PROIZVOD

OSNOVANO 1990.

USER MANUAL FOR PYROLYTIC BOILER ABC DELTA

TECHNICAL DATA

TYPE				ABC DELTA 20	ABC DELTA 30
Rated power			[kW]	20	30
Required chimney draft			[Pa]	10	12
Volume of water in the boiler			[lit]	110	
Fuel dimensions (chopped wood)			[mm]	500x100x100	
Combustion chamber volume			[m³]	0,12	
Electrical power supplied			[W]	150	
Supply voltage			[V]	230	
Frequency			[Hz]	50	
Boiler dimensions		depth	[mm]	1080	
		width	[mm]	640	
		height	[mm]	1395	
Boiler mass			[kg]	543	546
Maximum operating pressure			[bar]	3	
Maximum operating temperature			[°C]	85	
Flue pipe diameter			[mm]	150 (h=1395)	
Connections on Boiler	Boiler outlet		Col	R5/4“ (h=1381)	
	Boiler inlet		Col	R5/4“ (h=231)	
	Filling and draining		Col	R½“ (h=66)	
	Thermal valve probe		Col	R¾“ (h=1160)	
	Thermal valve		Col	R½“ (h=1181)	

1.0.GENERAL INFORMATION

Steel hot water pyrolytic boiler **ABC DELTA** with rated thermal power of 20 and 30 kW, is designed to burn wood. It is designed for heating the smallest to medium size objects.

By using the pyrolysis principle fuel burns completely, and therefore has a high efficiency rate of up to 93%.Spacious combustion chamber allows firing with fuel of up to 500 mm in length. The duration of one burning cycle is at least 6 hours at rated thermal efficiency with the possibility of extension to a whole day if heating is needed to a lesser extent.Boiler operation is controlled by a digital control installed in factory. The boiler is mounted to the installation indirectly via adequate number of accumulation tanks (Buffer).

1.1. CHARACTERISTICS OF ABC DELTA PYROLYTIC BOILER

The boiler is manufactured according to the European standard EN 303-5 and thus achieved the required efficiency rate and very low emissions of greenhouse gases.
The boiler is designed to burn wood. Design solutions for guiding combustion gases and their further combusting ensure high efficiency of the boiler, making it “very economical”. Large doors and combustion chamber allow burning of large wood and make it very easy to clean and maintain. The duration of one burning cycle is at least 6 hours at rated thermal efficiency with the possibility of extension to a whole day if heating is needed to a lesser extent. Good discharging of combustion products (smoke) is enabled at filling of combustion chamber with fuel.

The boiler must be mounted to the central heating system indirectly through the accumulation tank. Boiler is controlled by a digital boiler controller, which is an integral part of the delivery. Boiler controller controls the process of combustion, circulating pump in the primary circuit (boiler-accumulation tank), circulating pump in the heating circuit (accumulation tank-heating elements), circulating pump for sanitary water, and provides information on the need for filling the combustion chamber with fuel.

ABC DELTA boiler is easy to use, while built-in regulation ensures reliable operation of the boiler. The boiler is equipped with a lambda probe, which allows continuous reading of the percentage of oxygen in the exhaust, and with engines which operate via lambda probe and control the primary and secondary drafts, and complete combustion of the fuel. Boiler combustion chamber is divided into two parts. The upper part with stored fuel (wood) for burning and lower, insulated ceramic chamber, in which complete combustion of fuel is performed, and during this process the temperature gets as high as 1200°C. **While in operation, the boiler's lower door of the combustion chamber must be kept closed.**

The mandatory installation of the accumulation tank to the heating system provides the optimal operation of the boiler and the heat generated is accumulated in tank and can be used as needed. This enables the planning of adding fuel in reasonable time, and in the case of mild temperature conditions, heating of living space and sanitary water is possible for several days without adding fuel. The boiler is delivered with thermal insulation in plastificated metal sheet housing and with connected wiring.

1.2. COMBUSTION PROCESS BY USING PYROLYSIS PROCEDURE

Combustion process is performed in the two-part combustion chamber in several stages. Loading and drying the wood is followed by evaporation of gases from wood, and it is carried out at temperatures between 100 and 300°C.Burning gases are separated from the wood mass. The gases created are mixed with oxygen and completely burnt at high temperatures.

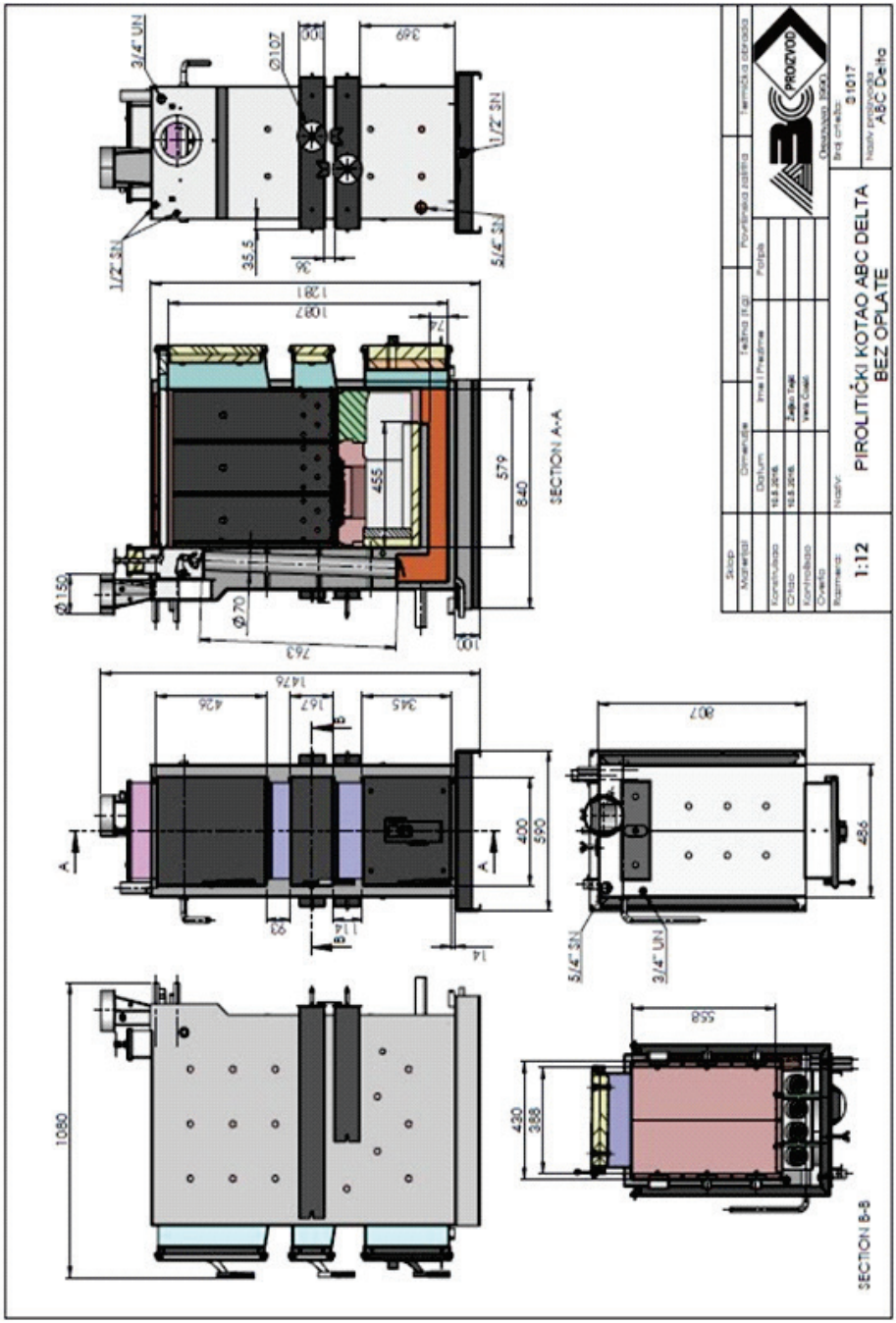
Fuel: Firing up the boiler is anticipated by using the wood with moisture content of up to 20% (max 25%). The moister requirement is met by wood air dried for at least 12 months.

1.3 DELIVERY CONTENT

ABC DELTA boiler contains:

- housing with thermal insulation,
- built-in digital boiler control
- ash cleaning kit (poker, scraper and steel brush) and
- levers (of turbulators) for cleaning flue pipes.

1.4 BASIC DIMENSIONS OF THE BOILER WITHOUT FORMWORK



2.0 SETTING UP AND CONNECTING BOILER

Setting up and installation of the boiler must be performed by a professional.
Boiler room must be secured from frost and well ventilated. The boiler should be placed in such a manner so its connection to the chimney can be done correctly and at the same time it should be possible to perform filling the boiler, monitoring during operation, cleaning and maintenance of the boiler.

The boiler must be mounted to the central heating system via one or more accumulation tanks, depending on the thermal power of the boiler. It is recommended to have a minimum of 50 litres of accumulated water on every 1 kW of boiler power (e.g. for boiler of 30 kW of power the minimum recommended accumulation amounts to 1,500 litres of water). The boiler must not be used if there is no built-in accumulation tank.

The boiler is connected to the tank exclusively through thermostatic three-way valve that maintains the temperature of the return water in boiler above 60°C.
Flammable objects must not be placed on the boiler and within the minimum distance: 1,000 mm to left and right, 500 mm to rear and 1500 mm to front.

3.0 CONNECTING TO A CHIMNEY

Properly sized and constructed chimney is a precondition for safe operation of the boiler and heating efficiency.

The chimney must have good thermal insulation and must be smooth on the inside. At the bottom of the chimney a door must be installed for cleaning. The masonry chimney must have three layers with a middle insulation layer made of mineral wool. Insulation thickness must be 30 mm, if the chimney is built on the inside of the wall, or 50 mm if it is built on the outside of the wall. Internal dimensions of cross section of the chimney depend on the height of the chimney and the boiler power. The selection and construction of the chimney must be delegated to a professional. Prescribed minimum clearance between the boiler and the chimney is 500 mm.

All installation actions should be performed in accordance with the applicable national and European standards.

4.0 FRESH AIR OPENING

Each boiler room must have an opening for fresh air (oxygen) properly sized according to the boiler power. Minimum area of opening is calculated according to the formula:

$$A=6.02xQ$$

A - opening area [cm²]
Q - boiler power [kW]

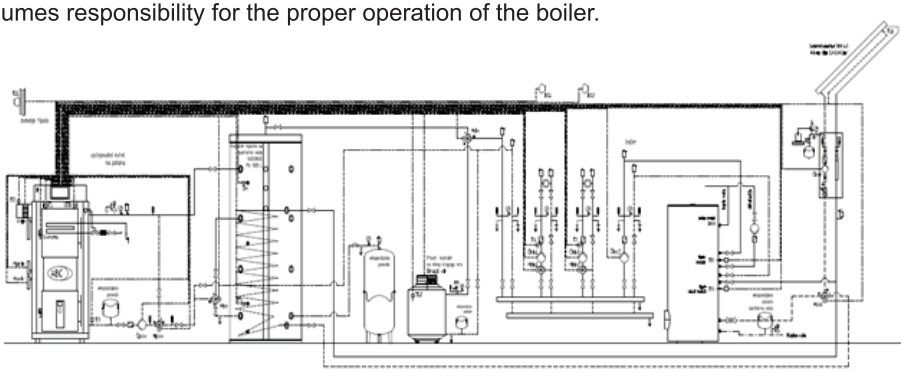
The opening must be protected by a mesh or grid. All steps of installation should be performed in accordance with the applicable national and European standards.
The boiler must not be operated in flammable and explosive surroundings.

5.0. BOILER INSTALLATION ON AN EXISTING CENTRAL HEATING SYSTEM

All installation actions should be performed in accordance with the applicable national and European standards.

We recommend the installation of **ABC DELTA** pyrolytic boiler to the closed central heating system.

Installation must be done in accordance with technical standards, by a professional who assumes responsibility for the proper operation of the boiler.



When transporting the boiler (forklift, pallet transporter, etc.) it is necessary to remove formwork with insulation underneath the water space in the base of the boiler. Formwork/insulation is removed by pull on the front of the boiler, similar to a drawer. After placing the boiler on the location of operation, get formwork/insulation back on their place.

Pipe of the primary line from the boiler to the central heating installations must not go above the top cover of the opening for cleaning flue pipes. Otherwise removing the turbulators and cleaning the flue pipes is prevented. Before connecting the boiler to the central heating system, it is required to clean the system from debris which remained after installation of the system. This prevents overheating of the boiler, the noise in the system, the interference on the pump and mixing valve. Connecting the boiler to the central heating system is performed with the union flat joints, not welding.

5.1. BOILER INSTALLATION ON A CLOSED CENTRAL HEATING SYSTEM

Safety valve and expansion tank must be installed according to professional standards, there should be no sealing element between the safety valve and expansion tank and boiler. In the case of **ABC DELTA** pyrolytic boiler, heat pump must be connected to a boiler controller so turning the heat pump on and off would depend on the water temperature.

When the boiler is installed on a closed central heating system, it is necessary to install a certified safety valve with an opening pressure of 3 bars, the minimum diameter of 15 mm, the minimum inlet connection to the valve of 1/2", the minimum outlet connection of 3/4" and membrane expansion tank.

Closed heating system must be fitted with an expansion tank. Tank volume should be about 10% of the whole installation volume.

5.1.1. THERMAL PROTECTION OF THE BOILER

According to European norms on closed heating systems it is required to install the boiler thermal protection. The boiler is factory-prepared for the installation of thermal protection.
If damage occurs on the boiler installed on closed heating system, caused by overheating, and the boiler or system do not have properly built-in thermal protection, the manufacturer will not recognize the warranty.

Thermal valve must be installed on the designated place on the boiler and must be connected to a water supply.

Thermal protection of the ABC DELTA boiler consists of heat exchanger, factory-installed in the boiler, and heat valve which should be installed when positioning the boiler.
Heat exchanger is a copper pipe which is spirally bent and built-in in a water space of the boiler.

The ends of the pipe come out on the rear side of the boiler in the form of 1/2" connections – male thread. At the one end a thermal valve is mounted and at the other a tube that drains the heated cooling water (when activating the thermal valve) into the sewer. Thermal valve is connected to the water supply system (cooling water). Probe of the thermal valve, which measures water temperature, should be set on a prepared 3/4" port - female thread, at the upper part on the rear of the boiler.

If it happens that, despite the built-in boiler controller, boiler temperature still reaches the temperature of 95°C, thermal valve will let tap water through the tube heat exchanger in the boiler and cool the boiler.

IMPORTANT:

Thermal protection must be connected to a water supply system of the object. Water supply system and not water pumps should be used. When a power outage occurs, there is a possibility of boiler overheating because water pump due to power failure is not able to deliver the required cooling water.

6.0. BOILER OPERATION CONTROL PROCEDURE

Operation of the boiler is controlled by a digital controller built into the boiler on the front upper side and has a control/protective function.

6.1. TURNING THE BOILER ON

After the first filling of the boiler with fuel and its firing up and setting the main switch to position “1”, the controller turns on. This triggers the process of combustion.

6.2. BOILER OPERATION

Combustion process turns off if there is any error present.
Water pump control is performed regardless of boiler being in the process of combustion or stand-by

6.3. CONTROLLER TURNING OFF

If there is a need to turn off the controller (and therefore to turn off the pumps control), it is necessary, after the control indicators are turned on because of the lack of fuel, to wait for a boiler to cool to a temperature of 65°C and all embers in combustion chamber to disappear. Only then the main power switch on the boiler controller should be turned off.

6.4. SAFETY PROTECTION OF THE BOILER AGAINST OVERHEATING

In the case the controller does not turn off the fan at 90°C of water temperature in the boiler and the thermal valve does not cool the water in the boiler when it exceeds 95°C so the water temperature reaches 100°C, the safety thermostat will shut down the fan. To re-commission the boiler it is necessary to proceed in the following order:

- wait until the water temperature drops below 70°C.
- remove the safety thermostat cap on the boiler controller and press the button located on the safety thermostat.
- continue with the operation of the boiler or leave the boiler turned off.

7.0. CONNECTING TO AN ELECTRIC INSTALLATION

All electrical work must be carried out according to applicable national and European standards, by the authorized personnel.

8.0. COMMISSIONING OF THE BOILER

The boiler must not be operated in flammable and explosive environment. The product should not be used by children or persons with reduced physical or mental abilities and those with a lack of knowledge and experience, unless they are supervised and trained by a person responsible for their safety. Children must be supervised near the product. Be sure to wear protective gloves. Use fuel with maximum moisture content of 25 %.

Before commissioning it is necessary to check the following:

a. is the boiler connected with the central heating system.
b. is the flow of fresh air (oxygen) provided in the boiler room.
c. check if the boiler and the whole heating system are filled with water and air-bleeded.
d. whether the safety elements are properly mounted and functioning:

- central heating system should have safety valve of 3 bars max., thermal valve and the membrane expansion tank installed.
- e. whether the moving elements of the boiler are placed on the foreseen positions:
- inner linings of the upper combustion chamber must be attached to the rails in the upper combustion chamber.
- parts of lower fireclay must be placed in their slot at the bottom of the combustion chamber.
- turbulators must be installed in the flue pipes.
- covers of the openings for primary and secondary air should be correctly oriented.
- is the boiler connected to the electric installation.
- is there a cover on the opening for cleaning turbulators and levers used for cleaning flue pipes.
- take the boiler documentation out of the boiler.

8.1. FIRING UP PHASE AND THE FIRST FILLING THE FUEL

- Before any new firing up of the boiler, it is necessary to shake the lever for cleaning the flue pipes (turbulators) a few times.
- Open the upper and middle boiler door (close the lower door if they are open).
- In the upper combustion chamber, place finely chopped wood on fireclay. Place paper for firing up above small pieces of wood.
- Close the upper door and set the paper on fire through middle door
- Switch on the boiler - control by turning the switch to “1”.
- After a few minutes when the small wood are set on fire, fill the combustion chamber with wood
- Close the door only when the temperature of exhaust gases reaches 80°C.

8.2. PROCEDURE OF REFILLIN G THE COMBUSTION CHAMBER WITH FUEL

When regulation indicate a lack of fuel, it is necessary to refuel (if continuing the process of firing up). When refuelling do not turn the main switch of the boiler off.

- Check the temperature of the hot water in the accumulation (tank). If the temperature in the combustion chamber is in line with values specified, we must not fire up the boiler any more. If the water temperature in the tank is lower than the set values, we can proceed with the process of adding fuel.
- Open the upper boiler door.
- Align the embers and debris from wood combustion by using the scraper.
- Add wood. Wood along its whole surface must rest against the bottom of the combustion chamber (it is recommended to fill the chamber up).
- Close the door only when the exhaust gases temperature reaches 80°C.

NOTE:

After the cessation of firing, it is not necessary to turn the controller off.

9.0. BOILER CLEANINGAND MAINTENANCE

ABC DELTA pyrolytic boiler is engineered to enable simple cleaning of ashes, only from the front side.

The frequency of boiler cleaning depends on the quality of wood.

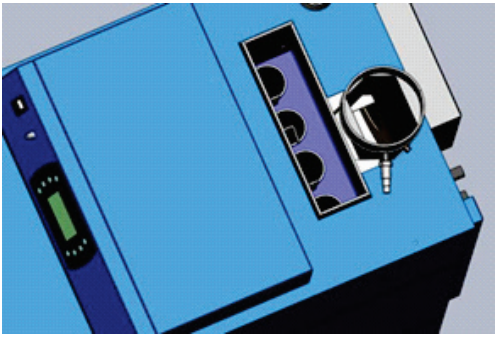
Be sure to wear protective glove 

The ash that remains in the boiler after combustion must be disposed in a metal containers with a cover. Thanks to the process of “PYROLYSIS” fuel burns completely boiler cleaning in the heating season comes down to cleaning the upper and lower part of the combustion chamber once a week.

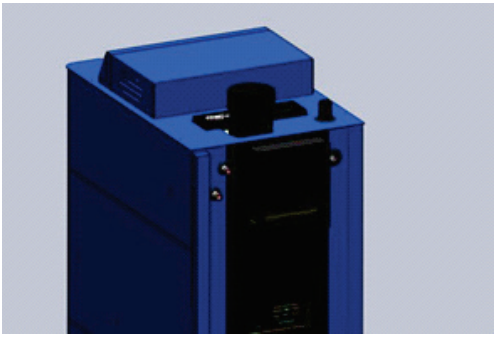
Cleaning the flue pipes at the rear side of the boiler must be carried out after the heating season and at least once during the heating season.

The procedure of cleaning the flue pipes (turbulators):

- Remove the cover of turbulator by unscrewing the screw M12 and by swinging the cover hooks for min. 90˚C to the left.
- Remove the pin binding the lever to turbulator mechanism, and then pull the lever on the side of the boiler.
- Remove simultaneously the spiral holder and spirals of turbulator from the flue pipes.
- Using the steel brush, which is included in the boiler cleaning kit, clean the flue pipes shown in the figure.
- After cleaning, return the parts removed in reverse order.



Boiler flue pipes (4 pcs)



Boiler fan cover

Fan blades and fan housing cleaning should be performed after the heating season.

Fan blades and fan housing cleaning procedure:

- Unscrew securing bolt located in the bottom of the fan cover and remove the fan cover by pulling up and then towards yourself.
- Unscrew three wing nuts M8 and remove the complete fan from its housing.
- Clean the fan blades and housing. When cleaning the blades be careful not to mechanically damage them.
- Replace the seal which is located between the fan plate-carrier and the boiler.
- The procedure of returning fan is opposite to the removal procedure
- Cleaning the lower and upper part of the combustion chamber:
- Carried out using the scraper which is supplied together with the boiler.
- It is necessary to pay attention when cleaning the lower combustion chamber, to properly clean sides, in order to ensure the best possible exchange of heat and maximum efficiency rate of the boiler.
- The upper part of the combustion chamber is lined from the inside with removable sheet plates (9 pieces) that protects the boiler from tar accumulation which corrode the metal sheet over time. These sheet plates must be taken off and cleaned once during the season and after the season. If necessary, they can be replaced with new ones.

For the purpose of cleaning the boiler it is not necessary to remove the fireclay parts from the boiler.

10.0. ENVIRONMENT PROTECTION

The “crossed waste bin” symbol  indicates that this product may not be treated as household waste. Instead, it shall be handed over to corresponding collection centres for recycling of secondary raw materials.

Correct storage of this product will help you prevent potential negative consequences for the environment and human health, which could otherwise be threatened by inappropriate handling of waste created by this product. For more detailed information on the treatment/ disposal of this product, please contact the corresponding local services, services for collecting the secondary raw materials or shop in which you purchased the product.

INSTRUCTIONS FOR USE OF ELECTRIC PART

2015
DELTA TOUCH

CONTENTS

1. GENERAL INFORMATION

We would like to thank you for choosing our product and congratulations on your excellent choice. We will be grateful for any comments regarding how the device works. In order to become a satisfied user of your new boiler, it is important that you know how to use, clean and maintain it. All this and much more is found in these instructions.

1.1 INTRODUCTION

The controller is a modern, microprocessor-controlled system that, in addition to the boiler, operates and monitors the buffer, the heating system, and the heating of the sanitary water. The controller controls the amount of combustion air. Due to the use of the simulation model, the power of the fan is slowly and continuously regulated.

Thanks to the advanced algorithm and capabilities of the controller, the parameters are easily adapted to the needs of the heating system.The controller is equipped with a test function for outlets. This function allows you to check the correct functionality of the electric components (pumps, fans, motor drive of the mixing valve, etc.) before starting the boiler. The big Touch screen provides clear communication with the user and is very easy to use. Each parameter is equipped with a detailed description of the function.

1.2 SAFETY INSTRUCTIONS

Caution – risk of electric shock!

Read the instructions carefully and completely before using the product.
Keep the instructions and use them whenever you are regulating or using the device.
Observe the general safety instructions, as well as all the warnings and instructions for the use and maintenance of this device/controller.
Make sure that the device is not damaged! In case of any doubt, do not use the device and contact the supplier. In case of doubt about the safe operation of the device contact the supplier.

Pay particular attention to any signs of danger, which is on the casing of the device, on the packaging or in the instructions. Use only according to its purposes.
The device is not a toy. Do not allow children to play with it or come into contact with it in any way.Under no circumstances should children be allowed to play or come into contact with the packaging of the device. Children must be prevented from access to small parts like screws or nuts. These elements can be part of the delivery and if swallowed, they represent a real health risk.

You cannot perform any mechanical or electrical modifications of the device. Changes can cause improper operation and disagreement with the required standards. Alterations adversely affect the performance of the device. Do not insert parts through the device casing (e. g. through the vents), as it may cause a short circuit, electric shock, fire or damage to the device. Prevent the ingress of water, moisture and dust into the device, as it may cause a short circuit, electric shock, fire or damage to the device. Provide adequate ventilation for the device. Do not cover the air vents and ensure smooth air flow around the device. The device must be installed indoors, except for models that are adapted for outdoor installation

It should not be exposed to vibration and other mechanical loads. When you connect the power supply, check that the characteristics of the electrical network are within the required values for connecting the device. All electrical connections need to be done in accordance with the electrical diagram, observing all applicable regulations and standards. The device contains no elements that could be replaced by the user. Any maintenance work besides cleaning, replacing the fuse (when the device is not powered) and carrying out users' adjustments must be performed by authorized and trained personnel. Before any maintenance intervention the device must be disconnected from the power supply. Do not clean the casing with petrol, solvent or other chemicals, which might damage it. It is recommended to wipe with a soft cloth.

1.3 RECYCLING / DISPOSAL OF OLD EQUIPMENT

This electrical device is made of materials that can be partially recycled. When the lifetime of the device expires, it should be delivered to a centre for the recycling of electrical and electronic equipment or returned to the manufacturer. Under no circumstances should the device end up in the household waste.

2.GENERAL REQUIREMENTS

Read carefully and completely the instructions before beginning to use the device.
The person that installs the device, must have the proper expertise and experience.
Electric installations must be designed so that they endure temperatures up to +75 °C. All electrical connections should be carried out in accordance with the diagram of the electric network and in compliance with national and local regulations and/or standards.

WARNING!!! The device must be independently connected to the electrical circuit and provided with appropriate fuses and a switch-off in case of emergency.

2.1 INSTALLATION

The device can be installed indoors only. Check if the place of installation meets the following requirements: The place of installation must not be exposed to moisture and corrosive or flammable vapours. The device must not be installed near high-voltage electrical appliances, near electrical equipment or welding machines.
The temperature at the place of installation must not be above 60 °C or below 0°C.
Humidity should be in the range of 5% up to 95%, without condensations!

2.2 MOUNTING

The regulator can be mounted on the mounting plate on the boiler.

2.3 CONNECTION TO THE MAIN NETWORK

The device's mains voltage must be ~ 230V/50Hz. Connect the power cable in accordance to the markings on the contacts. The sensor for the water heater and the electric valve actuator must be connected to the controller (depending on the configuration). See the INLET and OUTLET table below.

WARNING!!! Under no circumstances should the grounding wire (PE) be connected with neutral cable. (N).

WARNING!!!The installation must be performed when the controller is disconnected from the power supply. The installation of the controller may be performed by an authorized and professionally qualified person.

3. SUMMARY OF BASIC FUNCTIONS

3.1 HANDLING TOUCH

Instead of keys, the touch screen has symbols which should be pressed.

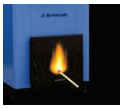
3.2 MAIN MENU – »BOILER« SCREEN

By switching on the controller  or pressing on  , we get an overview of the boiler. With one glance we can see the current operating conditions of the boiler, boiler pump operation, flue gas fan, boiler and flue gas temperature, oxygen and active heating circuits.

3.2.1 BOILER STATUS

IGNITION

The boiler is in the » IGNITION « phase when we open the door, load the boiler with chopped wood and close the door. Then the regulation begins a 30-minute countdown.

You see a match in the lower part of the boiler. 

WOOD BURNING

The boiler works and the main door is closed. The boiler produces heat, which is transported to the buffer. The flue gas fan modulates (20-100%) depending on the flue gas temperature and the boiler temperature.

COMBUSTION

The chopped wood is almost burnt and the flue gas temperature is below 100 ° C. The fan works at 100%, and it starts a 10-minute countdown. If during that time the chopped wood is ignited again in the combustion chamber (flue gases increase) i.e. we reload the combustion chamber with chopped wood and flue gas temperature reaches over 100 ° C, the boiler gets into the »COMBUSTION« stage.
If the level of flue gases does not increase, the boiler goes into the »FIRE EXTINGUISHED« phase

FIRE EXTINGUISHED

If chopped wood is not re-ignited during »COMBUSTION« phase (10 minutes), the boiler switches to the »FIRE EXTINGUISHED« phase. At this stage, the flue gas fan does not work.

OPEN DOOR

The main door opens. If the boiler was in the »BURNING« phase it will return to its original state after the door has been closed. In all other operating conditions, the boiler switches to the IGNITION or COMBUSTION process after the door is opened. The fan operates at 100%, thus preventing the smoke from entering the room. In this case, the fan takes flue gases through blow-off pipes into the chimney.

3.2.2 BOILER PUMP AND FLUE GAS FAN STATUS

- BOILER PUMP: When boiler pump is working (temperature in the boiler is above 55°C), the symbol becomes green otherwise it is white.
- FLUE GAS FAN: When the fan is working, the symbol becomes green 86% and next to the symbol there is % with which the fan operates. When the boiler is »SWITCHED OFF«, the symbol is white and it says OFF.

3.2.3 SELECTION OF FUNCTIONAL BLOCK- SCREEN

BOILER SCREEN

SWITCH TURN ON SCREEN

SYSTEM SCREEN HEATING CIRCUIT SCREEN

Only those functional blocks (hereinafter: SCREEN) that are required by your system and which are configured are on the screen. You are moving through the screen in this line.

3.2.4 SYSTEM SETUP

TIME/DATE

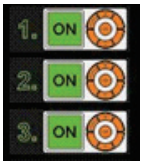
SETUP

By pressing the  key a new sub SCREEN is opened, where you can select the settings for the boiler, water heater, other source, solar and heating circuit, date and time.

3.2.5 HEATING CIRCUIT STATUS

HEATING CIRCUIT STATUS
(ACTIVE/INACTIVE)

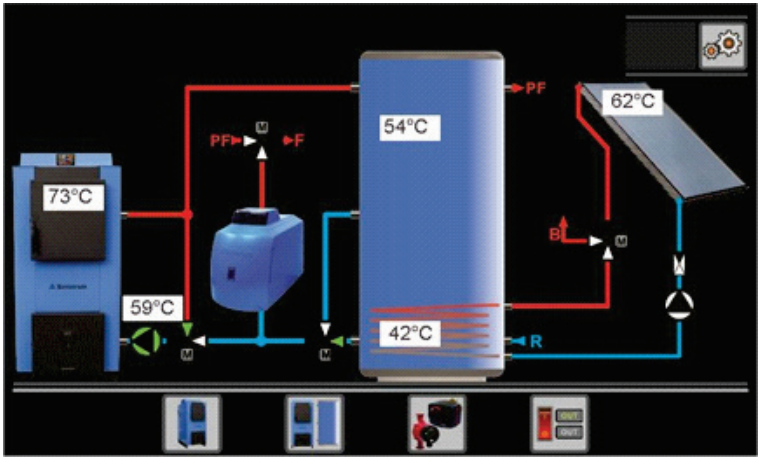
HEATING CIRCUIT



ROOM CORRECTOR STATUS

3.3 »SYSTEM« SCREEN

The »SYSTEM« screen will be displayed by pressing the  key.



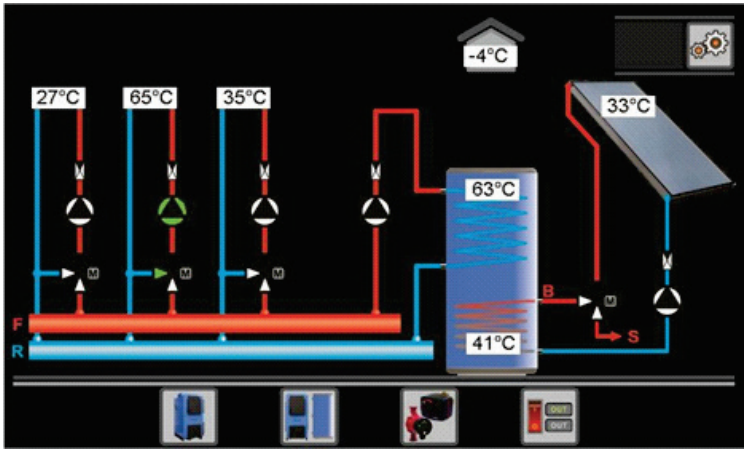
It is possible to see the temperature of the boiler, the return of water to the boiler, buffer temperature up, down and temperature in the solar collector on the screen.

In addition to the temperatures on this screen, we also monitor the status of the following drives: boiler pump, open valve position for mixing due to return protection, the second source pump, the quick start switch valve, the collector pump and the solar valve switch.

During operation, the drive is green  i.e. valve symbol  colours the arrow which shows the direction of the draft.

3.4 »HEATING CIRCUIT« SCREEN

The »HEATING CIRCUIT« screen will be displayed by pressing the  key.



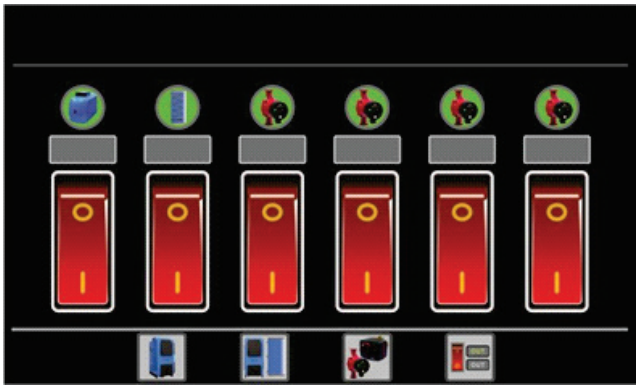
The screen shows the temperature of the water for the heating circuit 1, 2, 3 (heating circuit three is possible if we do not have a configured solar system), the water heater up and down, the outside temperature and temperature in the solar collector.

In addition to the temperatures on this screen, we can monitor the status of the pumps and mixing valves for heating circuits 1, 2 and 3, water heater pump, collector pump and solar switch valve.

During operation, the drive is green  i.e. valve symbol  colours the arrow which shows the direction of the draft

3.5 CIRCUIT TURNING ON/OFF SCREEN

The »CIRCUIT TURNING ON/OFF« screen will be displayed by pressing the  key.



By pressing the  key on the screen it is possible to activate or disable certain heating circuit or device.

ADDITIONAL SOURCE:

The first circuit is the activation of an additional source  (oil, gas). When activated, the symbol is coloured green.

WATER HEATER:

The second circuit is to activate the water heater  . When activated, the symbol is coloured green. When the temperature difference between the buffer temperature and the water heater temperature has been achieved, the water heater filling pump is switched on.

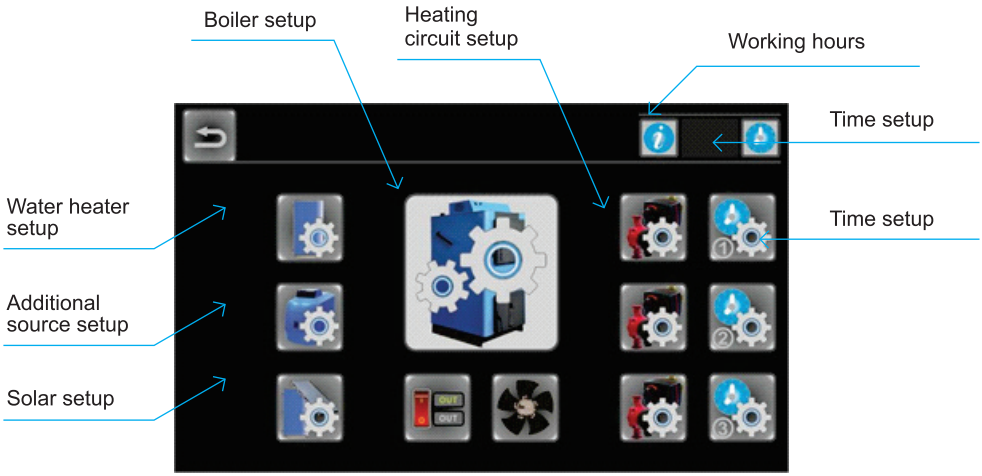
HEATING CIRCUIT:

The third circuit is activating the heating circuits  . When activated, the symbol is coloured green. When there is a need for heating, certain heating circuits can be activated or completely shut off during the summer months.

4. SETTINGS

4.1 USER SETTINGS

By pressing the  key we open the SCREEN in which it is possible to choose the settings for the boiler, water heater, other source, solar and heating circuit.



4.1.1 TIME AND DATE

Press DATE or TIME on the screen (right up), and an on-screen picture appears for setting date and time:

By clicking on a single field (day, month, year, or time), select it and then change its value.
When a single field is filled in, the cursor goes to the next field.
By pressing CONFIRM, you save the settings.

4.1.2 BOILER SETUP

4.1.3 HEATING CIRCUIT SETUP 1, 2, 3 (DAY/NIGHT TEMPERATURE, TIME PROGRAM)

4.1.4 SOLAR SETUP

4.1.5 WATER HEATER SETUP

4.1.6 SETUP - ADDITIONAL SOURCE

4.1.7 WORKING HOURS

4.2 BOILER ERRORS

ERR T1	Boiler Sensor Error
ERR T2	Flue Gas Sensor Error
ERR T3	Return line to Boiler Sensor Error
ERR T4	Buffer Up Sensor Error
ERR T5	Buffer Down Sensor Error
ERR T6	Heating Circuit 1 Sensor Error
ERR T7	Heating Circuit 2 Sensor Error
ERR T8	Water Heater Up Sensor Error
ERR T9	Water Heater Down Sensor Error
ERR T10	Collector Sensor Error (used also for HK3)
ERR T11	External Sensor Error
ERR T12	Stove Oil (additional source) Sensor Error
ERR T20	O2 Sensor (λ)
STB	Below STB Inlet
NO IGNITION	In case ignition does not occur during Ignition phase

Service, maintenance and repair notes

We recommend that you keep records of your work. Record maintenance work carried out, service interventions as well as operational impediments.
This gives you and the servers the insight into state of the system.

Date Service Provider	Service, maintenance, cleaning Works / Replaced parts

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