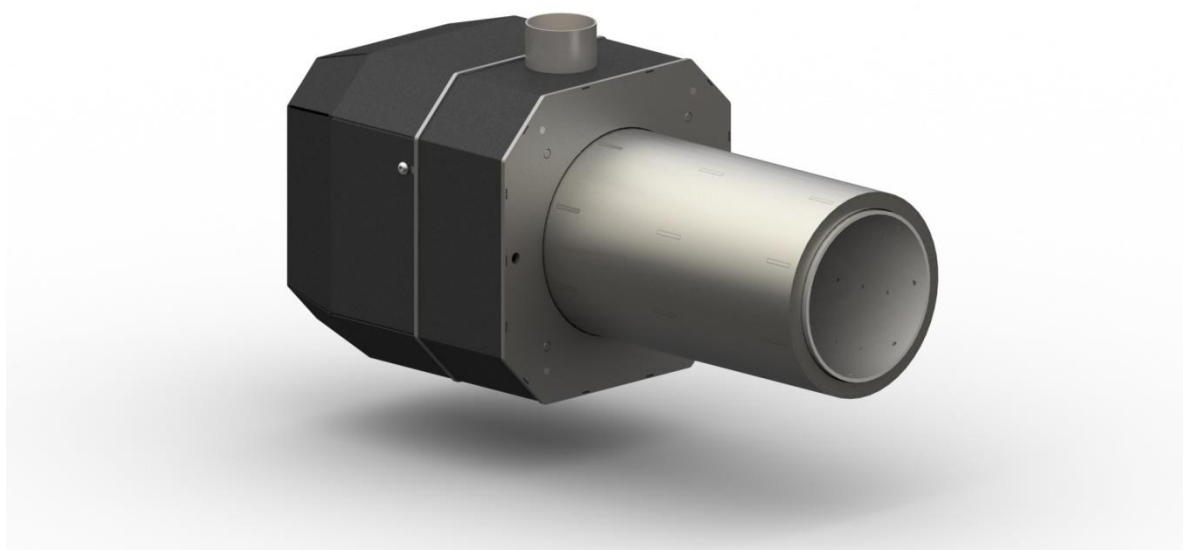




Operating manual

Pellet burner

Type: ROTARY (ROT-POWER)



Models:

4-16 kW,

5-20 kW,

6-26 kW,

8-36 kW,

10-50 kW.

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1. **Product description**

The series of ROTARY burners is designed for combustion of solid fuels in the form of pellets with different degrees of impurity and different grain size (according to the specifications of Section 2). The burners operate automatically and do not require constant supervision. The use of a rotary combustion chamber prevents the adhesion to the chamber of slag formed during the combustion. Cyclic rotation causes the movement of the slag towards the front and ultimately it leaves the combustion chamber. The lack of adhesion is also facilitated by the cleaning process of the burner and significantly affects its lifetime. The combusted fuel is ventilated on the entire length of the combustion chamber, and further mixed thanks to the rotating combustion chamber, which intensifies the combustion process and allows for complete combustion of the fuel supplied.

The burner is designed for use with central heating solid fuel boilers, as well as some models of gas or oil boilers with a combustion chamber, which enables ash collection and disposal, provided that they operate in sub vacuum.

The burner unit is environmentally friendly as it uses fuel from renewable energy sources. It is also characterized by a small demand for electricity.

The burner is equipped with a controller, which is responsible for the optimal fuel dosing, according to parameters preset by the user, as well as continually adjustable dosage. It works together with a room thermostat allowing you to maintain a preset temperature in the room. The controller is also equipped with temperature sensors for boiler medium and hot water. The controller can be connected to central heating and hot water pumps.

The burner is equipped with safety accessories, which in the event of system overheating or loss of flame in the combustion chamber cut off the fuel supply. A break in the electric power supply will automatically shut off the fuel supply, and the fuel amount remaining in the combustion chamber will not cause damage to the unit and cooperating devices.

The burner should be supplied with the fuel from an external fuel storage tank, by means of the spiral transport, that is, the fuel feeder supplying the fuel from the fuel tray.

The burner should be fed the fuel specified in Section 2 only

2. Fuel specification.

The burner should be fed only with fuel of the following characteristics:

Fractions	granulate
Diameter	6±1mm,8±1mm
Length	3,15 mm ÷ 40 mm
Amount of dust	≤ 1%
Bulk density	≥ 600 kg/m ³
Humidity	≤ 10%
Calorific value	16,5÷19 MJ/kg
Ash	≤ 0,7%

The nominal power of the burners is given for the use of pellets produced in accordance with the DIN or DIN plus specifications. For pellets with other parameters of combustion, in particular a different calorific value, ash content and humidity, the burner output will be different, usually lower.

3. The construction of the burner and the description of its operation.

No	Description
1.	Rotating combustion chamber
2.	Rotating aeration chamber
3.	Thermal insulation (optional)
4.	The bearing of the aeration chamber and the combustion chamber
5.	Blower chamber
6.	Pellet feeding connector
7.	Flexible meltable pipe connector -
8.	Fuel feeder supplying the fuel from an external tray
9.	External fuel tray (optional)
10.	Ventilator
11.	Rotation mechanism of the combustion chamber
12.	Fuel feeder for the combustion chamber (stoker)
13.	Igniter

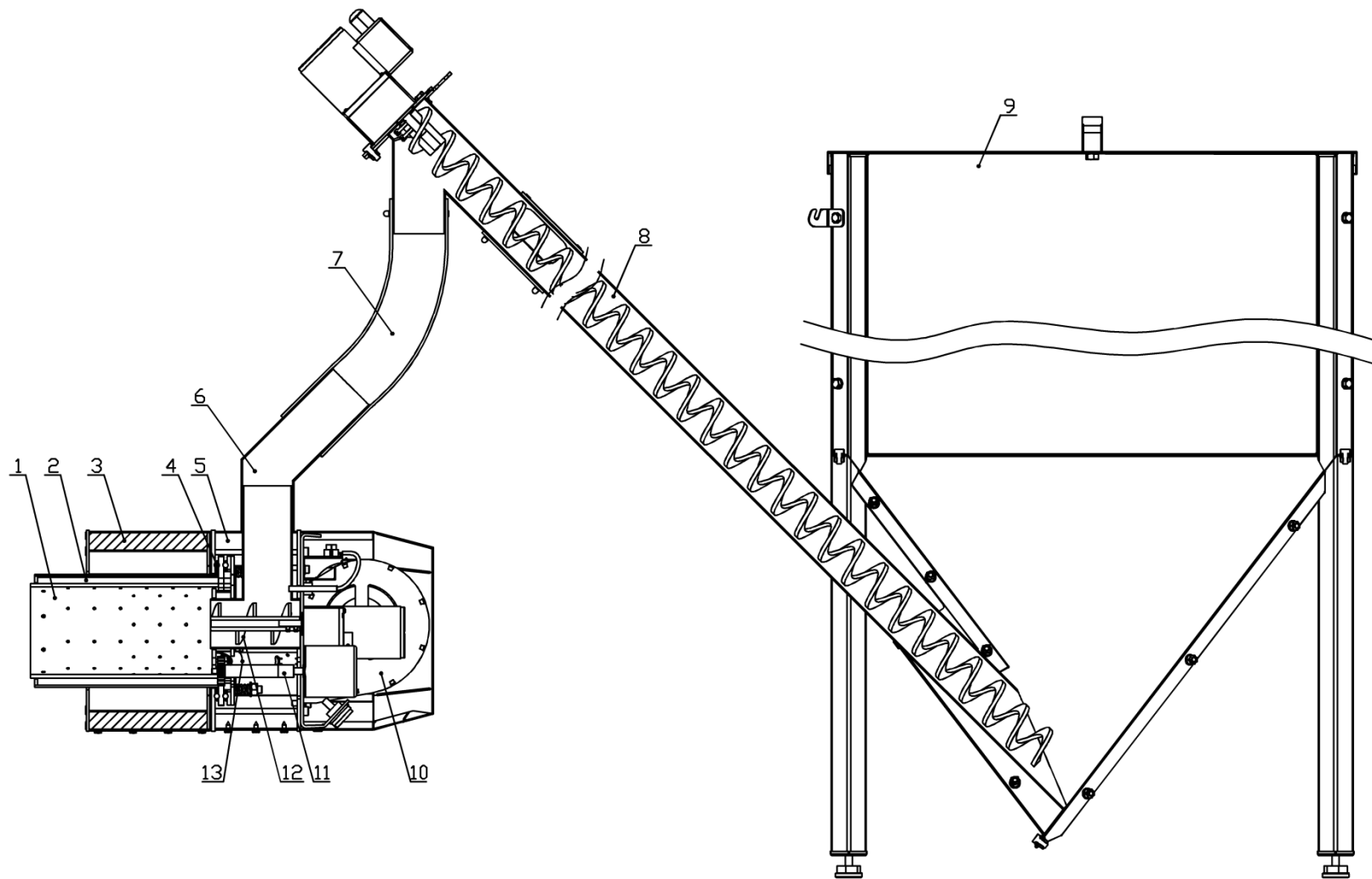


Fig. 1 Burner diagram

The description of the operation and the construction of the burner.

The ROTARY Burner is composed of twisted modules and metal sheet components. The components exposed to high temperatures are made of stainless heat-resistant sheet metal , and the other components are protected from external influences by a galvanized layer or a paint layer. The external fuel feeder (8) is made of stainless metal tube.

The burner consists of the essential elements specified in the diagram.

The operation of the burner begins with the supply of the fuel from the external fuel tank (9) via the screw conveyor (8) which is flexibly connected with the burner. Then the fuel is advanced on the screw conveyor (12) into the combustion chamber (1). When an appropriate fuel amount is supplied, it is ignited by the igniter (13). Once the ignition has taken place, the burner switches to continuous operation in accordance with pre-defined external parameters. The air required for the combustion of the fuel is supplied via the ventilator (10) through the blower into the combustion chamber, and a certain amount of air is supplied through this chamber to the igniter. The air inlet to the burner is situated in its bottom part. During operation a circular rotation of the combustion chamber with the outer tube (2) takes place, which is performed by the drive (11). The frequency of rotation is adjustable. The products of combustion are moved towards the front of the burner and leave it gathering in the ash-chamber of the connected central heating boiler or another boiler adapted to work with the burner.

The operation of the burner is fully automatic and adjustable. The fuel is automatically taken from the tray depending on the demand for heat. In the event of reaching the set limit, the burner goes into standby mode. The transition from standby mode to operation mode also occurs automatically and the burner goes into the ignition and then the continuous operation mode. The amount of intake air is closely related to the amount of fuel supplied, which assures optimum combustion and does not cause an excessive cooling of the combustion chamber. The entire servicing of the burner is reduced to ensuring the proper amount of fuel, and periodically removing the products of combustion which is the ash from the ash chamber of the boiler.

The burner is equipped with security elements that protect the burner and the central heating boiler from overheating and other risks that may occur during the operation. The first of them is a photocell, which is responsible for detecting the presence of flame. In the event of a power failure the burner goes into ignition mode, i.e., a small amount of fuel is fed, and subse-

quently the igniter is switched on. The ignition mode lasts two minutes. If the ignition is not achieved, the procedure is repeated 3 times. After a failed ignition an appropriate alarm message is displayed on the controller. Further operation of the burner is not possible until the error message is deleted. The second security element is a temperature sensor in the blower chamber, which interrupts the fuel feed in the event of ignition of fuel inside the screw conveyor that supplies the fuel to the combustion chamber from the main tray. The temperature of its activation is 90 ° C. It is a constantly operating alert, which can only be deactivated by the user. Another element of security is the design of the fuel supply system itself - which, thanks to the use of two augers (first extracting the fuel from the external tank and the second feeding the fuel into the combustion chamber inside the burner) connected with a flexible plastic meltable support hose, distributes the supplied fuel jet. In the case of a flashback from inside the burner, the ignition of the fuel accumulated in the tray will not take place. The final piece of the security system are the temperature sensors of the central heating boiler. The first one is used for continuous monitoring of the temperature of the boiler and after exceeding the preset temperature (the cooling temperature of the boiler), the controller will try to lower the temperature of the boiler through the discharge of excess heat to the hot water container by opening the mixer actuators. If the temperature drops by 10 ° C, the controller will return to normal operation. If the temperature starts to drop after reaching the critical temperature of 95 ° C, the STB temperature sensor will be activated - its construction allows it to operate even in the absence of mains power supply or in the case of damage to the controller. Reactivating the burner is only possible after resetting the sensor using a button in the controller case. Be absolutely sure to determine the cause of this error.

Note: ecoMAX 350P controller does not include a standard sensor equipment STB.

4. Components.

The burner is supplied with the following components:

No	Component
1.	ROT-POWER Burner
2.	Plum Controller
3.	Screw conveyor from the external tray to the burner (active length of 1.85 m with the possibility of extension)
4.	Flexible meltable hose with the length of 0.75 m connecting the burner with the screw conveyor
5.	Elbow Connection
6.	Mechanical emergency sensor for boiler temperature with the wiring (STB type)
7.	Boiler temperature sensor with the wiring
8.	Hot water sensor with the wiring
9.	Optional thermal insulation of the outer tube (aeration)

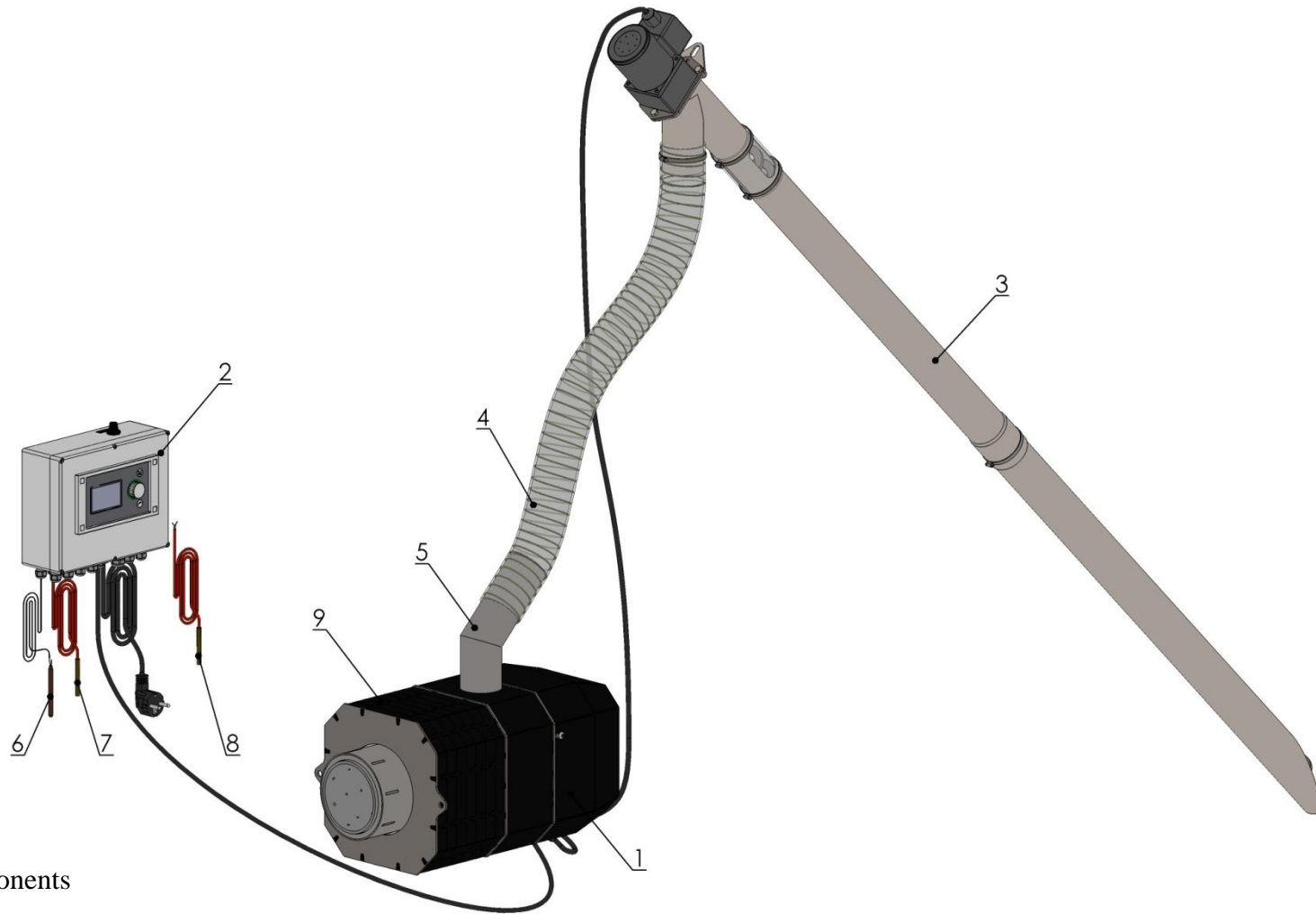


Fig. 2 Set of components

5. Installation.

In most cases, connecting a ROTARY burner will consist in mounting it to an already operating boiler. Depending on the design of the boiler, the connection will most often be to the oven door. The burner must be placed in a place that will make it easy to access the burner, which is enabled when it is mounted in the door of the boiler. This solution will enable easy cleaning of the furnace and the possible review of the furnace chamber. In the case of insufficient width of the door, the burner must be mounted asymmetrically - closer to the hinges. And if this proves insufficient, use a spacer plate or an insulation jacket with a mounting plate that allows distancing the burner and control this distance. The exact installation dimensions are supplied in Section 5.1.

Depending on the type of tightening of the closure of the boiler door, measurements must be made to make sure that when the door opens there is no collision with the burner.

It is also possible to mount the burner to a custom door or to the side of the oven - in this case, however, it must be approved by an Authorized Installer and the Manufacturer of the boiler.

The burner should be connected to the pellet tank, which can be purchased from the Manufacturer of the burner or another tray made of non-combustible material, which will enable the connection of the auger to it - pipe $\varnothing 60$. When performing it, follow Sections 11-14 of the installation instructions. Particular attention should be paid to the bottom of the tray where the feed screw is located - it must be all covered with fuel and positioned so that it is not possible to reach it by hand during operation. The rotating screw can cause damage to the body.

Burner installation should be performed by an Authorized Installer. Installation work should be confirmed by recording it in the warranty book in the section First Run

5.1. Installation instructions.

1. Measure the overall dimensions of the boiler door and determine the optimum point of attachment for the burner.
2. The burner must be placed in the central heating boiler, or another heat exchanger and the dimensions shown in the following diagrams (Fig.3,4 5), and in the table must be observed. A hole for the outer tube must be made as well as holes for mounting the burner to the boiler door.

3. Make holes in the door according to the specifications for a particular model of the burner.
4. If necessary, apply a spacer plate or an insulating jacket.
5. Remove the outer casing of the burner by unscrewing the screws.
6. Mount the burner in the door using the screws.
7. Depending on the option selected, connect boiler temperature sensors, hot water sensors, room thermostat to the appropriate controller terminals (see wiring diagram) – putting the wires through the glands in the casing.
8. Depending on the option selected, connect the heating pump and hot water pump to the appropriate controller terminals (see wiring diagram) - putting the wires through the glands in the casing.
9. Mount the burner casing, tighten the screws.
10. The boiler controller must be installed according to the manufacturer's instructions included with the controller.
11. Place the pellet tray next to the boiler, insert the fuel feeder and hang it by the ear on the screw conveyor drive. The angle between the feeder and the floor must be within the range of 30° - 55°.
12. Ground all metal parts connected to the burner and carry out the measurement of the effectiveness of grounding and zeroing.
13. Install the elbow connector to the burner, and then connect the flexible hose with the fuel feeder. The length of the flexible hose can be adjusted by sliding it further on the connected elements or shortening it. Keep the angle of fuel decline not less than 45°.
14. Insert the power supply cord for the fuel feeder into the corresponding slot in the burner.
15. Connect the multipin circular plug from the controller to the burner – make sure to set the plug in the correct way and secure it with a nut.
16. Connect the electric power cord of the controller to an earthed electrical outlet.
17. Fill the tank with fuel.

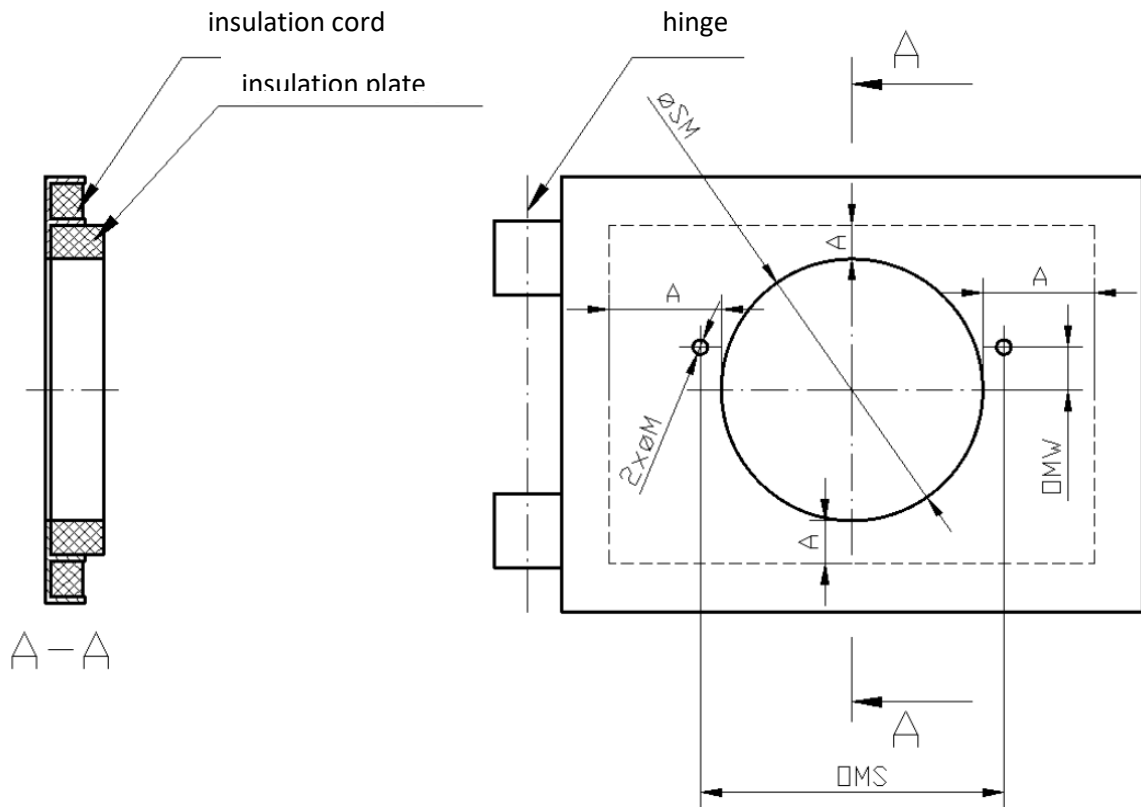


Fig. 3. Diagram for the location of the mounting holes for burner types: 4-16 kW, 5-20 kW, 6-26 kW, 8-36 kW, 10-50 kW.

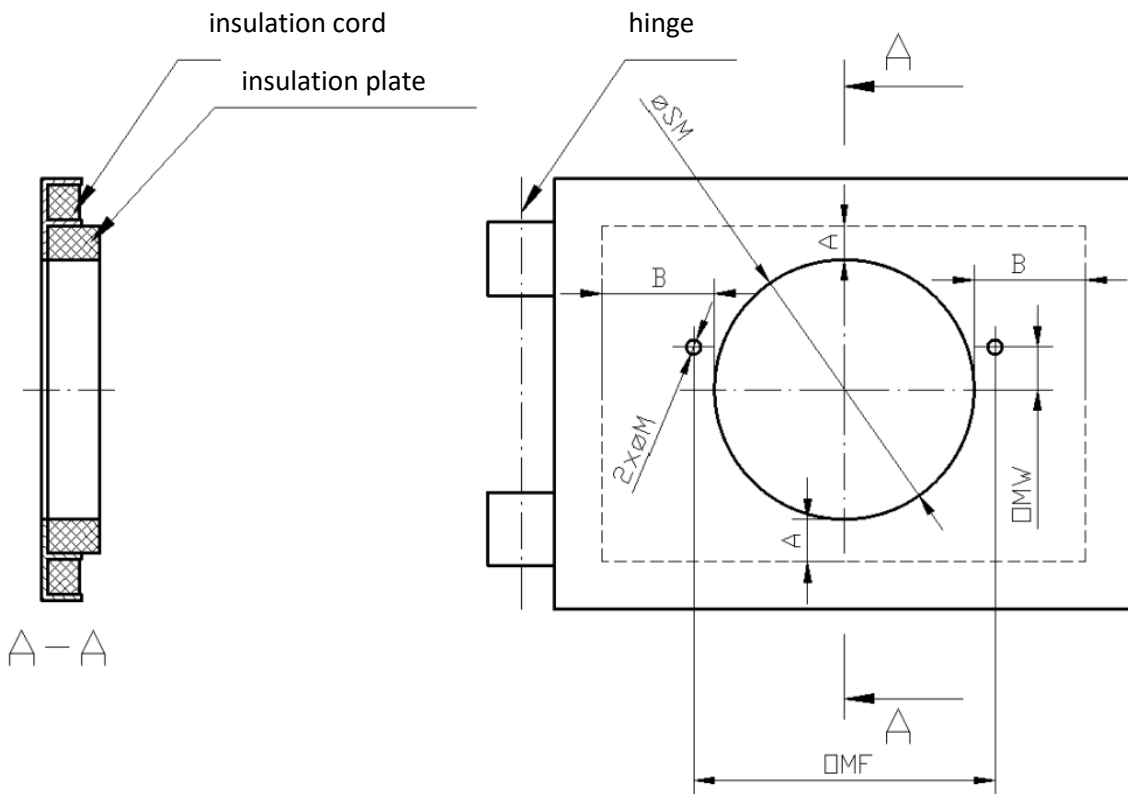


Fig. 4. Diagram for the location of the mounting holes for burners with insulating jackets and a mounting plate burner types: 4-16 kW, 5-20 kW, 6-26 kW, 8-36 kW.

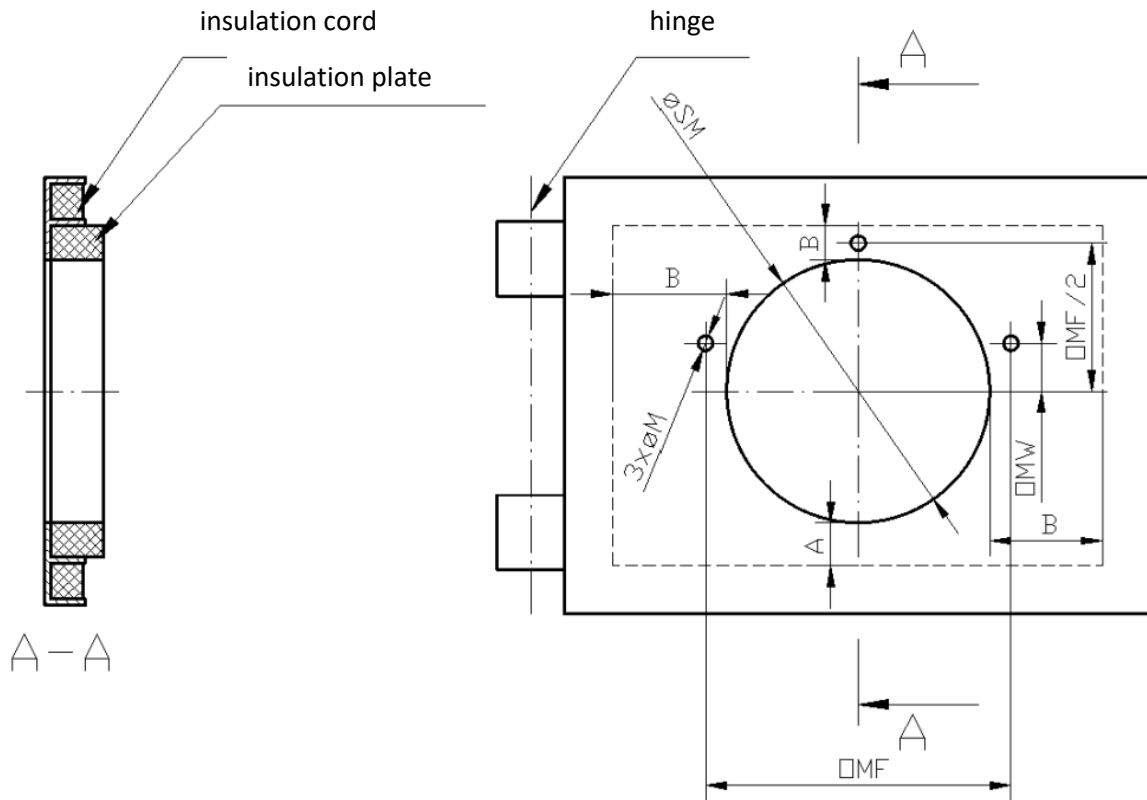


Fig. 5. Diagram for the location of the mounting holes for burners with insulating jackets and a mounting plate for burner type 10-50 kW.

Burner power [kW]	Mounting dimensions of the burner						
	ϕSM [mm]	ϕM [mm]	A [mm]	B [mm]	OMS [mm]	OMW [mm]	OMF [mm]
4-16	114	9	50	70	185	40	225
5-20	120	9	50	70	185	40	225
6-26	135	9	50	70	205	45	245
8-36	146	9	45	65	205	45	245
10-50	175	9	45	65	230	50	270

Below see the required boiler dimensions.

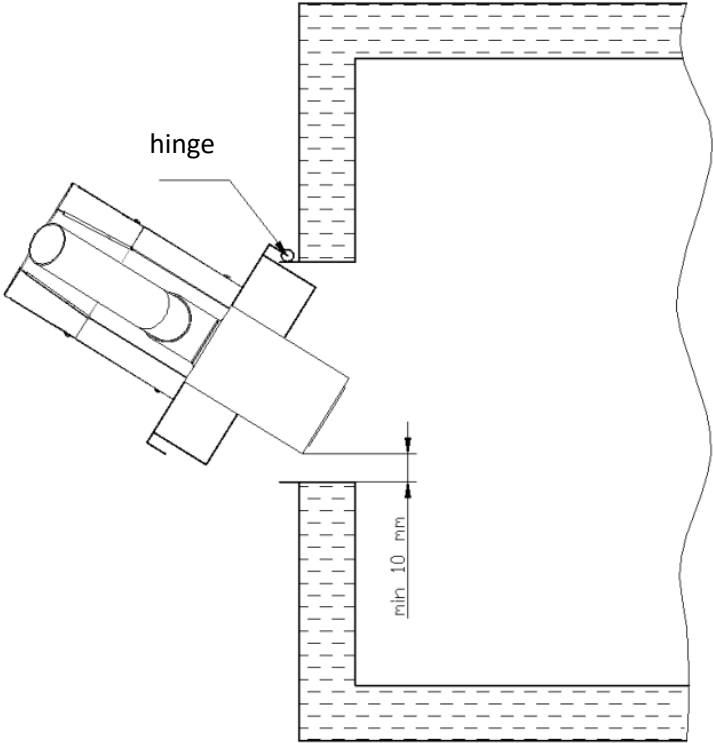


Fig. 6. Cross-section view from above of the boiler furnace chamber.

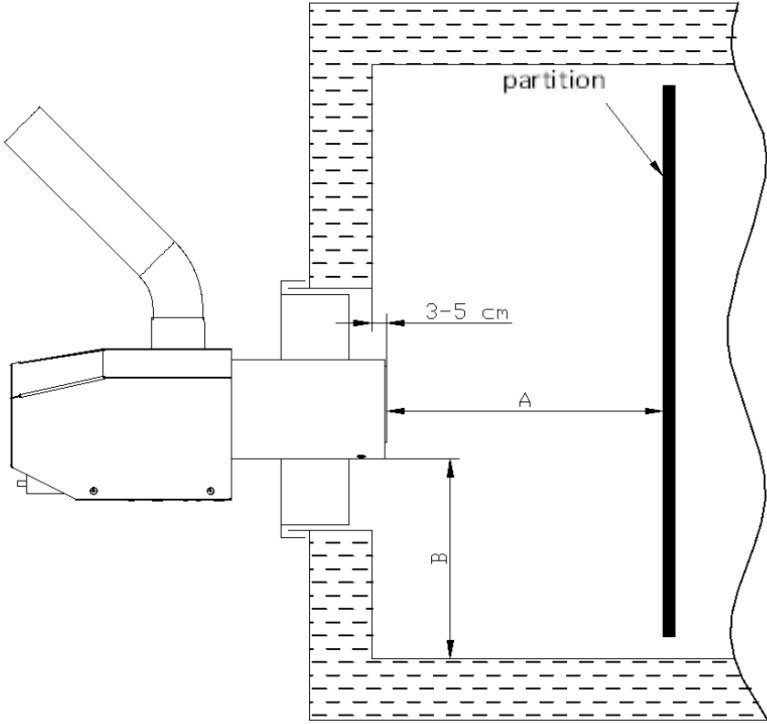


Fig. 7. Cross-section side view of the boiler furnace chamber.

Minimum distance for combustion propagation		
Output range [kW]	A minimum [cm]	B minimum [cm]
4-16	25-35	10 cm
5-20		
6-26		
8-36		
10-50	35-45	15 cm

It is forbidden to allow contact between the furnace chamber and the ashes collected in the ash chamber.

After connecting the burner and activating it an Authorized Installer should train the User regarding the proper operation of the device, inform him about the possible controller settings, as well as how to behave in emergency situations and how to take action to eliminate them.

The boiler room itself must satisfy certain conditions relating to the fire security and protection. In particular, no flammable materials and substances should be stored in it. The ventilation system should meet the minimum requirements specified in the table below:

Output range [kW]	Requirements for ventilation system	
	Cross-section of the ventilation tube [cm²] (Diameter [cm])	Cross-section of the exhaust tube [cm²] (Diameter [cm])
do 30	200 (ø16)	200 (ø16)
30-60	300 (ø20)	200 (ø16)
60-2000	5 cm ² for 1 kW of power, Not less than 300 cm ²	Equal to at least the half of the ventilation tube cross-section, but not less than 200 cm ²

The location of the boiler in the boiler room should comply with the guidelines contained in the instructions supplied by the manufacturer of the boiler. At least 30 cm of free space must be left around the burner, however, leaving more space will contribute to easier handling and

cleaning of the burner as well as removing the ashes from the boiler. Free space should also be left under the burner – at least 10 cm, so as not to block the air intake for ventilation and prevent the fan from sucking in dust and particles from the surface being too close to it. The pellet tray should be placed at a minimum distance of 15 cm from the boiler and at least 10 cm away from the walls. One must also consider such a placement of the tray that it can be easily refueled.

The central heating system should be filled in the required range, i.e., it should have the appropriate pressure, the value of which should be specified in the boiler manual. The system also should be vented.

It is forbidden to use the burner without fitted covers.

It is forbidden to use the burner in chambers with overpressure.

It is forbidden to use the burner without checking the effectiveness of grounding and zeroing.

It is forbidden to use the burner without providing the required ventilation specified in the boiler room design, in accordance with the relevant building regulations.

6. Activation.

1. Check the pellet tray - if necessary, fill with fuel.
2. Start filling the fuel feeder with the fuel from the tray (9), continue until the fuel begins to pour into the burner. To switch on this function of the controller, press the "MENU" button, then use the knob to select the function "Manual control" from the displayed list; press the knob on this option, in the submenu select the "Feeder", press the knob – the message "OFF" will change to "ON" - at this point the external fuel feeder will be switched on. The filling mode lasts 2 minutes. If the feeding tube is not filled completely, the procedure is to be repeated. At any time, the filling can be stopped by pressing the knob. Exit the filling mode by pressing the "EXIT" button.
3. All controls connected to the controller should be set to maximum values or connected by default.

4. By pressing the "MENU" button, you can set the parameters of the burner and boiler. All settings and operating parameters are described in the attached operating manual.
5. Press the control knob and select "YES" – this will enable the controller.

6.1 Initial run of the burner.

The manufacturer recommends that the first run is performed for the User by an Authorized Installer.

The first run includes:

- Checking for the correct mounting and operation of the device,
- Adjusting the burner,
- Checking the operation of the safety components of the unit,
- Making a record the warranty book.

The first run does not include:

- Removal of defects and faults in the system.

For proper operation of the system, follow the sequence of actions specified by the Manufacturer.

6.1.1 Assemble the entire burner set according to the attached *User's Guide*, follow the instructions contained in Section 5 *Installation*.

6.1.2 Connection of the unit.

- Check if the connection of all the wires and cables is correct,
 - Check the correct setting of the feeder with respect to the tray.
-
- Tilting the feeder at a smaller angle increases its performance.
 - Tilting the feeder at a greater angle reduces its performance.

The feeder must not have a smaller capacity than:

l.p.	Burner output	Feeder capacity
1	16 kW	≥ 4 kg/h
2	20 kW	≥ 5 kg/h
3	26 kW	≥ 6 ,kg/h
4	36 kW	≥ 8 kg/h
5	50 kW	≥ 11 kg/h

The capacity of the feeder will be marked - see Section.6.1.4 *Feeder Test*.

Note: if the capacity is less than specified above or very close, check the angle of the feeder relative to the tray. The optimal angle is 45° or less. The pellets should be re-weighed as well as described in Section. 6.1.4. *Feeder Test*.

6.1.3 The external feeder-filling.

Warning! Filling the feeder is required prior to the first run, or when the tank was emptied of pellets and the burner restarted

- Main Menu
 - > Manual control
 - > Feeder ON/OFF
 - Run the function and wait until the external feeder is filled with pellets.

This function will need to be repeated 2-3 times depending on the angle of inclination of the feeder relative to the tray.

- After filling the entire feeder wait until the auger feeds the pellets within 2-3 minutes for the burners with the output of 16 kW to 50 kW (for the feeder to be filled properly).

For this purpose, a container into which the pellets will fall should best be placed under the downpipe. Pay attention to the work of the auger- it must work continuously.

Or

- Main Menu
 - > Boiler settings
 - > Output modulation
 - >Feeder

>Fill feeder

> Start

6.1.4 Feeder Test.

The controller connected to the electricity supply - the information on the display - time and the boiler off.	
Graphic controller: ecoMAX 350	Touch and graphic controllers: ecoTOUCH 850, ecoTOUCH 860
➤ Main menu	➤ Main menu
> Boiler settings	> Boiler settings
> Output modulation	> Output modulation
> Feeder test	> Feeder
Start the test switching to START	> Feeder efficiency test
	Start the test switching to START

The feeder test takes 6 minutes, during which time the auger feeds pellets in a continuous mode. The parameters of pellet dosage are set accordingly during burner operation.

Before the test, make sure the feeder is completely filled with pellets.

Then perform the test – place a container into which the pellets will fall under the device. Subsequently, all the pellets which fell into the container must be weighed. The result is the mass of the pellets, which will then be recorded, see Section 5.

Note: for the accuracy of the test the instructions in Section 3 must first be properly followed. Failure to comply with these guidelines will result in an incorrect calculation of the dose of pellets to be fed, and consequently in bad operation of the burner.

Note: If you change the type of pellets - the test should be carried out again.

Note: the feeder test is necessary for proper adjustment and operation of the burner.

6.1.5 Mass of the fuel in the test.

- Main Menu
- > Boiler settings

- > Output modulation
 - >Feeder
 - > Fuell mass in the test

Enter the value of the fuel from the test - the result which was obtained by performing the feeder test in accordance with Section 6.1.4.

Note: the entered value has a significant impact on the dosage of the pellets. Entering an incorrect value can cause a malfunction of the burner. Entering a higher value than the fuel value in the test will result in a smaller amount of pellets fed during burner operation. Entering a smaller value than the result of the test - will result in higher pellet dosage during burner operation.

6.1.6 Starting the burner

- Main Menu
 - > Boiler settings
 - > Present boiler temperature

Enter the temperature you want the boiler to reach and maintain.

- Main Screen

In the case of manual control - press the big, round button and start the controller operation; in the case of a controller with a touch panel, select the icon ON / OFF.

6.1.7 Airflow

- Main Menu
 - > Boiler settings
 - > Output modulation
 - > Max blow- in output (Max airflow power)

The fan power settings are: minimum, medium and maximum. These settings are set at the factory, however, depending on such factors as the type of boiler, cross-sections, the length of the chimney, flow resistance, etc., these settings may differ from the default values. Therefore, for each installation it is advisable to carry out the setting on the basis of the exhaust gas analyzer (measuring the oxygen content in the exhaust gas), or by visual inspection (during stable operation of the burner) carrying out the observation up to about one hour after heating up.

Rating the color of smoke:

Gray - a sign of low air content - excessive oxygenation of the deposits- increase the fan airflow.

Invisible – the gases which fly out cause air waves -gas humidity is above the dew point and this is the desirable situation.

White - it occurs as a result of vapor condensation, which means that the value of unburned CO is low.

The symptoms of correctly selected combustion parameters are:

- Non-smoldering, light yellow, compact smoke coming from the combustion chamber;
- The furnace tube is covered with a light gray residue.
- The walls of the first chamber of the boiler or heat exchanger (combustion chamber) are covered with a light gray residue.

SUPERVISION

Advanced function requiring technical knowledge to set up.

Supervision is used when the heat dissipation is relatively low and therefore there is frequent stalling and re-ignition of the burner. So the energy created by the burner is higher than the need for heat. Supervision will be initiated automatically if temperature exceeds the set value of the furnace. There can be several reasons for that: closed controls on the heaters, throttled system, autumn/spring season – mild heating, well insulated building and the furnace too large.

The *Supervision* Mode is present both in the standard adjustment mode as well as with Fuzzy Logic, the Controller goes into the *Supervision* mode automatically, without user interference.

- in case of Standard control mode – once the set furnace temperature is reached
- in Fuzzy Logic – once the set temperature is exceeded by 5⁰C.

In the *Supervision* mode, the controller monitors the furnace to keep it burning. To achieve it the burner operates at low power, which does not cause further temperature increase if the parameters are set properly.

The Parameters of the *Supervision* mode should be set according to the guidelines of the furnace/burner producer. They should be adjusted in a way that the furnace does not die during the demurrage of the furnace (it shouldn't also burn too intensively as it will cause an increase in the furnace temperature).

Working time and intervals of the feeder in Supervision mode is set using the following parameters: Boiler Power Supervision, Cycle Time Supervision and Blow Power Supervision. The parameters must be selected so that the temperature of the boiler in this mode is gradually decreasing.

Attention: wrong settings can lead to overheating.

For *Supervision time = 0* the controller skips the *Supervision* mode and goes directly into *Buring off*.

The *Supervision* parameters are grouped in the menu

- Main Menu
 - > Service Settings
 - > Burner Settings
 - > Supervision
 - > Supervision Time – preset to 15 minutes – maximum value is 60 minutes
 - > Boiler Power Supervision - 1,2 or 3 kW
 - > Blow-in output – try to set it as low as possible to keep the fuel in the burner burning as long as possible
 - > Cycle Time \leq 30 seconds. Set the value based on pellet, but so that the fire does not drop below 10%.

Software version 6.3 and 3.3 - Note: during the supervision, the flame value must not drop below 10%; if the flame value remains below this value, then the burner will enter the ignition mode and will be looped in *Supervision* mode.

Software version 10.5 and 7.2 – Note: when the flame is off and during *Supervision* mode – the burner will enter *Stop* mode.

7. Burner operation in use mode.

Once the tasks described in point 6 are complete, you can now use the burner in continuous mode. As long as there is fuel in the feeder or other circumstances occur, filling the screw feeder from the tray is not necessary.

When the controller is turned on as per point 5 chapter 6, it moves to standard operation mode. Depending on the set operating parameters, it will operate in the below described modes – information on the display.

Mode	Description
FIRING UP (IGNITION)	Automatic ignition of the furnace.
OPERATION	Burner operates with the set power. Fuel is fed automatically.
SUPERVISION	The burner operates at low power so that the furnace fire does not die. Transition into this mode happens automatically after reaching the pre-set parameters. By default, supervision is turned off.

BURNING OFF	Rest of the fuel is burned in this mode.
STOP	In this mode, the boiler and burner are extinguished. Exiting this mode will happen automatically after receiving a signal to resume work (e.g. A decrease of temperature in the boiler).

In the first stage of work the fan which pre-blows the burning chamber, is turned off. Then the fuel feeder from tray is turned on, which dispenses an appropriate amount of fuel needed to initiate the fire in the furnace. Once the dose is provided, the igniter turns on and ignites the fuel. The ignition time varies and depends on the type of fuel. It usually lasts 1 – 3 minutes – on the display there will be a message saying “FIRING UP”. When the provided dose of fuel ignites – meaning the value of the parameter measured by the photo detector reaches the set value, the ignition mode will be complete and the burner will move into automatic operation mode – the display will show “OPERATION”. When the set temperature of the boiler is reached, the controller goes into “BURNING” (in FUZZY LOGIC of the burner - “BURNING OFF” mode is initiated when the set temperature is exceeded by $\pm 5^{\circ}\text{C}$).

Attention: the burner cannot be used with disconnected function of the chamber rotation.

8. List of common problems.

No	Issue	Cause	Troubleshooting
1.	Burner does not ignite Message: „Failed ignition attempt	No fuel in the tray	<ul style="list-style-type: none"> – Refill the fuel in the tray – Carry out the procedure for filling the feeder-Section 6.2 – Clear the error by pressing the knob
		Blocked fuel feeder screw	– Remove the blocking element
		Faulty igniter	– Contact a Manufacturer's Service Center
		Damaged feeding screw drives	– Contact a Manufacturer's Service Center
		Slag in the furnace	– Clean the burning chamber
		Damage or contamination of the photodiode	<ul style="list-style-type: none"> – Clean the photodiode – In case of damage contact a Manufacturer's Service Center
		Slag or ash in the combustion chamber of the boiler at the level of the combustion chamber of the burner	– Clean the combustion chamber of the boiler
2.	Alarm:	An excessive increase in	– The controller automatically

	„Max. feeder temperature exceeded	temperature of the burner housing caused by the backfiring from the combustion chamber (default 90 °C)	enters the extinguishing mode. The alarm can only be cleared by the user
		Insufficient chimney draft.	– Verify the value of the chimney draft and take possible action in order to increase it.
		Slag or ash in the combustion chamber of the boiler at the level of the combustion chamber of the burner	– Clean the combustion chamber of the boiler.
3.	Alarm: „Damage to the feeder temperature sensor”	Damage to the housing temperature sensor	– Contact a Manufacturer's Service Center
4.	Alarm: „Max. boiler temperature exceeded”	Boiler temperature set in the controller exceeded	– Wait until the temperature falls below the set value – Clear the error by pressing the knob
		Setting too low boiler operating temperature	– Increase the boiler operating temperature according to the boiler manual
		Critical temperature of the boiler exceeded (95 °C) - activation of the STB sensor	– The cause of this error must be determined – Clear the error by pressing a button on the controller housing
5.	Alarm: „Boiler temperature sensor damage”	Boiler temperature sensor damage	– Contact a Manufacturer's Service Center
6.	With the extinguishing of the burner the fan does not turn off	Damaged or dirty photodiode	– Clean the photodiode – In case of damage contact a Manufacturer's Service Center
7.	Smoky burner	Too low amount of air fed into the combustion chamber	– Clean the furnace
		Obstruction of burner air intake	– Clean the burner air inlet located in the bottom part of the burner
		Fan damage	– Contact a Manufacturer's Service Center
8.	Too much slag in the furnace	Improper type of fuel	– Use fuel recommended by the manufacturer
		Damage to drive which rotates the combustion chamber	– Contact a Manufacturer's Service Center

Any maintenance work that involve the burner or screw feeder must be carried out after disconnecting the burner from the power supply and only once the burner has cooled.

9. Maintenance, adjustment and service of the burner.

Maintenance must only be carried out when the burner is cooled and disconnected from the power source.

9.1. General guidelines.

In order to ensure trouble-free operation, as well as to extend the life of the burner, follow the instructions:

1. The furnace must be kept clean by regularly cleaning it. The frequency of this procedure depends on the quality of the fuel, the slag and humidity, as well as the number of starts of the burner, the size of the combustion chamber of the boiler and the size of the ash pan. On average, it should take place once a week.
2. Use only the fuel recommended by the manufacturer.
3. It is not allowed to burn in the burner materials not intended for this purpose.
4. Provide adequate amount of fresh air.

9.2. Cleaning of the blower tube chamber

During burner operation a portion of the combustion products may pass through the vent holes in the furnace tube to a space between the tube and the outer tube. Depending on the type of fuel used, cleaning of this component should be made on average every six months. To remove them, follow the following instructions (see Fig. 8 and 9):

1. Disconnect from the burner the cord supplying power to the external feeder and cable from the controller
2. Open the door of the boiler, so as to have access to the tube furnace.
3. Loosen the screws (6) securing the cover of the burner - 2 pcs.
4. Remove the burner cover (9).
5. Remove the mounting screws (7) - 4 pcs.

6. Carefully remove the panel with the drives and the fan (8).
7. When removing the panel (8) remove the igniter (12) from its seat.
8. Put the removed component in a safe place, paying particular attention to the igniter.
9. Locate and remove the screw (5), if the position prevents loosening - manually rotate the outer tube 1 in the direction indicated "Z".
10. Turn the tube (1) in the direction marked "O" in order to remove it.
11. Remove the tube (1) and (2) from the burner
12. Clean the removed tubes, if necessary, clean the aeration holes in the tube (2).
13. After cleaning the tubes, you can proceed to the burner assembly
14. Place the furnace tube (2) in the tube (1), - making sure that the driver (4) is placed in the rib (3) which is undercut.
15. Attach both of the tubes to the burner with the hooks of the tube going (1) into the grooves (11).
16. Turn tubes towards the "Z" until it stops.
17. Place the tubes in such a way as to allow screwing in the screws (5).
18. Refit the screw (5) - it is important that it goes past the rib of the tube (1) and that it is fully screwed in.
19. Mount the drive panel (8), during this operation place the igniter (12) in the slot firmly, pushing it to the plate screen. Undercutting (10) in the drive shaft must be set according to undercut in the shaft of the drive motor - you can rotate the drive shaft by turning the tube (1) in the direction "Z". The temperature sensor (13) should hit the slot in the fuel delivery tee. Fit screws (7).
20. Place the cover (9).
21. Tighten the screws (6).
22. Close the door of the boiler.
23. Connect the cables disconnected in point. 1.
24. The burner is ready for further work.

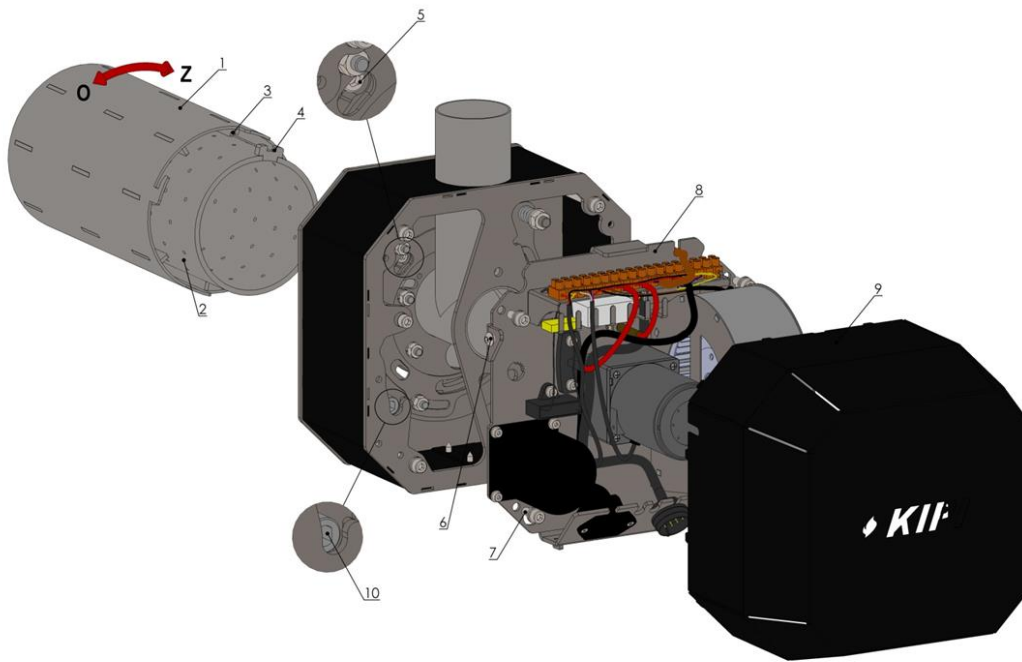


Fig. 8. Cleaning the blower tube chamber - view 1.

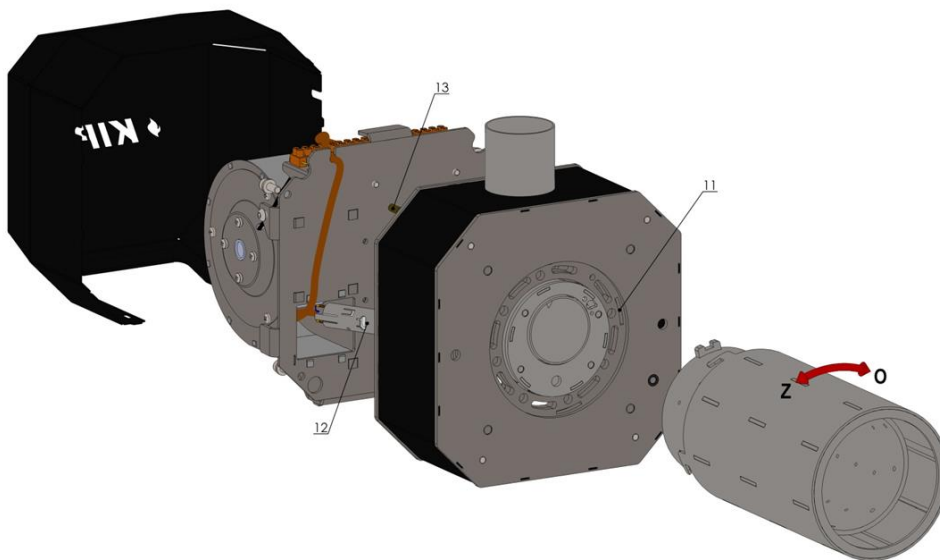


Fig.9. Cleaning the blower tube chamber - view 2.

9.3. Adjusting the volume of airflow to the combustion chamber*and cleaning the flame optical sensor.

Depending on the requirements it is possible to mechanically adjust the amount of air supplied to the burnt deposits. To make this adjustment follow the instructions below (see Fig. 10):

1. Loosen the screws (1) securing the cover of the burner - 2 pcs.
2. Remove the cover of the burner (2).
3. Use an Allen key size 5 (4) to turn the screw (3). Rotate counter-clockwise to decrease blow, rotate clockwise to increase it. Rotation from the minimum position to the maximum blow is 90°.
4. After finishing the adjustment place the cover of the burner (2) and tighten the screws (1).

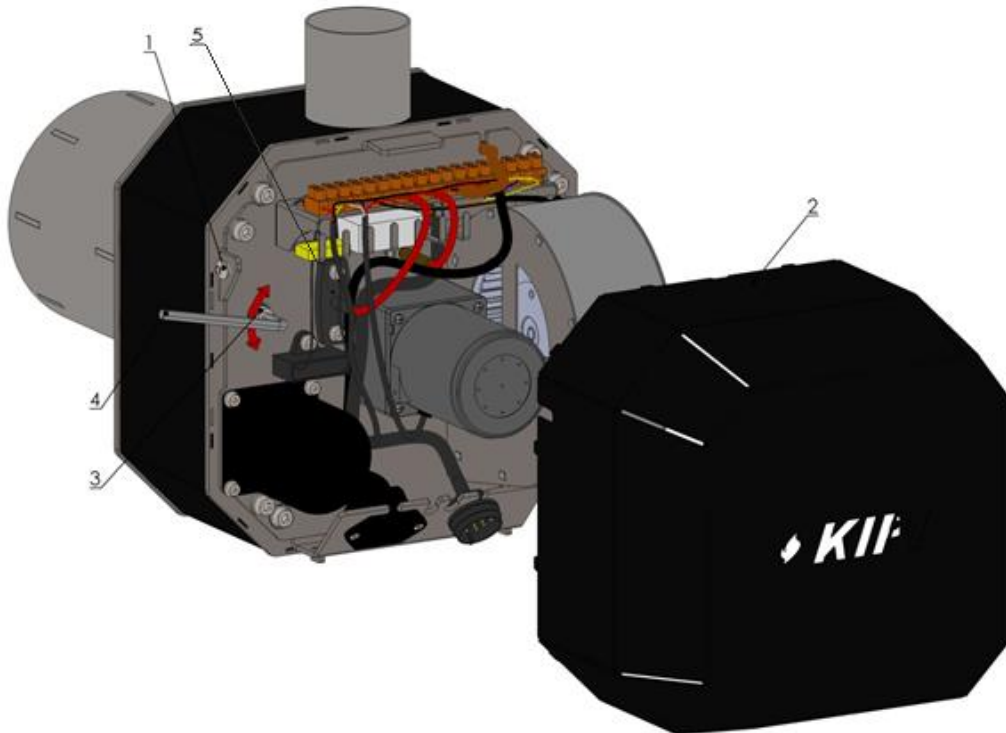


Fig. 10. Adjustment of the amount of blow to the combustion chamber.

9.3.1 Cleaning the flame optical sensor

1. Pull out the optical sensor (5) from the latch and wipe the glass surface with a soft cloth.
2. Fasten the optical sensor. Make sure that the sensor is snapped into the socket.

* - does not apply to burners 4-16 kW and 5-20 kW.

9.4. Lubrication of the combustion chamber bearings.

In order to ensure longer service life of the burner it is recommended to lubricate the combustion chamber bearings. Depending on the frequency of the burner operation it is recommended to be performed every 12 months. To perform this operation you should follow the instructions below:

1. Disconnect from the burner the cord supplying power to the external feeder and cable from the controller.
2. Loosen the screws (1) securing the cover of the burner (2) - 2 pcs.
3. Remove the burner cover (2).
4. Remove the mounting screws (4) - 4 pcs.
5. Carefully remove the panel with the drives and the fan (3).
6. When removing the panel (3) remove the igniter (5) from its seat.
7. Put the removed component in a safe place, paying particular attention to the igniter.
8. Remove the screws (6).
9. Remove the blower compartment cover (7) with the frame (8), tee (9), the drive shaft (14) and aperture rotation shaft (15), if necessary, remove the screw that secures the tee.
10. Lubricate the bearings of the combustion chamber (10) in several places around the circumference by placing a lubricant between the raceway of the bearing and the bearing cage. For lubrication use a solid lubricant (eg. Towot, LT 43).
11. Place the shaft (14) into the sleeve (18) of the burner face plate. The pawl (12) should be placed between the teeth of the wheel (13) - as shown in Fig.
12. Place the shaft (15) in the hole of the bearings platen, set gearing as drawn - this is the closing of the aperture - for the lowest blow.
13. Place the blower compartment cover (7) with the tee (9) and the frame (8). The projections in the sheet of the cover should hit the jacks on the front panel of the burner, the tee should be placed in a hole in the screen. Fit the frame (8) – also here the tabs should go to the right slots. If necessary to tighten the tee screw. The end of the drive shaft (14) should hit the groove (17) and the shutter turning shaft (15) should go in the opening (16).
14. Mount the screws (6).
15. Install the drive panel (3), during this operation place the igniter (5) in the slot firmly, pushing it to the plate screen. Undercutting (11) in the drive shaft must be set according to the undercutting in the shaft of the drive motor - you can rotate the drive shaft by turn-

ing the outer tube towards "Z". The temperature sensor should hit the slot in the fuel delivery tee.

16. Mount the screws (4).
17. Place the cover (9).
18. Tighten the screws (1).
19. Close the door of the boiler.
20. Connect the cables disconnected in point 1.
21. The burner is ready for further work.

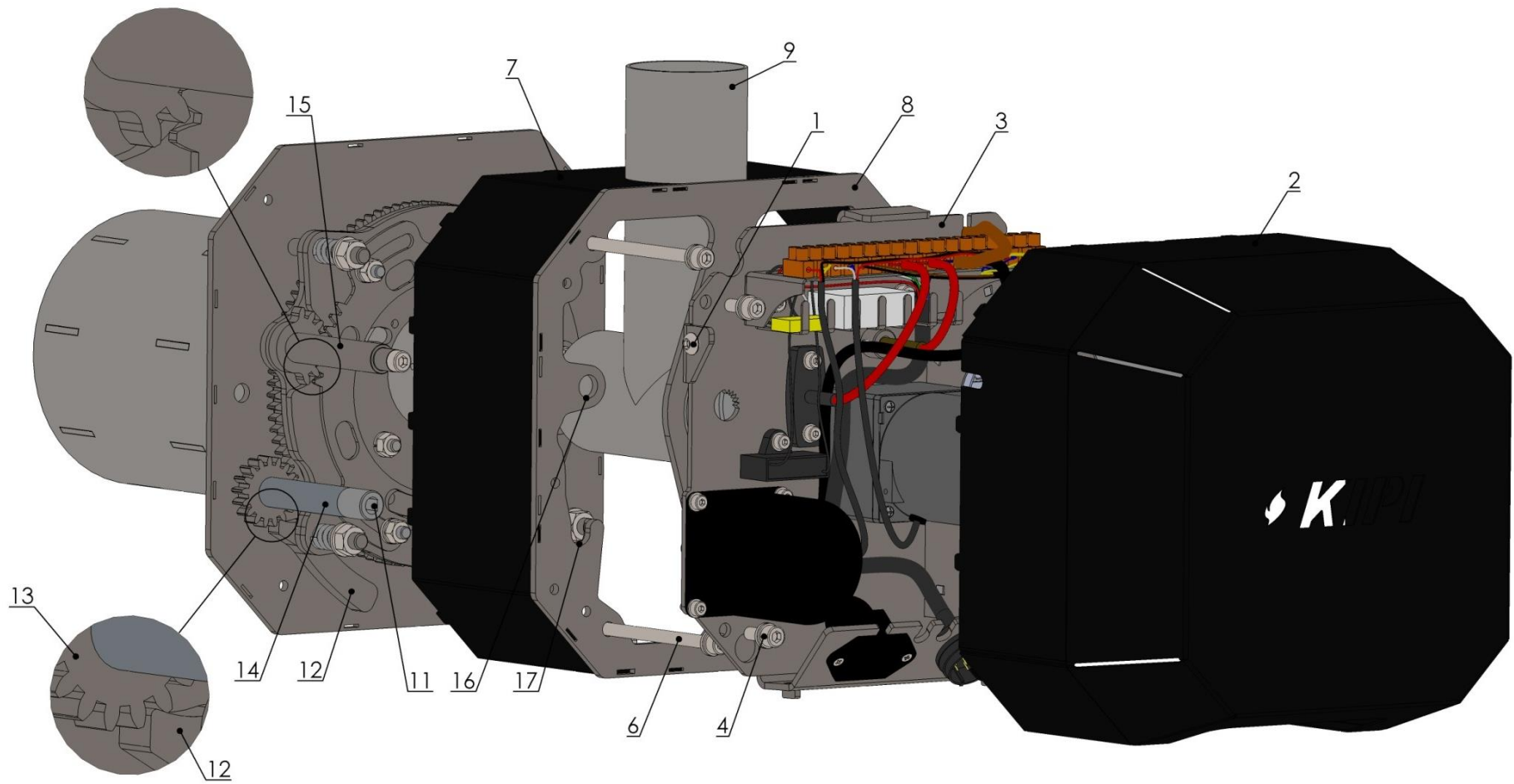


Fig. 11. Lubrication of the combustion chamber bearings - view 1.

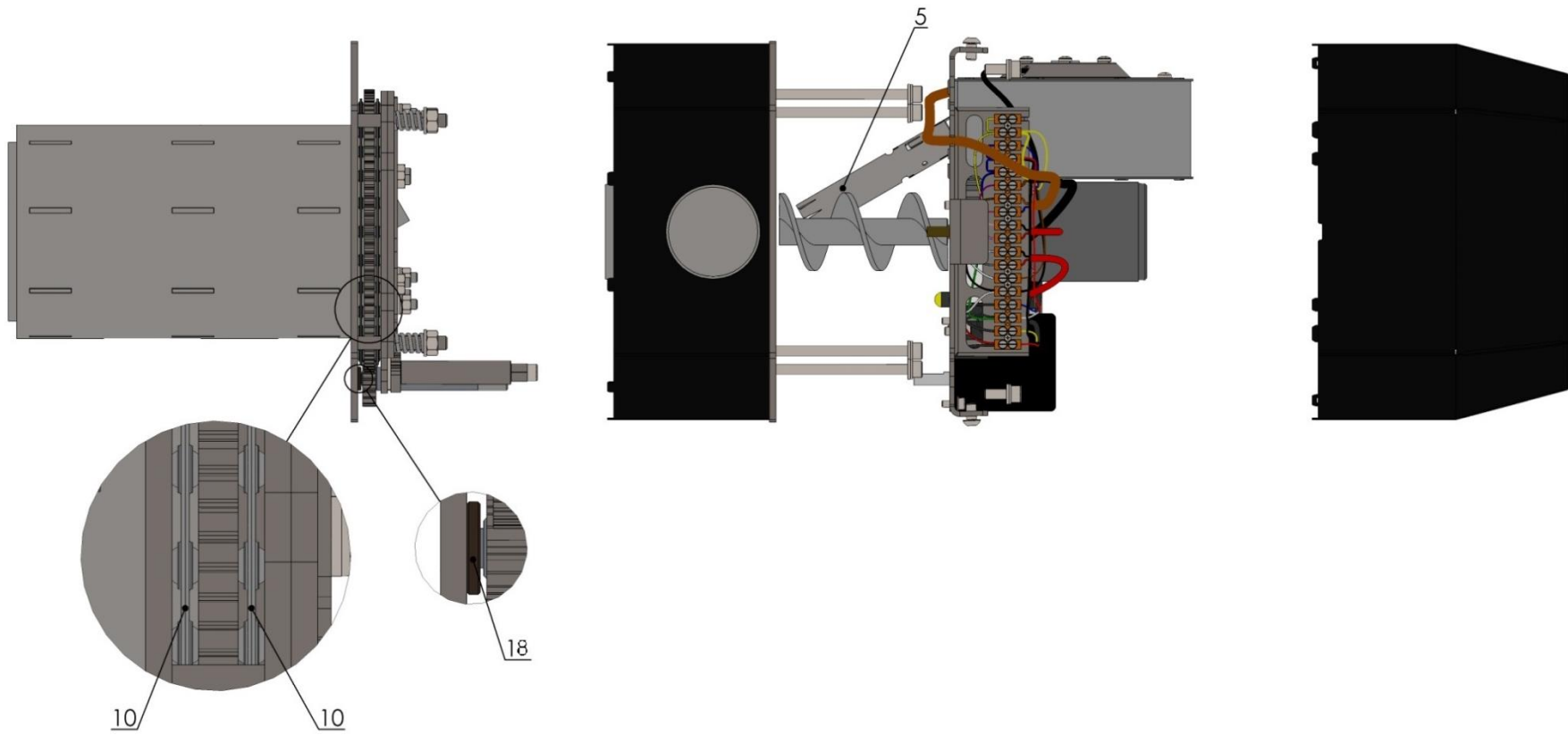


Fig. 12. Lubrication of the combustion chamber bearings - view 2.

9.5. Igniter replacement

Replacing the igniter can be performed by a service technician of the manufacturer or by a person with the SEP certification up to 1 kV. The replacement should be performed according to the following description and the accompanying drawings.

1. Disconnect the burner from the source of electrical power
2. Loosen the screws (1) securing the cover of the burner (2) – 2 pcs.
3. Remove the cover of the burner (2).
4. Disconnect the igniter from terminals Z2 and Z4 on the power strip (3).
5. Pull the bushing (4) from the igniter tube (5).
6. Pull the igniter cord gently to pull the igniter (6) from the tube (5).
7. The new should be placed in the tube (5). During the insertion of the igniter it should be rotated so that the concave portion hits the bent tang of the igniter tube (5). Igniter must be inserted until you feel clear resistance - the end of the igniter should be located about 20 mm from the end of the tube (5).
8. Place the bushing (4) in the igniter tube (5) attach the bushing collar by the tangs (7) of the igniter tube (2 pcs.). Conduit should be tightly attached on the entire perimeter of the igniter tube.
9. The bushing (4) should not be moved to the part where the wires are in a common enclosure (larger diameter).
10. Connect the wires to the igniter terminals firmly, Z2 - brown wire, Z4 - blue wire.
11. Lay the cable from the igniter on the left side so that it does not tear against the fan impeller, and does not interfere with closing the housing.
12. Install the burner housing (2).
13. Tighten the mounting screws (1).
14. Connect the burner to the electricity supply.
15. The burner is ready for further work.

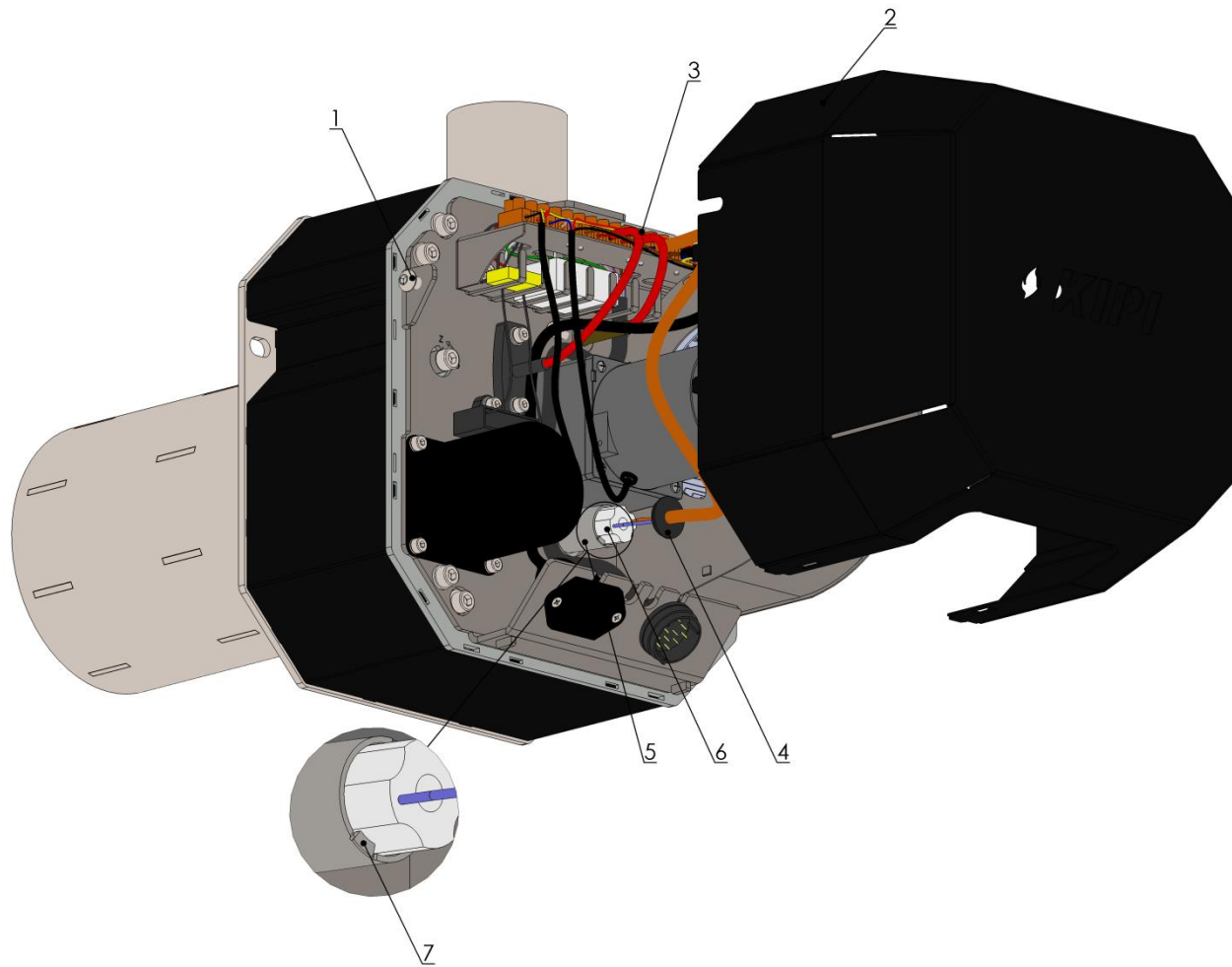


Fig. 13. Ignition unit replacement.

10. Operational safety

In order to ensure a user's safety it is necessary to follow the rules below.

1. During the burner operation, it is forbidden to open the boiler door with the burner mounted inside.
2. In the case of fuel ignition inside the burner, it should be immediately disconnected from the power source and then should the potential fire fighting operations be carried out.
3. Keep the boiler room clean and do not store unnecessary objects within its area
4. The burner operation and use should be performed by adults trained in respect of operations and use of such burners in accordance with the operating manual.
5. The burner, the boiler as well as the central heating and hot water systems should be kept in good technical condition.
6. Pay attention to the tightness of water installations near the burner - any leakage could damage the burner as well as cause the risk of electrocution.
7. The burner and the feeder are equipped with rotating elements - never reach hands, fingers or any other items inside while it is in operation.
8. It is forbidden to modify the burner's automated systems and other electrical components installed.
9. The burner is a heat-generating device - some elements of the burner may heat up - pay extra attention when in contact with the elements above
10. It is forbidden use the burner if installed individually without the installation acceptance by an Authorized Engineer.
11. It is forbidden to connect the burner to incompatible boilers.
12. The burner cannot be used as an independent device.
13. It is forbidden to place objects on the burner.
14. It is forbidden to apply other fuel ignition methods, in particular the use of flammable materials for such purposes.
15. The burner should be used with the external cover attached and with all safety systems working properly.
16. Use the burner only in boiler rooms which have been audited and approved by appropriate service.

11. Decommissioning of the burner upon its product life expiry.

After the end of the product's useful lifetime, the device should be disposed of according to the environment protection regulations.

12. Circuit diagram.

12.1. EcoMAX 850P and ecoTOUCH 850P controller circuit diagram.

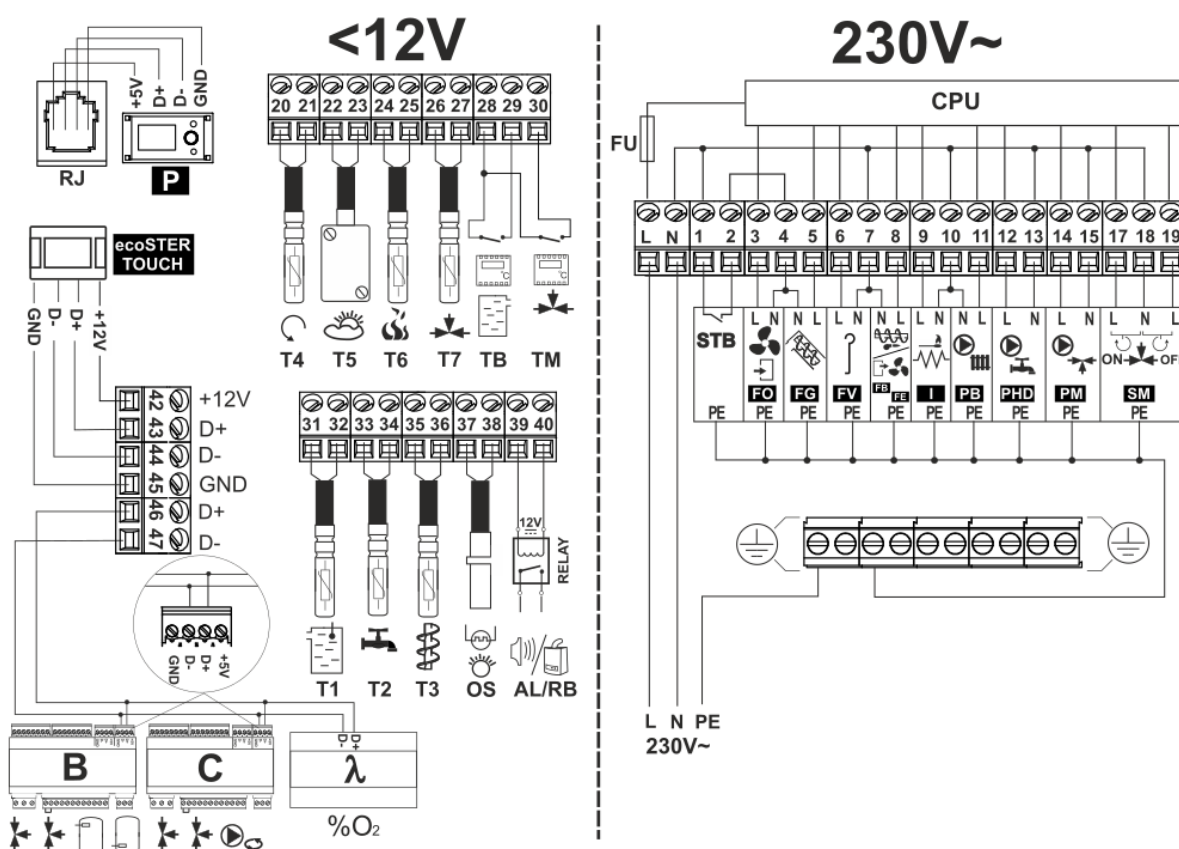


Fig.14. EcoMAX 850P and ecoTOUCH 850P controller circuit diagram.

Connection marking	Function / sub-assembly
T1	boiler temperature sensor: CT4
T2	temperature sensor of DWH boiler: CT4
T3	main feeder temperature sensor: CT4
OS	flame optical sensor
AL / RB	voltage output for alarm signalling or reserve boiler control / H output
RELAY	12VDC relay
T4	boiler return temperature sensor: CT4
T5	weather temperature sensor CT4-P or CT-6 P
T6	exhaust gas temperature sensor: CT2S
T7	mixer temperature sensor: CT4
TB	room thermostat input to the boiler
TM	room thermostat input to the mixer
P	control panel
ecoSTER TOUCH	room control panel ecoSTER 200 or ecoSTER TOUCH with a room thermostat function (replaces TB or TM)
D-D+	connection for additional modules
B	the module adds the support of two additional mixer circuits and operation of the thermal buffer
C	additional module provides the control of additional two mixers and a circulation pump
λ	Lambda probe module
L N PE	mains 230V~
FU	mains fuse
STB	safety temperature limiter input
FO	air blower for the burner
FG	main feeder
FV	motor for rotational cleaning of the burner
FB	burner feeder
FE	exhaust fan
I	igniter
PB	boiler / buffer pump
PHD	hot water pump
PM	mixer pump
SM	mixer servomotor
CPU	control

12.2. EcoMAX 860P and ecoTOUCH 860P controller circuit diagram.

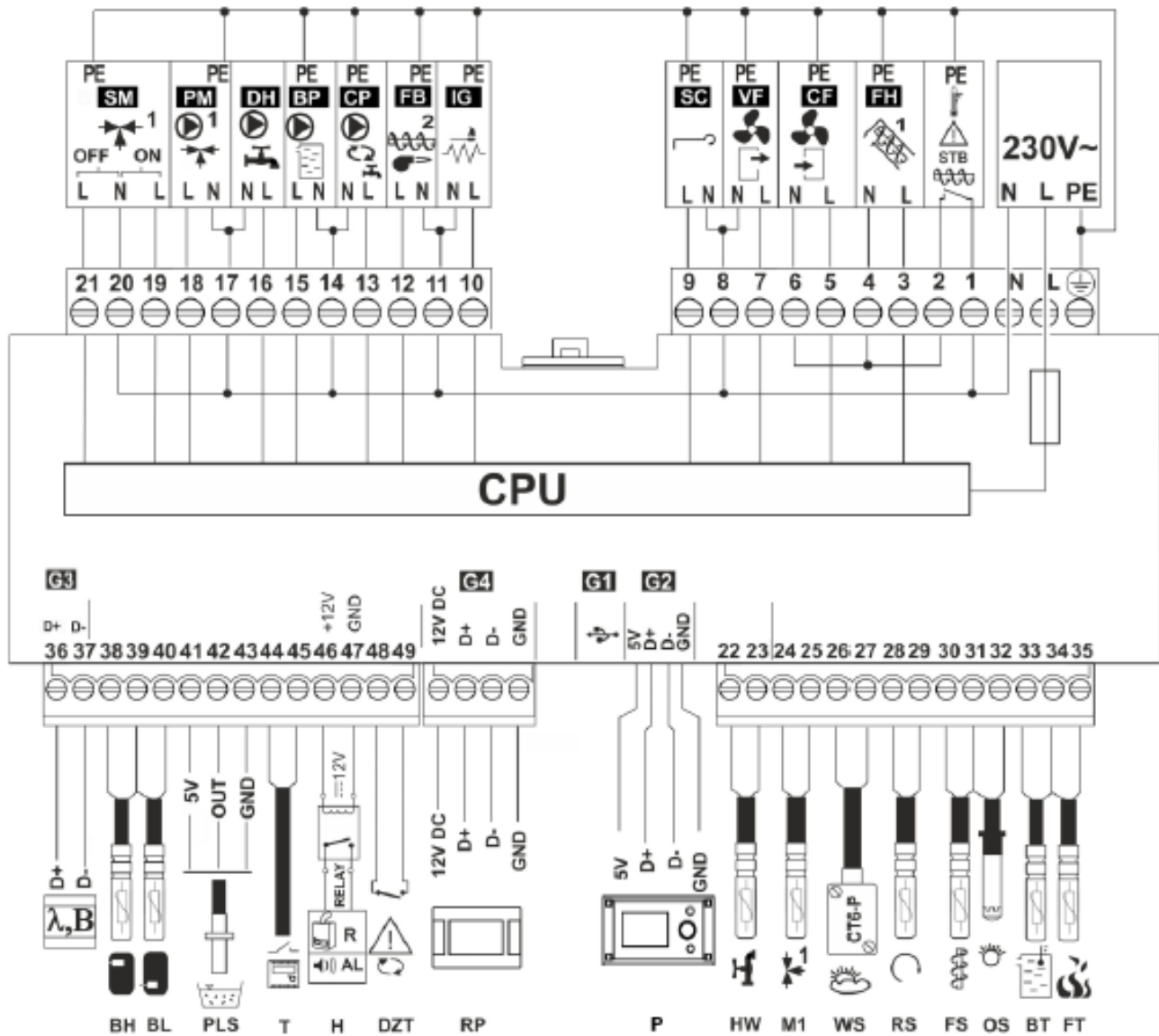


Fig. 15. ecoMAX 860P and ecoTOUCH 860P controller circuit diagram.

Connection marking	Function / sub-assembly
λ	Lambda probe module
B	the module adds the support of two additional mixer circuits and operation of the thermal buffer
BH	temperature sensor boiler upper CT4
BL	temperature sensor boiler lower CT4
PLS	fuel level sensor
T	room thermostat (close-open)
H	voltage output for controlling the reserve boiler R or for AL alarms
RELAY	12VDC relay
DZT	boiler door opener sensor
RP	ecoSTER TOUCH room panel with room thermostat function
P	Control panel
HW	temperature sensor hot water pump CT4
M1	temperature sensor of the regulated circuit (mixer1)CT4
WS	weather sensor temperature CT6P
RS	temperature sensor for water returning to the boiler CT4
FS	temperature sensor of the feeder CT4
OS	optical flame brightness sensor
BT	boiler temperature sensor CT4
FT	exhaust temperature sensor CT2S
L N PE	mains 230V~
CPU	control
STB	entrance to the safety temperature limiter
FH	main feeder
CF	burner blowing fan
VF	exhaust fan
SC	rotary burner cleaning engine
IG	igniter
FB	burner feeder
CP	circulation pump hot water
BP	boiler pump
DH	pump hot water
PM	mixer pump 1
SM	mixer actuator

12.3. EcoMAX 920P and ecoTOUCH 920P controller circuit diagram.

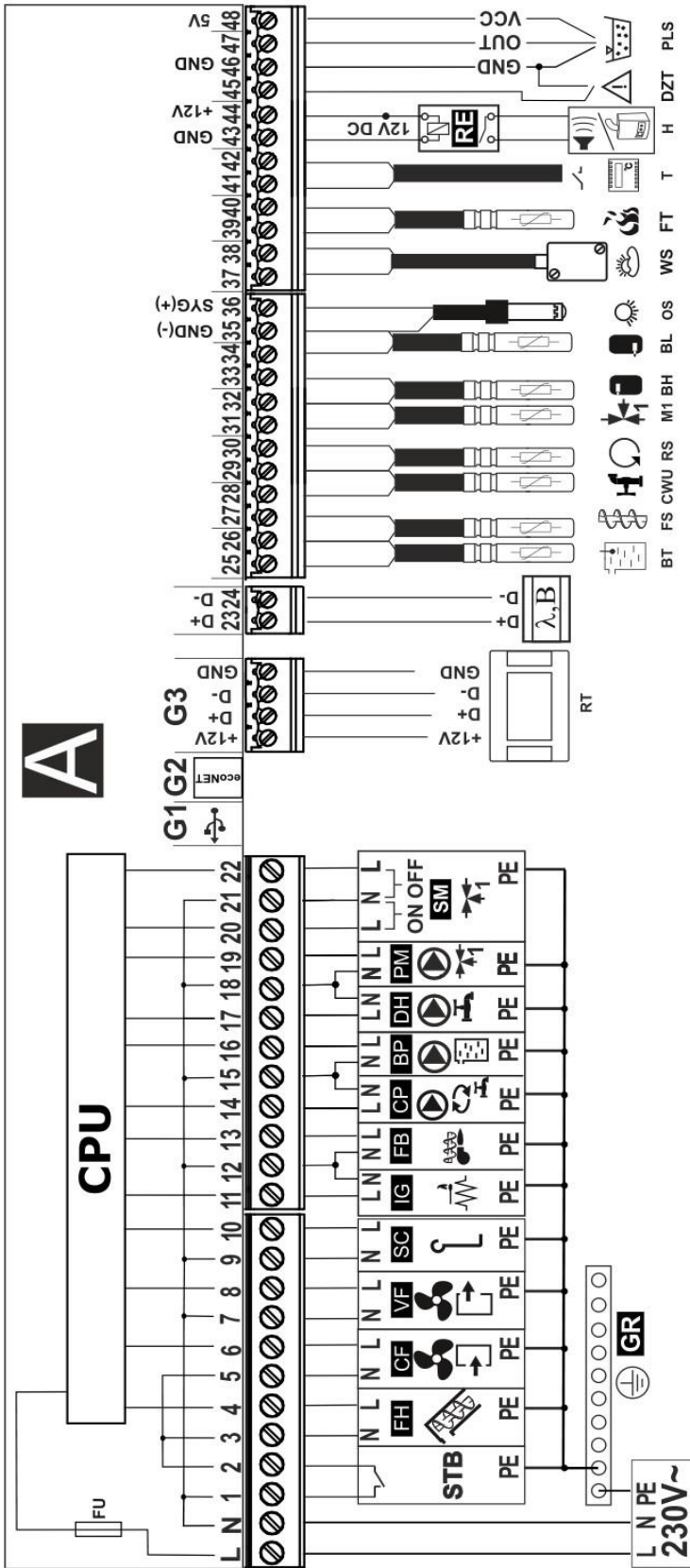


Fig. 16 EcoMAX 920P and ecoTOUCH 920P controller circuit diagram.

Connection marking	Function / sub-assembly
LNPE	mains 230V~
CPU	control
FU	fuse
STB	entrance to the safety temperature limiter
FH	main feeder
CF	burner blowing fan
VF	exhaust fan
SC	rotary burner cleaning engine
IG	igniter
FB	burner feeder
CP	circulation pump hot water
BP	boiler pump
DH	pump hot water
PM	mixer pump 1
SM	mixer actuator
RT	ecoSTER TOUCH room panel with room thermostat function
λ	Lambda probe module
B	the module adds the support of two additional mixer circuits and operation of the thermal buffer
BT	boiler temperature sensor CT4
FS	temperature sensor of the feeder CT4
CWU	temperature sensor hot water pump CT4
RS	temperature sensor for water returning to the boiler CT4
M1	temperature sensor of the regulated circuit (mixer1)CT4
BH	temperature sensor boiler upper CT4
BL	temperature sensor boiler lower CT4
OS	optical flame brightness sensor
WS	weather sensor temperature CT6P
FT	exhaust temperature sensor CT2S
T	room thermostat (close-open)
H	voltage output for controlling the reserve boiler R or for AL alarms
RELAY	12VDC relay
DZT	boiler door opener sensor
PLS	fuel level sensor

12.4 ecoMAX 350P controller circuit diagram.

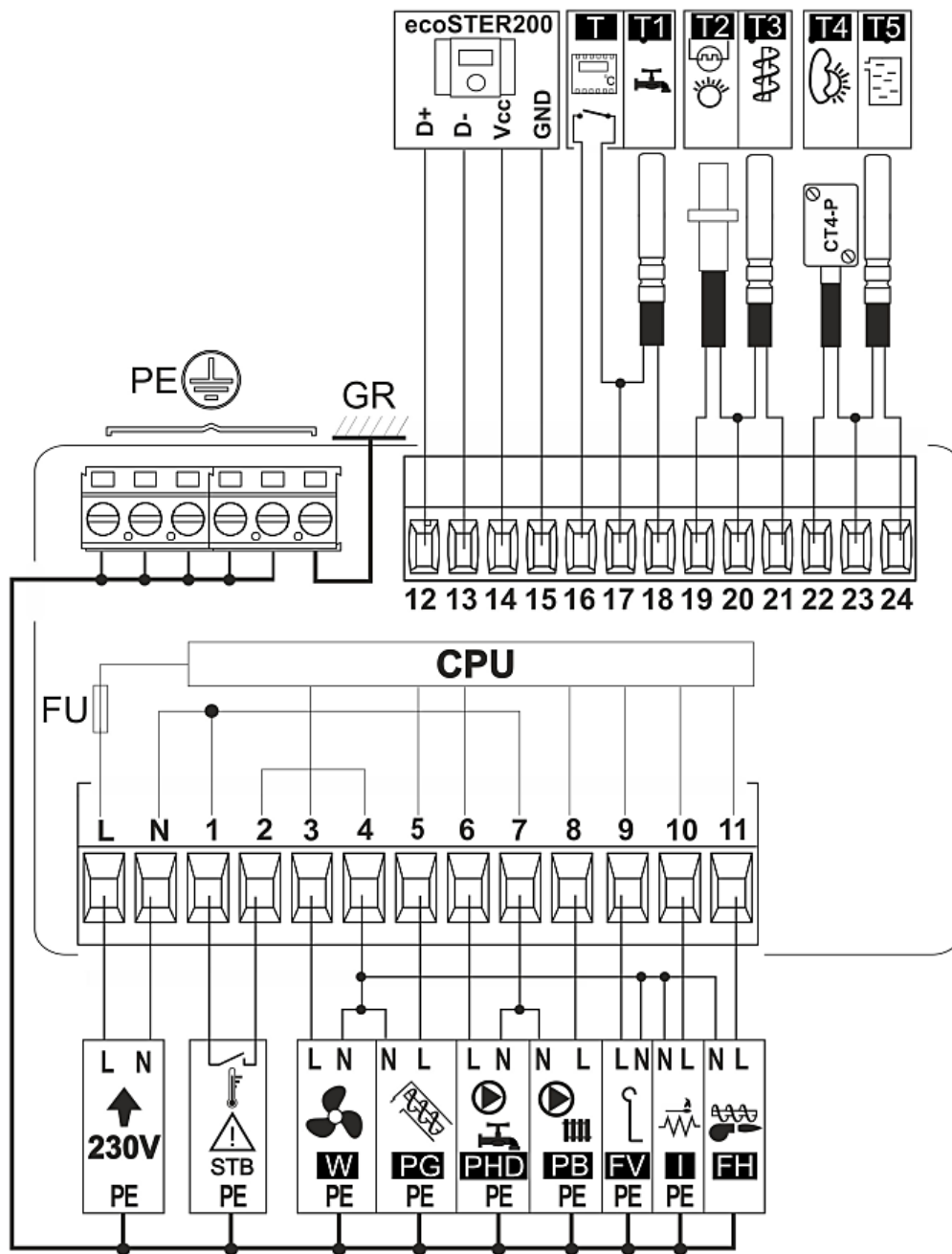
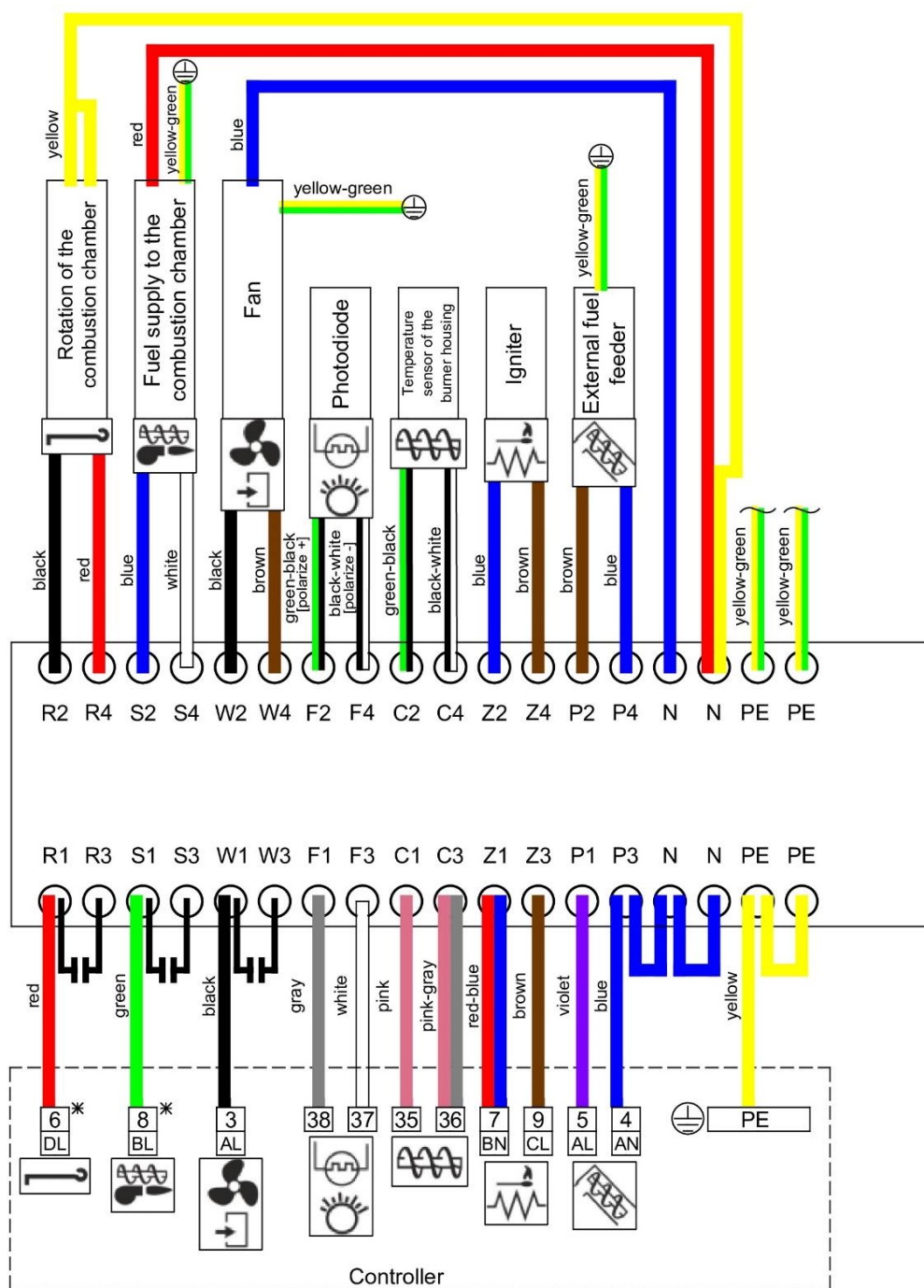


Fig. 17. EcoMAX 350P controller circuit diagram.

Connection point designation	Function / Component
ecoSTER200	room thermostat
T	room thermostat (close-open)
T1	hot water temperature sensor CT4
T2	flame optical sensor
T3	feeder temperature sensor CT4
T4	weather sensor CT4-P
T5	boiler temperature sensor CT4
FU	controller fuse
CPU	controls
STB	temperature Safety Limiter
GR	neutral terminal 230V
PE	connector for protective conductor
W	ventilator
PO	feeder motor
PCW	hot water pump
PCO	boiler and Central Heating flow pump
FV	burner rotation cleaning motor
I	igniter
FH	burner feeder

12.4 Burner electric diagram



*Fig. 18. Wiring diagram of burner equipped with ecoMAX 850 controller - see 10.53. When connecting to another type of controller, follow the wiring diagram of this controller.

Connection terminal strip of the external electrical control box:

Connection point designation	Function / Component
R2, R4	Combustion chamber rotation
S2, S4	Combustion chamber fuel supply
W2, W4	Fan
F2, F4	Photodiode
C2, C4	Housing temperature sensor
Z2, Z4	Igniter
P2, P4	External fuel feeder
PE	Grounding
N	Neutral-powered output

Protective strip – PE:

Connect all green-yellow wires.

13. Burner models, overall and mounting dimensions.

13.1. ROTARY 4-16 kW.

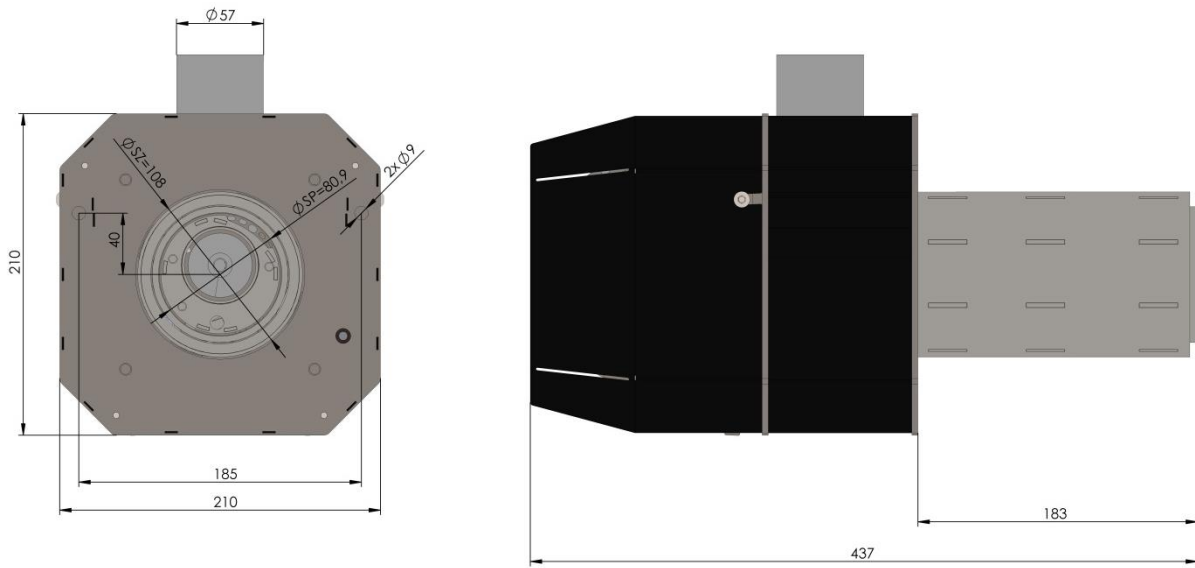


Fig. 19. Burner view 4-16 kW.

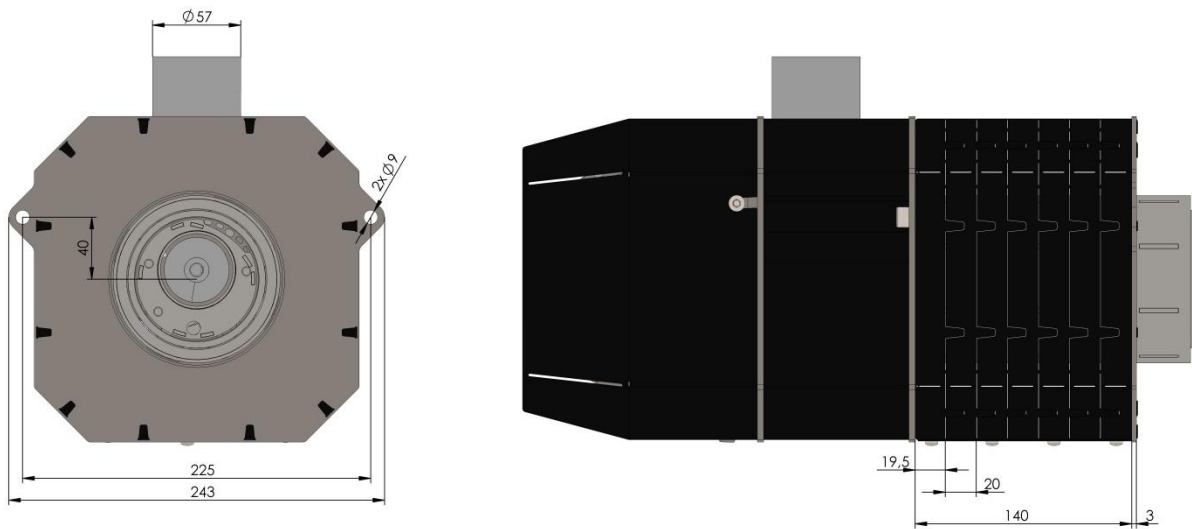


Fig. 20. Burner view 4-16 kW with isolation jacket and mounting plate.

13.2. ROTARY 5-20 kW.

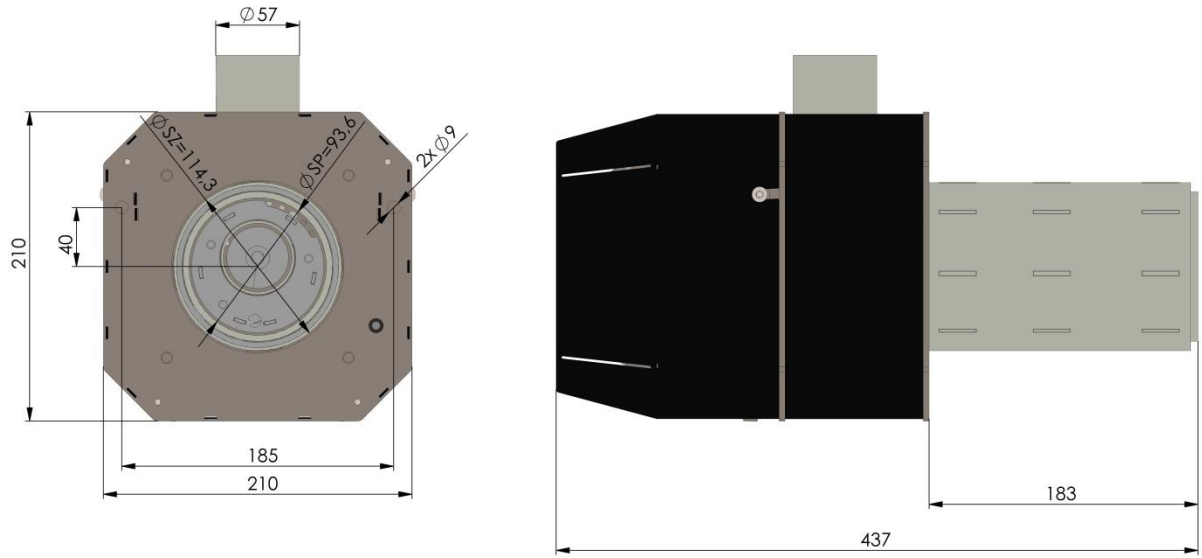


Fig. 21. Burner view 5-20 kW.

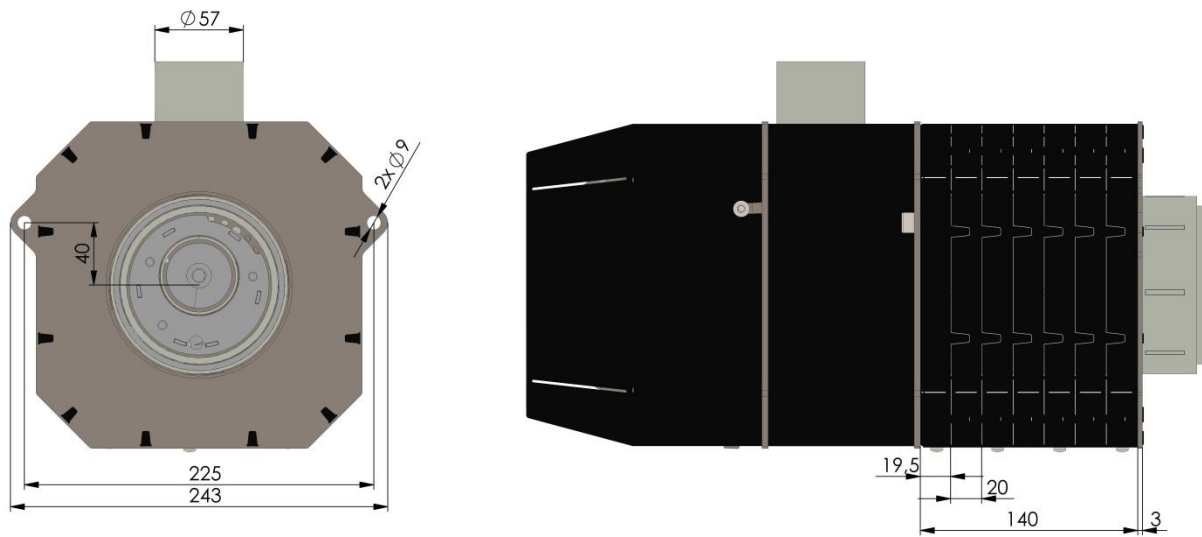


Fig. 22. Burner view 5-20 kW with isolation jacket and mounting plate.

13.3. ROTARY 6-26 kW.

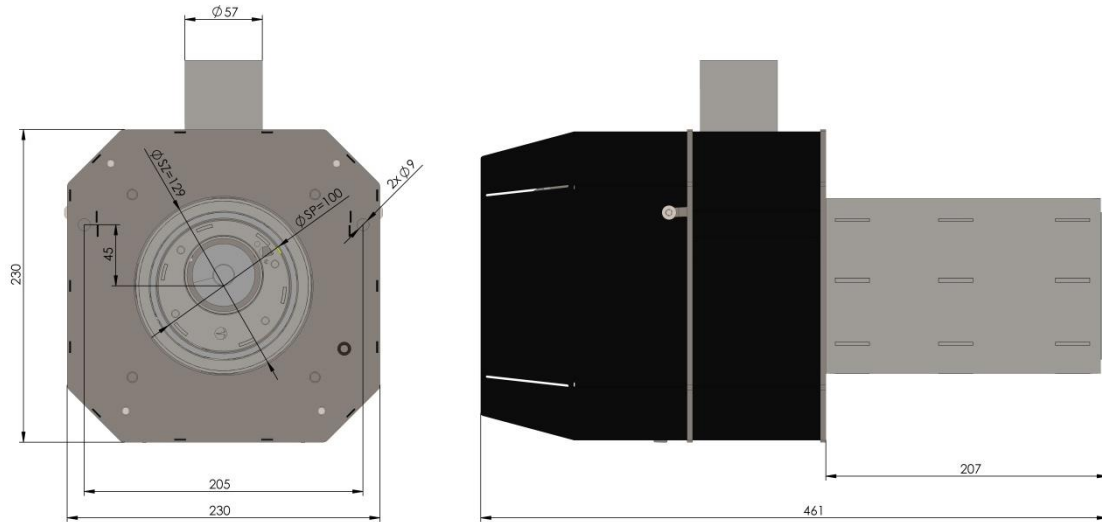


Fig. 23. Burner view 6-26 kW.

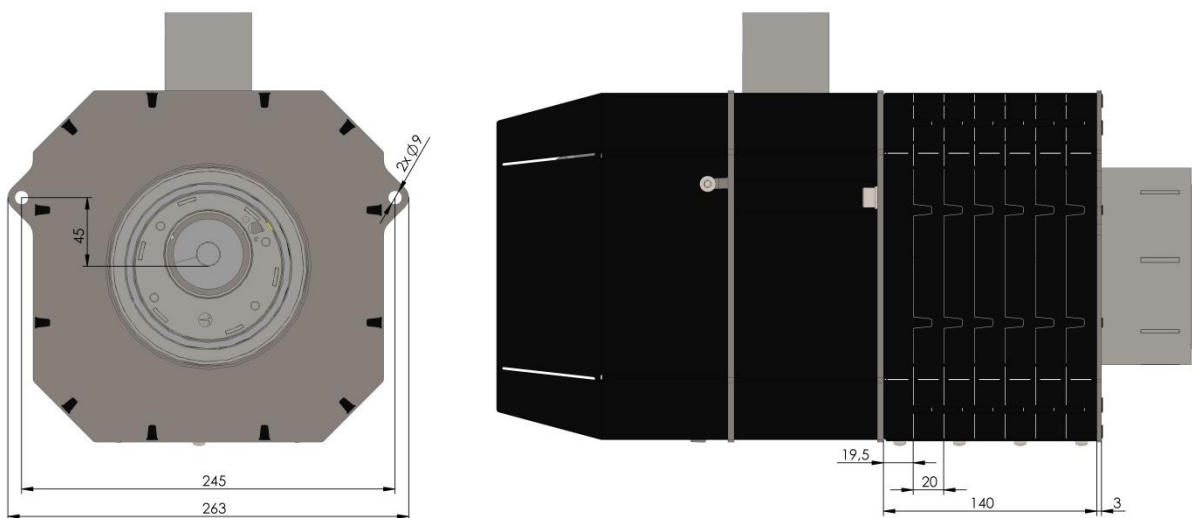


Fig. 24 Burner view 6-26 kW with isolation jacket and mounting plate.

13.4. ROTARY 8-36 kW.

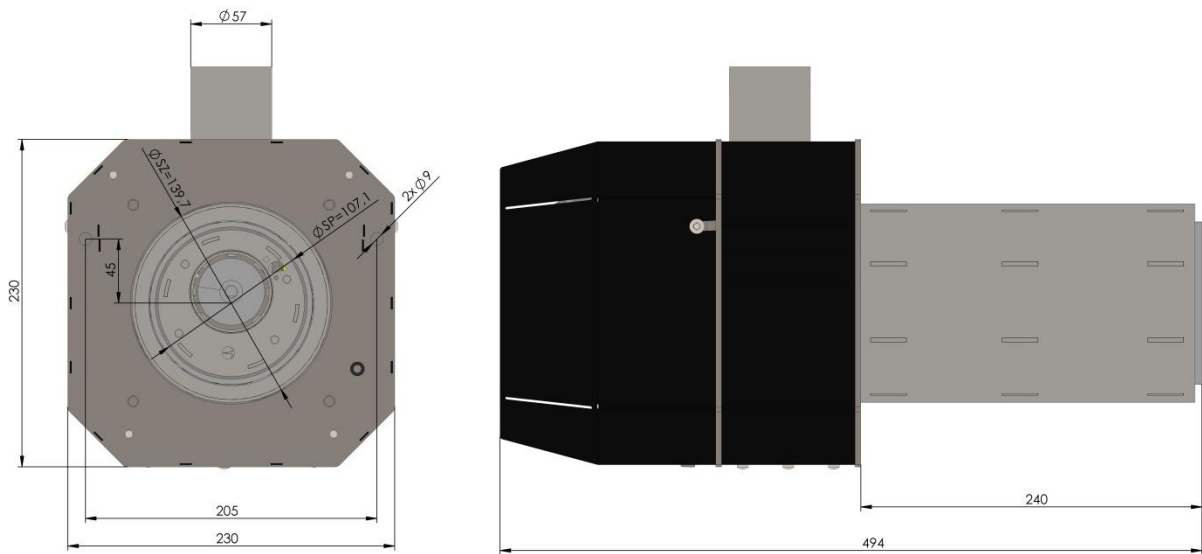


Fig. 25. Burner view 8-36 kW.

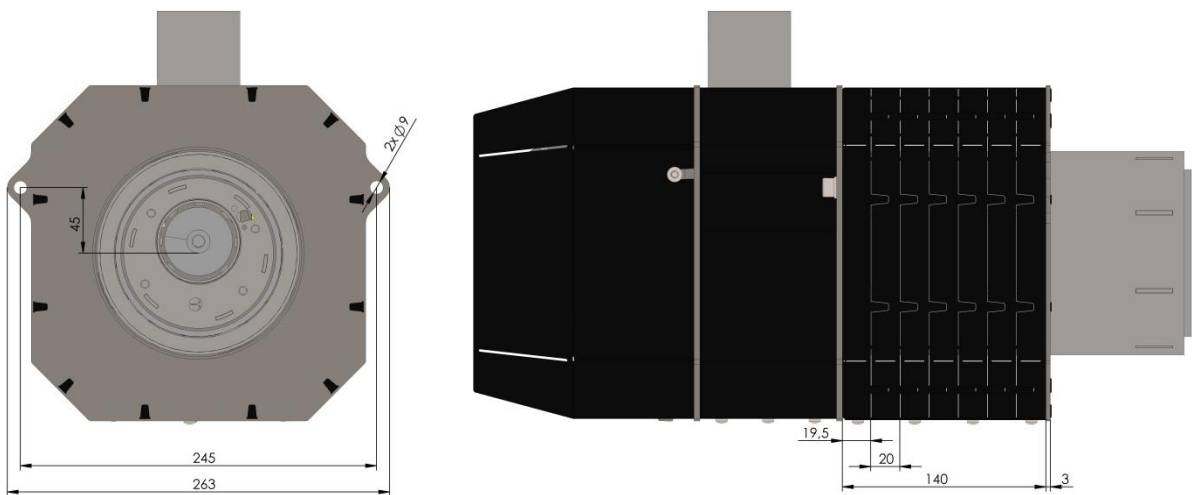


Fig. 26. Burner view 8-36 kW with isolation jacket and mounting plate.

13.5. ROTARY 10-50kW.

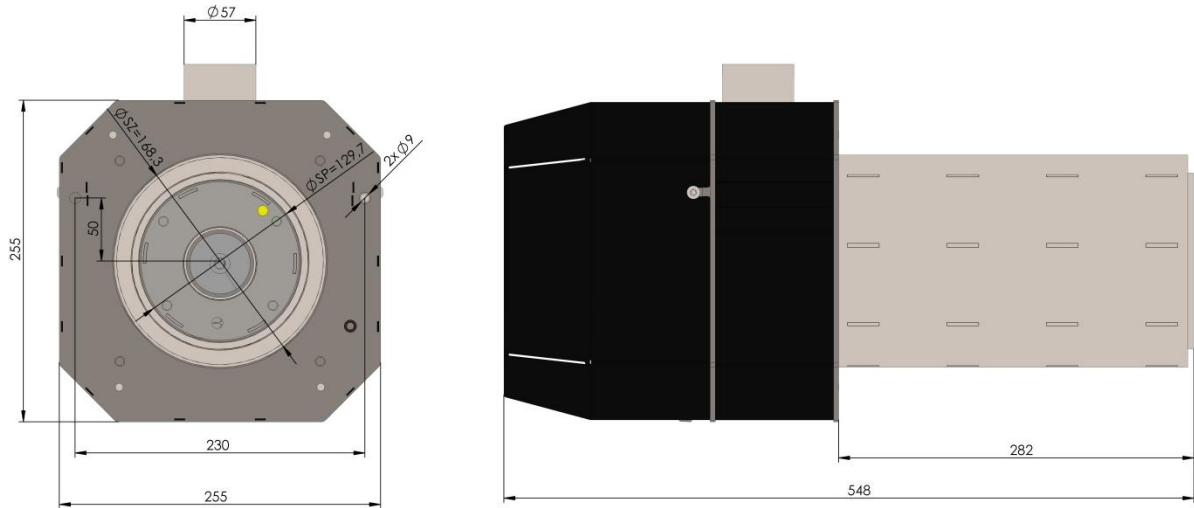


Fig. 27. Burner view 10-50kW.

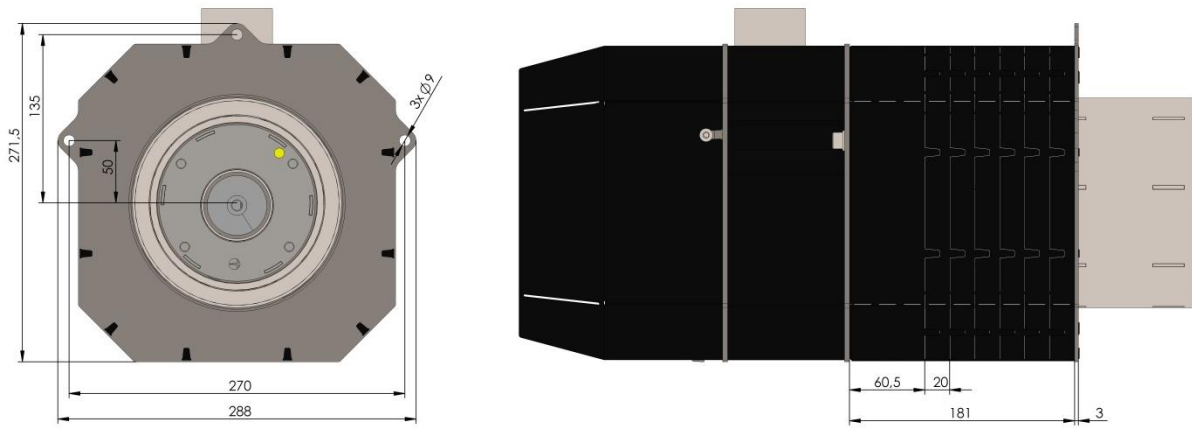


Fig. 28. Burner view 10-50 kW with isolation jacket and mounting plate.

14. Burner specifications.

Specifications	Models		
	4 -16 kW	5-20 kW	6-26 kW
1. Power	4-16 kW*	5-20 kW*	6-26 kW*
2. Power supply	230 VAC, 50 Hz (6 A)		
3. Average power consumption	24 W	24 W	25 W
4. Igniter power	150 W		
5. Combustion efficiency	> 99 %		
6. Boiler efficiency	> 96 %		
7. Power control	YES (power modulation in full operating range of the burner)		
8. Central heating pump operation	YES		
9. Hot water pump operation	YES		
10. Burner control using the room thermostat	YES		
11. Burner control using the weather controller	YES (optional)		
12. Pellet feeder	YES (Ø60 x 1850 mm working)		
13. Spiro pipe	YES (Ø60 x 750 mm)		
14. Required chimney draft	22 Pa	22 Pa	25 Pa

Specifications	Models	
	8-36 kW	10-50 kW
15. Power	8-36 kW*	10-50 kW*
16. Power supply	230 VAC, 50 Hz (6 A)	
17. Average power consumption	28 W	40 W
18. Igniter power	150 W	
19. Combustion efficiency	> 99 %	
20. Boiler efficiency	> 96 %	
21. Power control	YES (power modulation in full operating range of the burner)	
22. Central heating pump operation	YES	
23. Hot water pump operation	YES	
24. Burner control using the room thermostat	YES	
25. Burner control using the weather controller	YES (optional)	
26. Pellet feeder	YES (Ø60 x 1850 mm working)	
27. Spiro pipe	YES (Ø60 x 750 mm)	
28. Required chimney draft	30 Pa	35 Pa

* - the nominal power is refers to the pellet produced according to DIN or DIN plus specification. For the pellet with different burning specification, in particular with different calorific, ash content and humidity values, it could be lower.

EC DECLARATION OF CONFORMITY



Producer:

BTI GUMKOWSKI Sp. z o.o. Sp. k.
ul. Obornicka 71, 62-002 Suchy Las

declares the following:

Pellet Burner product , type: ROT-POWER, model: 4-16 kW, 5-20 kW, 6-26 kW, 8-36 kW,
10-50 kW meets the requirements and conforms with directives:

- 2006/42/WE,
- 2006/95/WE,
- 2004/108/WE,

And meets the requirements of the following harmonized standards:

- PN-EN 953+A1:2009,
- PN-EN ISO 13732-1:2009,
- PN-EN 60127-1:2008/A1:2012,
- PN-EN 60445:2011E,
- PN-EN 60519-1:2011E,
- PN-EN 60730-2-5:2006/A2:2010E,
- PN-EN 60730-1:2012E,
- PN-EN ISO 12100:2012,
- PN-EN 61000-6-3:2008,
- PN-EN 60730-2-9:2011,
- PN-EN 15270:2008.

Person authorized to prepare technical documentation: Szymon Bajerlein.

Poznań, 10 April 2015

A handwritten signature in blue ink, appearing to read "Jan Gumkowski".

Jan Gumkowski

BTI GUMKOWSKI Sp. z o.o. Sp. k.
ul. Obornicka 71, 62-002 Suchy Las
KRS 0000520520 NIP 9721251263
REGON 302832793 tel. 61 811 70 37

15. Warranty terms.

Thank you for choosing KIPi burner. We are using our best efforts, to make the device as durable as possible. We are thus asking you to get familiar with the following information.

The required installation KIPi burner only by Authorized Engineer

1. Warranty period.

- The manufacturer provides two-year warranty for the burner starting from the day of First operation, but not later than 1 month from the day of purchase.
- The manufacturer gives 12-months warranty for the igniter or for 3000 ignition cycles.
- ATTENTION: The manufacturer may conditionally extend the warranty period to 3 years provided that the following conditions are met:**
 - 1.1 The burner installation and the *First Operation* was performed by an Authorized Engineer,
 - 1.2 Filling Warranty form and sending the *First Operation* copy to the Manufacturer
 - 1.3. Subsequent periodic inspections performed by an Authorized Engineer after 12 months of use.

2. First operation.

The manufacturer recommends that the burner installation and the *First operation* is performed by an Authorized Engineer upon the User's request.

The first operation involves:

- correctness of assembly and device operation check,
- burner adjustment,
- inspection for correct operation of the device safety elements.
- filling the warranty card .

First operation does not include:

- fixing installation defects and flaws.

3. Inspection.

Inspections should be performed annually starting from the date of *First operation*.

4. Warranty terms:

- provision of the properly fulfilled *warranty card*,
- provision of the proof of purchase
- the installation and the first operation performed by an Authorized Engineer
- performance of annual, warranty inspections by an Authorized Engineer, paid by the User.
- mandatory postage of the copy of the First Operation protocol to the Manufacturer by post or via e-mail, by the Engineer.
- it is mandatory for the installer to provide the Manufacturer with the consent to personal data processing according to GDPR, via mail or e-mail

5. The warranty does not cover:

- damages arising from inadequate device storage and transportation.
- damages arising from improper installation and first operation
- damages arising from improper use of the device and the use of improper fuel,
- malfunctions arising from improperly assembled heating, chimney and ventilation system
- damages caused by factors outside the Manufacturer's control (ie. flooding, fire, electrical surge, etc.)
- Consumables which are subject to wear.

6. The warranty is invalidated in the event:

- the device identification plate is removed,
- the repair is performed by unauthorized persons,
- device elements are modified - the performance of self-made modifications.
- the *Warranty* is lost or damaged.
- the guarantee on foreign markets is valid only in case of purchasing from an *Authorised Distributor*, operating in a given country, otherwise the guarantee is void.



16. Warranty - first operation - copy to send

User / place of installation

Name and Surame	
Street	
Town/ post code	
Telephone/ e-mail	

device	teat output [kW]	Serial number and year of manufacture
Boiler type		
	output [kW]	Serial number and year of manufacture
Burner type		

I have read and warranty conditions and accept them with no restrictions. I have received the user manual and have been trained how to use the device. I give/do not give consent for my personal data to be processed by BTI Gumkowski Company database and to process the data for servicing purposes under the Data Protection Act 1997 from August 29 1997 (Journal of Law. no 133, item 833 amended) .

.....
date and legible signature of the user

Installation engineer and the FIRST OPERATION performed by:

Name and Surame	
Company Name	
Telephone / e-mail	

I declare that the device has been installed in accordance with the existing norms and regulations. The device and the installation has been checked and is adequate. The device is working properly.

.....
Engineer's signature, stamp and authorization num

SETTINGS DATA					
FEEDER TEST		CLEANING		IGNITION	
feeder efficiency [kg/h]	cleaning intensity [%]	rotational cleaning [s]	Fuel dose [g]	ignition airflow [%]	heating time [s]
BOILER OUTPUT CONTROL					
min. boiler output [kW]	min. airflow output[%]	moderate boiler output [kW]	moderate airflow output [%]	max. boiler output [kW]	max. airflow output [%]
SUPERVISION					
YES <input type="checkbox"/>	NO <input type="checkbox"/>				
supervision time [ppm]	Boiler output in supervision mode [kW]	cycle time [s]	airflow output [%]		
MODE			BURNER IN THERMOSTAT MODE		
STANDARD <input type="checkbox"/>	FUZZY LOGIC <input type="checkbox"/>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	
EXHAUST ANALYSIS (AT MAX. OUTPUT)					
CO [ppm]	O ₂ [%]	ciąg kominowy [Pa]	temp.spalin [°C]		
BOILER ROOM VENTILATION					
GOOD <input type="checkbox"/>	AVERAGE <input type="checkbox"/>	BAD <input type="checkbox"/>			

Consent to personal data processing in accordance with RODO

1. I, the undersigned
agree to have my personal data processed, including name/surname, address, phone, e-mail,
by data administrator: BTI GUMKOWSKI Sp. z o.o. Sp.K., based in Suchy Las, ul. Obornicka 71, KRS 0000520520 for informational
and marketing purposes.
2. I give my personal data voluntarily and declare that they are true.
3. I have read the informational clause, including information about the purpose and methods of personal data processing and
the right to access and amend my personal data.

.....
date and signature

Informational clause for data subjects

Please be advised that:

- 1) The administrator of your personal data is BTI Gumkowski Sp.z o.o. Sp.k. hereinafter referred to as Administrator; the Administrator processes your personal data,
- 2) Your personal data will be processed for informational and marketing purposes and will not be shared with other customers; the processing of your personal data is based on art. 6 of the Regulation of the European Parliament and of the Council (EU) 2016/679 of 27 April 2016 *on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC* (General Data Protection Regulation),
- 3) Providing data is necessary to enable the administrator to efficiently comply with its legal obligations,
- 4) You have the right to:
 - request the Administrator to provide you with access to your personal data, rectificate, erase or restrict the processing of your personal data.
 - object to processing of your personal data,
 - transfer your personal data,
 - submit a complaint to the supervisory authority,
 - withdraw the consent to the processing of personal data.
- 5) Your personal data are not subject to automated decision-making, including profiling,

I declare that I have read the above clause and that I understand and accept its terms.

Warranty- first operation

User / place of installation

Name and Surame	
Street	
town/ post code	
telephone / e-mail	

device	teat output [kW]	Serial number and year of manufacture
Boiler type		
	output [kW]	Serial number and year of manufacture
Burner type		

Installation engineer and the FIRST OPERATION performed by:

Name and Surname	
Company Name	
Telephone / e-mail	

I have read and warranty conditions and accept them with no restrictions. I have received the user manual and have been trained how to use the device. I give/do not give consent for my personal data to be processed by BTI Gumkowski Company database and to process the data for servicing purposes under the Data Protection Act 1997 from August 29 1997 (Journal of Law. no 133, item 833 amended) .

.....
date and legible signature of the user

I declare that the device has been installed in accordance with the existing norms and regulations. The device and the installation has been checked and is adequate. The device is working properly.

.....
Engineer's signature, stamp and authorization number

SETTINGS DATA					
FEEDER TEST		CLEANING		IGNITION	
feeder efficiency [kg/h]	cleaning intensity [%]	rotational cleaning [s]	Fuel dose [g]	ignition airflow [%]	heating time [s]
BOILER OUTPUT CONTROL					
min. boiler output [kW]	min. airflow output [%]	moderate boiler output [kW]	moderate airflow output [%]	max. boiler output [kW]	max. airflow output [%]
SUPERVISION					
YES <input type="checkbox"/>	NO <input type="checkbox"/>				
supervision time [ppm]	Boiler output in supervision mode [kW]	cycle time [s]	airflow output [%]		
MODE			BURNER IN THERMOSTAT MODE		
STANDARD <input type="checkbox"/>	FUZZY LOGIC <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>			
EXHAUST ANALYSIS (AT MAX. OUTPUT)					
CO [ppm]	O ₂ [%]	chimney draft [Pa]	exhaust temp. [°C]		
BOILER ROOM VENTILATION					
GOOD <input type="checkbox"/>	AVERAGE <input type="checkbox"/>	BAD <input type="checkbox"/>			

17. Warranty –inspection after one year

List of actions:

Automatic control unit inspection

Safety device inspection

Mounting mechanism and furnace condition inspection

Lambda probe calibration

SETTINGS DATA					
FEEDER TEST	CLEANING		IGNITION		
feeder efficiency [kg/h]	cleaning intensity [%]	rotational cleaning [s]	Fuel dose [g]	ignition airflow [%]	heating time [s]
BOILER OUTPUT CONTROL					
min. boiler output [kW]	min. airflow output [%]	moderate boiler output [kW]	moderate airflow output [%]	max. boiler output [kW]	max. airflow output [%]
SUPERVISION					
YES <input type="checkbox"/>	NO <input type="checkbox"/>				
supervision time [ppm]	Boiler output in supervision mode [kW]	cycle time [s]	airflow output [%]		
MODE		BURNER IN THERMOSTAT MODE			
STANDARD <input type="checkbox"/>	FUZZY LOGIC <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>		
EXHAUST ANALYSIS (AT MAX. OUTPUT)					
CO [ppm]	O ₂ [%]	chimney draft [Pa]	temp. spalin [°C]		
BOILER ROOM VENTILATION					
GOOD <input type="checkbox"/>	AVERAGE <input type="checkbox"/>	BAD <input type="checkbox"/>			

.....
 Engineer's signature, stamp and authorization number.

18. Warranty –inspection after one year

List of actions:

Automatic control unit inspection

Safety device inspection

Mounting mechanism and furnace condition inspection

Lambda probe calibration

SETTINGS DATA					
FEEDER TEST		CLEANING		IGNITION	
feeder efficiency [kg/h]	cleaning intensity [%]	rotational cleaning [s]	Fuel dose [g]	ignition airflow [%]	heating time [s]
BOILER OUTPUT CONTROL					
min. boiler output [kW]	min. airflow output [%]	moderate boiler output [kW]	moderate airflow output [%]	max. boiler output [kW]	max. airflow output [%]
SUPERVISION					
YES <input type="checkbox"/>	NO <input type="checkbox"/>				
supervision time [ppm]	Boiler output in supervision mode [kW]	cycle time [s]	airflow output [%]		
MODE			BURNER IN THERMOSTAT MODE		
STANDARD <input type="checkbox"/>	FUZZY LOGIC <input type="checkbox"/>			YES <input type="checkbox"/>	NO <input type="checkbox"/>
EXHAUST ANALYSIS (AT MAX. OUTPUT)					
CO [ppm]	O ₂ [%]	chimney draft [Pa]	temp. spalin [°C]		
BOILER ROOM VENTILATION					
GOOD <input type="checkbox"/>	AVERAGE <input type="checkbox"/>	BAD <input type="checkbox"/>			

.....
 Engineer's signature, stamp and authorization number

10. Repairs

failure report date:.....

failure repair date:.....

problem description:

.....
.....
.....
.....

list of parts replaced:

.....
.....

Engineer's signature, stamp and authorization number.:.....

failure report date:.....

failure repair date:.....

problem description:

.....
.....
.....
.....

list of parts replaced:

.....
.....

Engineer's signature, stamp and authorization number.:.....

failure report date:.....

failure repair date:.....

problem description:

.....
.....
.....
.....

list of parts replaced:

.....
.....

Engineer's signature, stamp and authorization number.:.....