 7, pos. 14.

Note:

These components are not included with the product for local heating you purchased!

Installation of thermal release valve with built-in thermal protection (Fig. 7, pos. 2 and Fig. 7a) with additional elements ensuring safe operation, such as pressure regulator (Fig. 7, pos. 13 and Fig. 7b), water filter on the boiler intake (Fig. 7, pos. 12) and water filter on the boiler outlet in closed central heating system is **MANDATORY**. This specially refers to a closed system, when the radiators are submerged and where in case of termination of the pump operation for any reason, the water temperature in the boiler rapidly increases and overheating occurs very quickly.

In the open central heating system, the installation of thermal fuse is not mandatory.

6.2 THERMAL RELEASE VALVE WITH INSTALLED THERMAL PROTECTION (Fig. 7, pos. 2 and Fig. 7a)

Thermal release valve should be installed near the cooker, depending on the available space. It can be installed in any position. You should take into account the direction of cold water intake and hot water outflow from the boiler which is clearly marked on the valve body.

The thermal release valve probe (Fig. 7, pos. 3) is best be placed in the thermal valve connection on the boiler itself (Fig. 7, pos. 20). It can be placed on the discharge - distribution pipe (Fig. 7, pos. 18), but at a distance from the boiler of 500 mm the most or at the highest point of the boiler before the exhaust pipes.

Seal it with hemp or other sealing material by tightening.

Figure 7 shows the connection diagram for the thermal release valve.

The device is made in one piece with thermal release valve and filling valve.

Valve opening temperature is 100°C (+0°C/-5°C).

The fluid recommended in the installation is water and 30% glucose antifreeze.

Note:

At reaction, i.e. valve operation, during fluid cooling in an overheated boiler, part of the new fluid is injected into the boiler, but the part is also ejected from the boiler. It will be poured down the drain. If the antifreeze is in the installation, you must keep in mind that a certain percentage will go out and pour down the drain!

It is recommended to use the thermal release valve Caleffi type 544, 1/2" as shown in Figure 7a.

6.2.2 SLOPE PRESSURE REGULATOR 1/2" WITH MANOMETER (Fig. 7, pos. 13 and Fig. 7b)

When installing the thermal release valve, it is mandatory to install a slope pressure regulator as shown in the Figure 7, pos. 13. The pressure that is maintained by pressure regulator must be set at a higher pressure than the pressure that is in the heating system. If you do not have a higher water pressure of at least 0.8 bar compared to the pressure in the heating system, the thermal release valve will not work or cannot inject cold water into the boiler that needs to be cooled.

Pressure regulator should be set to 2.8 to 3 bars.

You should take into account the direction of placing the slope pressure regulator!

6.2.3 WATER FILTER OF THE BOILER INTAKE (Fig. 7, pos. 12)

In front of the slope pressure regulator on water intake from water supply line it is necessary to install a filter that will clean the water from solid objects, primarily of sand, which can damage the tap seal or seals of the thermal valve and the slope pressure regulator.

This filter does not need to be resistant to high water temperatures due to the fact that cold water flows through.

6.2.4 WATER FILTER OF THE BOILER OUTLET (Fig. 7, pos. 14)

It is required to install the filter on the boiler outlet which will clean the hot water from dirt and solid objects that can damage the tap seals, or seals of the thermal release valve. This filter must be resistant to water temperatures up to 150°C.

NOTES:

- After the completion of thermal release valve activation and filling the system with cold water, checking the pressure in the installation is mandatory!
- In cases where antifreeze is used, after filling the installation with water it is required to check the percentage content of antifreeze in a mixture of water and antifreeze!
- To avoid elimination of the antifreeze agent from the installation, it is best to have backup battery supply of the pump with an inverter.

6.3 SAFETY VALVE (Fig. 7, pos. 5, Fig. 8, pos. 3 and Fig. 5, pos. 4)

An R1/2" connection (Fig. 5, pos. 4) is welded at the back of the boiler, under the cooktop frame, on which a safety valve **MUST** be fitted. The safety valve should be set at 2.5 to 3 bars. You can fit it directly on the connection or at a distance from the connection of at least 1 m, provided that there is no block valve between the boiler and the safety valve.

In general, safety valve is not fitted in open circuits, but we advise you to fit it nonetheless, as another safety precaution for the boiler and the system (in case of emergency).

NOTE:

If the safety valve is not fitted as described above, the warranty will not be valid.

6.4 MANOMETER AND THERMOMETER (Fig.1 pos.11 and 12 and Fig.6)

Thermometer and pressure gauge are installed on the cooker, on the rosette cover (Fig. 1, pos. 16) between the firebox door and the oven door (Fig. 1, pos. 12 and 11, and Fig. 6) and therefore it is not necessary to install them.

Thermometer, pos. 12, shows the temperature of water in the boiler (operating temperature) in °C.

Manometer pos. 11, shows the pressure of water in the boiler or the system in bars.

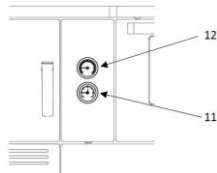


Figure 6 (pos. 11 – manometer, pos.12 – thermometer)

7. PRACTICAL INSTRUCTIONS AND HEATING SYSTEM OPERATION ADVICE

- We recommend you to use a closed circuit, due to corrosion hazard related to open circuits.
- All connections must be well sealed and tightened.
- Before commissioning, the entire system needs to be tested with water at 2.4 bar pressure.
- It is recommended to discharge the water from the system at least once, to empty the system of dirt.
- For a system to which only the "Alfa term 35" cooker is connected, we recommend an expansion vessel of 30 (l) and not less than 25 (l), which should be fitted on the return pipe, as close to the boiler as possible, and no block valves can be fitted between the boiler and expansion vessel.

INSTALLATION DIAGRAM OF CLOSED CIRCUIT SYSTEM COOKER FOR LOCAL HEATING ALFA TERM 35

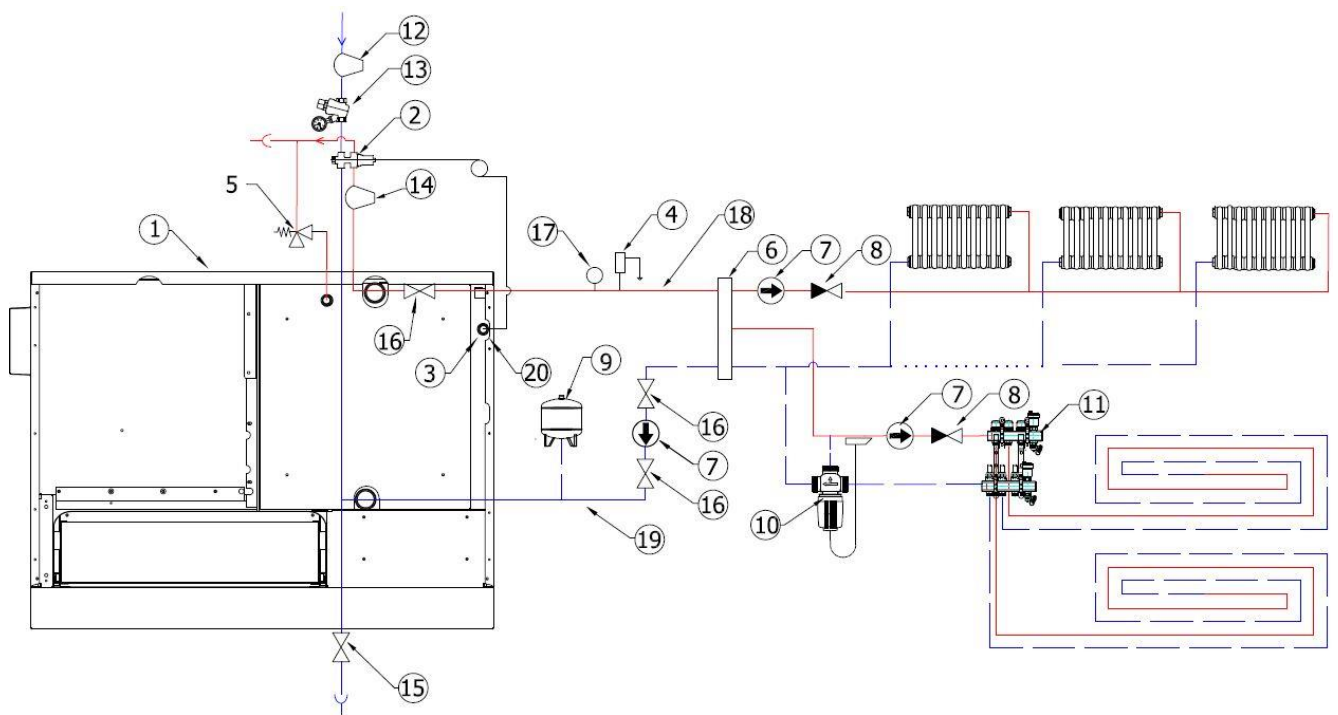


Figure 7

- | | |
|--|--|
| 1. Hot water boiler | 11. Floor heating collector |
| 2. Thermal release valve | 12. Cold water filter |
| 3. Thermal release valve probe | 13. Slope pressure regulator with pressure gauge |
| 4. Automatic air release cup | 14. Hot water filter |
| 5. Safety valve | 15. Spigot for filling and discharging |
| 6. Hydraulic switch | 16. Valve |
| 7. Circulation pump | 17. Thermomanometer |
| 8. Non-return valve | 18. Flow - distribution line |
| 9. Expansion vessel | 19. Return pipe |
| 10. Three-way valve with attached thermostat | 20. Connection for thermal valve |



Figure 7a



Figure 7b

INSTALLATION DIAGRAM OF OPEN CIRCUIT SYSTEM COOKER FOR LOCAL HEATING ALFA TERM

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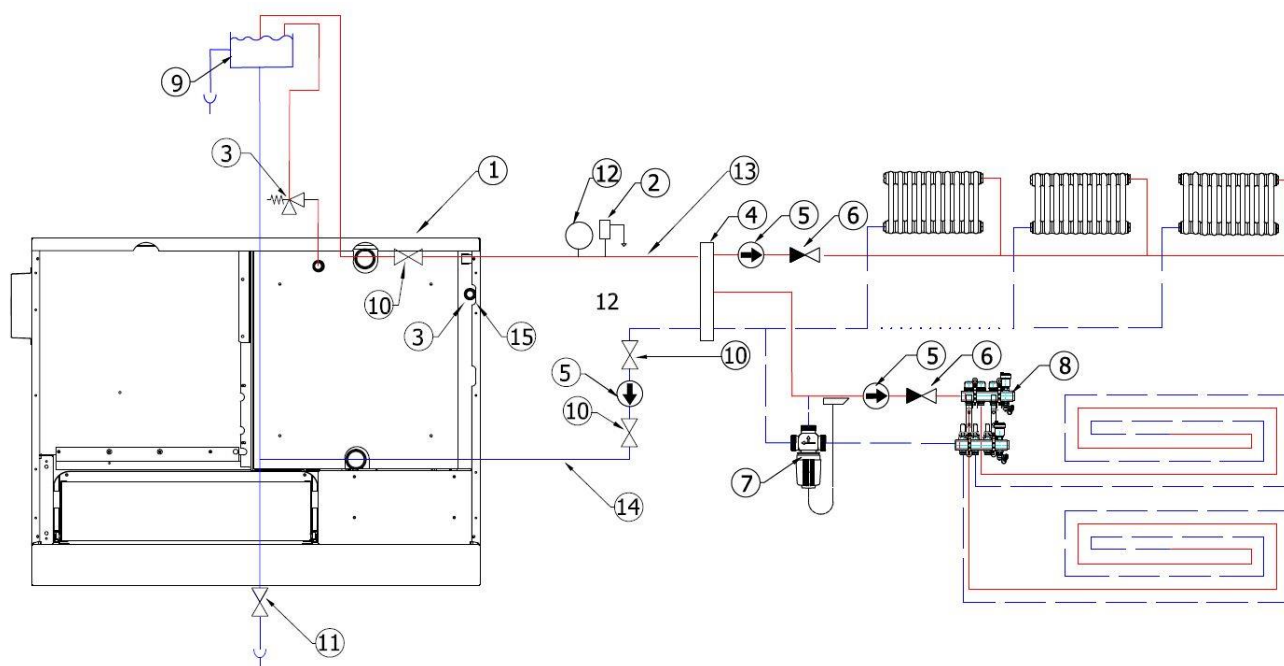


Figure 8

- | | |
|---|--|
| 1. Hot water boiler | 9. Open expansion vessel |
| 2. Automatic air release cup | 10. Valve |
| 3. Safety valve | 11. Spigot for filling and discharging |
| 4. Hydraulic switch | 12. Termomanometer |
| 5. Circulation pump | 13. Flow - distribution line |
| 6. Non-return valve | 14. Return pipe |
| 7. Three-way valve with attached thermostat | 15. Thermostat connection |
| 8. Floor heating collector | |

- It is preferable to install a 5/4" multistage pump with a flow rate capacity that always meets current system needs. Install block valves immediately downstream and upstream of the pump to enable removal of pump for repairs, replacement etc. without discharging the water from the system.

- Install the spigot used for filling and discharging the system on the return line at the lowest point of the system.

- Prior to commissioning, fill the system with water as follows:

- for open circuits, fill the system using the spigot for filling and discharging, until the water starts to leak from the expansion vessel's overflow pipe;
- for closed circuits, system pressure (operating pressure) should be $1 \div 1.5$ bar.

In both cases, slowly fill the system so that the air can escape through air release valves. If the valves are not opened automatically, open them manually until water starts to leak, and then close them.

- Do not discharge water from the heating system even during summer, because it protects the inside of the system from oxidation (corrosion).

- If you will not use the boiler for a longer period during winter and no antifreeze mixture is poured into the system, it is best if you discharge water from the system. While discharging the system, open the radiator valves, air release valves and other system blocking elements.

- You may not light a fire if water in the boiler is frozen or if there is not enough water in the boiler.

8. COMMISSIONING AND LIGHTING THE FIRE

Before you light the fire for the first time, the entire local (central) heating system should be filled with water and well bled, and the cooker should be properly connected to the chimney, as described above.

NOTE:

The cooker may not be used without water. It must be connected to the system, which is connected to consumers (radiators) with the power of no less than 21 KW.

When the system is cold, power regulator (combustion regulator, thermostat) damper (Fig. 9, pos. 22) located on the ash pan door (Fig. 1, pos. 8) should be open (knob Fig. 1, pos. 9 turned to max). The button of the butterfly handle (Fig. 1 and Fig. 13, pos. 4) should be pulled out and the rosette button for heating-baking (Fig. 13, pos. 19) should be turned to the left to position "1" using a key (Fig. 13, b). The butterfly and rosette for heating-baking opened in this way allow starting of fire. Later, when the fire in the cooker is burning, set the regulator damper to

the corresponding position depending of the chimney draught and desired power, leave the butterfly handle button pulled out, and turn the rosette button for heating-baking to the right to position "0" (Fig. 13a) and pos. 19) using a key. When the butterfly and rosette are positioned like this, the optimal utilisation of fuel is ensured and thus better heating as well. During this process, fire box and ash pan door (Fig. 1, pos. 7 and 8) must be closed, if you need controlled burning. Fire lighting butterfly and rosette for heating-baking are opened only while the fire is being lit (10 to 15 minutes).

Note: after starting the fire using the key (Fig. 17), lower the cooker covers to increase the heat transferred to the radiators and to reduce the heat radiated in the room. Cooker covers are thermally insulated.

Use gloves during opening the firebox door for safety reasons. The glove is provided with the product. The cooker is stoked as any other solid fuel cooker. Start the fire through open ash pan holder and grate holder (Fig. 9, pos. 20 and Fig. 10). The grate holder (Fig. 9, pos. 20 and Fig. 10) is opened by lifting and pulling. When the fire starts burning, you may load wood or coal, but do not fill the firebox at once. Instead, divide the fuel necessary to fill the firebox in two or three portions and load them into the firebox in 10 ÷ 15 minute intervals. A cooker loaded in such way can burn for 1 to 6 hours, depending on combustion strength in the cooker or on the regulator (thermostat) setting.



Figure 09



Figure 10



Figure 11

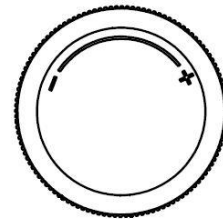


Figure 12

It is not recommended to burn organic or other waste in the stove (plastic bags, bones, etc.) because this causes formation of tar deposits on the flue duct walls, which can cause a fire.

Each time you load the fuel, we recommend that you let the fire burn at maximum strength for at least half an hour, because the first to burn out are all the volatile constituents of the fuel that are usually the main causes of condensate formation in the cooker.

After plenty of hot fragments have formed, load the portions of coal in two or three steps at 15 minute intervals.

9. USING THE GRATE IN THE UPPER AND LOWER POSITION

For cooking, baking and heating during transitional season, the grate is in upper position (Fig. 11) to ensure that the flame directly reaches the cooktop and saves cooking, baking and heating costs.

The cooker is delivered with the grate in the lower position. To move the grate from lower to upper position, take the following steps:

- Remove the cooktop from the cooker and open the firebox and ash pan door.
- Use your hand, through the ash pan opening and ash pan, to lift the front of the grate and pull it out of its holder.

Place the grate on the supports (4 pcs) welded inside the boiler firebox, at the front and in the back (2 + 2 pcs). Place the grate at an angle (slanted) so that the back of the grate can be fitted first, and then lower the front of the grate. Put the hotplate back on the frame.

- The grate is placed in the lower position (Fig. 9 and 10) the same way as it is placed in the upper position.

Notes:

- Grate in the lower position enables better heating of water, heating more radiators and larger living areas, but cooking is more difficult.
- When the grate is in the upper position, water is less heated, fewer radiators and smaller living area can be heated, but cooking is much easier.
- Baking is the same in both positions of the grate.

10. AUTOMATIC REGULATION

Cooker power is adjusted using the thermostat (combustion power regulator), which is located in the ash pan door and which automatically sets the regulator damper (Fig. 9, pos. 22) depending on the regulation knob setting (Fig. 1, pos. 9 and Fig. 12) and the temperature of water in the boiler. The signs "+" and "-" are written

on the regulation knob. The cooker power is regulated by turning the knob "+" to increase and the knob "-" to reduce the power.

In the power regulation system, air regulator (damper) fully controls combustion air supply if other openings are closed.

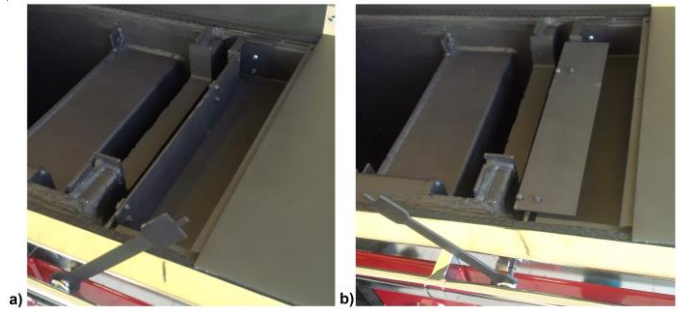
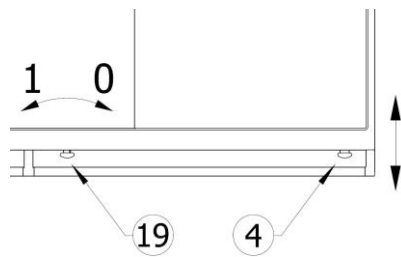


Figure 13

11. SECONDARY AND TERTIARY AIR REGULATORS

Secondary air regulator is placed in the firebox door (Fig. 15). It controls additional lighting of fire and burning of unburned flue gases. The secondary air is adjusted using the lever on the internal side of the firebox door. On the internal side of the firebox door, there is a clear marking 0-1. If the lever is moved in 0 direction, the quantity of the secondary air is decreased, while it is increased if the lever is moved in 1 direction.

Leave the secondary air regulator open when the fire in the cooker is lit.

Behind the rosette cover, there is a tertiary air regulator (Fig. 1, pos. 17). It controls additional lighting of fire and burning of unburned flue gases. The opening and closing of the rosette cover is done using the lever located between the lower part of the rosette cover (Fig. 1, pos. 16) and opening cover (Fig. 1, pos. 14). The signs "+" and "-" are written on the lever. By turning the lever "+" you increase tertiary air, by turning it at "-" you can reduce the air.

Leave the tertiary air regulator open when the fire in the stove is lit.



Figure 15



Figure 15

12. COOKING, BAKING, AND FRYING

During heating season, the cooker is used mainly for heating. For faster baking, cooking and frying, use only dry firewood.

While baking, the butterfly (Fig. 1, pos. 4) for fire starting has to be closed, the rosette button for heating-baking has to be in position "1" (Fig. 13, pos. 19), power regulator has to be open and the stove covers have to be raised using the key (Fig. 18). After you finish baking, cooking or frying, place the power regulator in desired position and the rosette button for heating-baking to position "0".

While baking, increase the temperature of the water in the system to at least 60°C and, if necessary, close some of the radiators during baking and adjust the oven temperature to the food being prepared.

13. FUEL

Fuel can be stored in the fuel box (Fig. 17). The fuel box is moved on guides. If you want to take the fuel box out of the cooker, you must lift it to remove it from the guides.

Use the fuel specified in Table 1 to ensure the nominal heating capacity of the boiler at chimney draft of 25 mbar (25 Pa).

Do not burn coal dust, sawdust, or waste that generates large quantities of smoke!



Figure 16



Figure 17

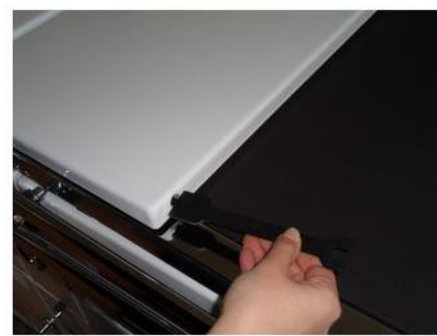


Figure 18

Table 1

Fuel	Heating power (kJ/kg.)
Brown coal	15000 - 19000
Dry beech firewood	15300

NOTE:

To ensure the nominal heating capacity and maximum yield, we recommend you burn dry beech wood cut at the length of L = 33 cm.

14. CLEANING AND MAINTENANCE

Each time before loading the fuel, clean the grate using a small shovel by opening the grate holder or through open firebox door. Remove the ashes from the ash pan at least once a day and remove larger residues (cinder) by opening the ash pan door and fire holder. All surfaces of the cooker that are in contact with flue gases must be regularly maintained and cleaned using a small shovel. Clean heating areas guarantee cost-effective cooker operation. It is recommended to clean the cooker once a month or more often, if necessary.

Do not clean enamelled surfaces and stove frame using wire brush or wire sponge, because it could damage the enamel and safety lining, but use wet cloth, cleaning agents, and mild detergent instead. Clean the oven after each use while still hot. After cleaning, leave the oven door open for a few minutes to prevent bad odours the next time you heat the oven.

Clean the hotplate occasionally using fine sandpaper, and in the event of longer breaks, apply acid-free oil on the hotplate (vegetable oil). Remove burnt material from the cooktop with a spatula, knife or treat it with graphite, ashes from the ash pan or oil.

It is prohibited to cool down the stove by making artificial draft or by using water to cool down the firebox.

15. CONSERVING THE COOKER

At the end of the heating season, clean the cooker from ashes and soot. Discharge the water only if any repairs need to be carried out on the installation. If the system is not used during heating season, pour a certain amount of antifreeze liquid into the system or discharge the water to prevent freezing.

16. TROUBLESHOOTING

Table 2

No.	Problem	Possible cause	Repair
1	Water pressure in the system dropping slowly.	Installation is not sealed.	Check whether all welded connections, threaded connections, unions etc. are sealed.
2	Radiators are cold at system's maximum height and a low sound is heard.	Air in the system and small pressure in the system.	Increase system pressure and bleed the air from the system and radiators.
3	Radiators are not heated along their entire length.	Air in the radiators.	Bleed the air from the radiators using release valve.
4	Safety valve is leaking water from the system and the pressure is below 3 (2.5) bar.	Safety valve is malfunctional	Replace the safety valve

5	Pressure in the system is over 3 (2.5) bar and safety valve is not discharging water from the system.	Safety valve is malfunctional	Replace the safety valve
6	Sudden water temperature rise in the system.	Air in the installations	Bleed the air from the radiators.
		Valves toward radiators are shut	Open all valves in the heating system and enable normal water circulation in the system.
		Circulation pump failure.	Repair or replace the circulation pump to enable heating system operation.
		Power outage.	Open all valves that reduced the heating system. This relates primarily to the valve in by-pass. Stop making fire or make less fire and carefully monitor the water temperature in the system so that the water temperature does not exceed 90°C when the power is back on. Ensure back-up battery supply with converter.
7	Sudden water pressure rise in the system due to water temperature increase.	Reduced expansion vessel pressure or vessel is completely empty. Remove the cover or vessel valve cap and release some air through the valve. If the membrane is damaged, water would leak, and if the vessel is half empty, only the air would come out.	If water is leaking from the valve, replace the expansion vessel. If only air is coming out from the valve, remove the vessel from the system and apply additional pumping. Vessel pressure should be equal to or higher than the height difference between the highest and lowest point of the system. Example: For a 5 m height difference, the pressure equals $P_{min} \geq 0.5$ bar.
		Air in the installations	Release air from the system.
8	Circulation pump does not activate or it trips the switch	No power at electrical connection. Connectors are loose.	Check and tighten all screws at connection points. Check and, if necessary, replace the switches, fix motor connection or installation connection problems.
		Faulty capacitor.	Replace capacitor
		Rotor blocked	Each time you start heating, check whether the rotor turns easily. Hot water deposits can cause the rotor to block. Turn the motor axis left and right using a screw gun until the rotor can move freely.
		The pump is blocked due to deposits.	Dismantle and clean the pump.
9	Thermometer or pressure gauge does not display system temperature or water pressure.	Faulty thermometer or pressure gauge.	Replace thermometer or pressure gauge
10	Noise coming from the heating system	Pump is malfunctional. Large clearance between the rotor axis and nut.	Reduce pump speed. Replace pump nuts or the entire pump.
		Pump speed is too high.	Lower the speed.
		Air in the installations	Bleed the air from the heating system.
		Loose knobs or screws on the cooker.	Tighten the knobs and screws
11	Noise inside the pump.	Pressure too low at suction part of the pump.	Increase system pressure or check the expansion vessel.
12	The cooker overheats, loud noise (cracking) is heard in the boiler of the cooker	Electricity outage has occurred, the circulation pump does not work and the boiler of the stove overheats. There is a danger of boiler rupture.	To avoid this, it is best to have backup battery power supply for the circulation pump with an inverter.
			It is best to have a release thermal valve installed (fig. 6, pos. 2) as additional safety measure from cooker overheating.

			If you do not have backup supply of the circulation pump or a thermal release valve installed, then you should open the bypass valve connected in parallel with the circulation pump on the pipeline system and remove embers from the cooker.
13	The cooling thermal valve is activated (thermal release valve) because water temperature has exceeded 95°C due to:	- no electricity	This is as it should be and do not touch anything. When the system is cold, thermal valve will be closed. After that, check the pressure in the installation and fill the system to the required.
		- open ash pan door and no controlled combustion	Close the ash pan door and reduce system water temperature using the knob on the ash pan door and thermostat.
		- grate in lower position and not many radiators are open	Switch the grate to upper position or open more radiators. Keep ash pan door closed.
14	Water condensation in the boiler.	Fuel is wet.	Replace fuel
		Return water temperature is too low.	Install mixer valve or turn a radiator off.
15	Outlet water temperature not right (too low)	Low calorific value of fuel.	Change fuel.
		Heating system is too large (too many radiators)	Turn off some radiators.
		Not enough fuel has been loaded in the firebox.	Increase the quantity of fuel in the firebox.
16	Fire is not burning regularly	Low chimney draft.	Build a new chimney or repair the old one.
		Connecting flue pipes are not sealed. Cooker and chimney door are not sealed. Chimney draws "false air".	Seal all joints to prevent occurrence of "false air".
17	Not enough heat during baking, cooking	Thermostat set to lower temperature.	Increase water temperature using the thermostat or briefly open the ash pan door.
18	Too much heat during baking, cooking	Thermostat set to high temperature.	Reduce water temperature using the thermostat or burn a smaller fire.
18	Smoke coming from the boiler-cooker during start-up	Slight burning and heating of chimney and cooker.	It is normal for the cooker to smoke a little during first use and it stops after a while.
20	Boiler-cooker is smoking during regular use.	Chimney, flue pipes and cooker not cleaned.	Clean the inside of the chimney, flue pipes and cooker.
		Fuel is wet or you are using fuel that is generating a lot of smoke.	Change the fuel. Use dry fuel or smokeless fuel.
		Firebox is overloaded.	Load the firebox slowly, gradually, in several steps
		Poor chimney quality	Repair your chimney or build a new one.
21	Grate is stuck during shaking.	A nail, cinder or other material is stuck on the grate.	Clean the grate of unwanted objects.

17.0. THE PERIOD OF GUARANTEED SERVICE

This implies the period during which we guarantee the service, tools and spare parts, starting with the date of purchase of the device.

The duration of the guaranteed service is in accordance with the applicable laws and regulations.

In case of change of model and design of the device, the deadline for replacement of parts that changed the design is within the legal deadline.

After this period, we provide the modified parts with new designs.

17.1. WARRANTY CONDITIONS

Product warranty is valid during the period prescribed by the law.

The guarantee is not valid for the glass, the glass-ceramic panel and the physical damage that have occurred after purchase.

THE MANUFACTURER RESERVES THE RIGHT TO MAKE ANY CHANGES.

The device under warranty will function properly only if used in accordance with these instructions for installation and use.

The warranty expires if it is established that:

- Connecting the product or repair performed by an unauthorised person, or if non-original parts were used;
- if the device was not used properly in accordance with this instruction;
- if a mechanical damage occurred during the use of the device;
- if the repairs were performed by an unauthorised person;
- if the device was used for commercial purposes;
- If the damage occurred during transport after the sale of the device;
- If the failure was due to improper installation, improper maintenance, or mechanical damage caused by the customer;
- if the malfunction was the result of too high or too high voltage, as well as of force majeure.

Defects on the device may be removed even after the expiration of the warranty using the original replacement parts for which we also provide a warranty under the same conditions.

This guarantee does not exclude or affect the rights of the customer in regard to the conformity of the goods pursuant to the legal regulations. If the delivered product does not conform to the agreement, the customer has the right to ask the seller to repair such lack of conformity without any reimbursement, by repair or replacement of the product in accordance with the valid legal regulations.

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OUTLINE DIMENSIONS OF ALFA TERM 35 COOKER

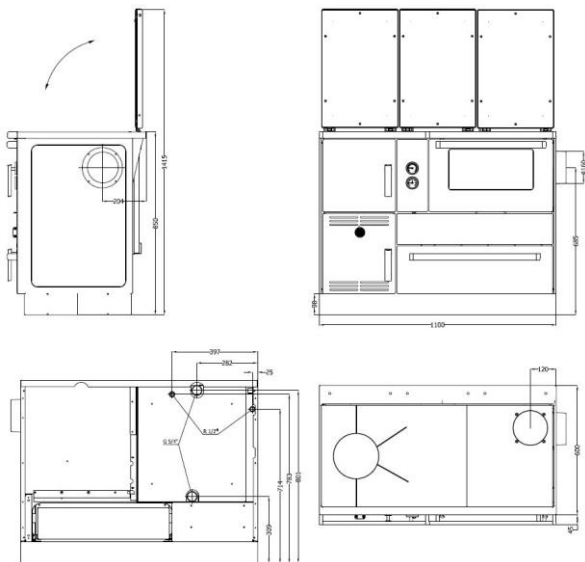


Figure 19