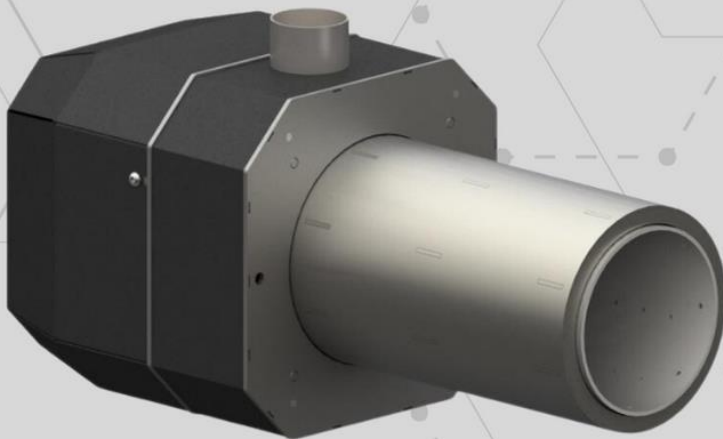




INSTRUCTIONS FOR ASSEMBLY AND USE

Rotary Burner

Type: ROTARY



10 kW

16 kW

20 kW

26 kW

36 kW

50 kW

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1. General.

1.1 Use.

The burner is intended for use with solid fuel central heating boilers as well as some gas or oil boiler models that, when running in underpressure, have a closed combustion chamber that permits the collection and removal of ash.

1.2 Prohibited use.

Appliances having an open combustion chamber are not allowed to have the burner installed. Additionally, there must be no overpressure inside the combustion chamber.

It is not permitted to install more than one burner in the combustion chamber of the boiler.

Operating the burner in the open air without installation in the boiler is prohibited.

1.3 Operating requirements.

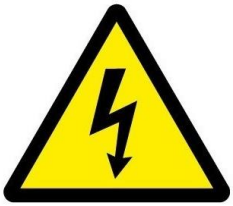
The client has the obligation for ongoing maintenance and operation. The scope of operations includes:

- Cleaning the burner from combustion products. The burner has a self-cleaning combustion chamber. Undesirable scale resulting, for example, from poor-quality pellets may accumulate inside the chamber.
- Emptying the ash hopper. Operating the combustion chamber covered in ash may damage the combustion chamber.
- Cleaning of the cleanout according to the boiler manufacturer's recommendations. Failure to clean the boiler reduces the flue draught and can lead to the flame going back towards the fuel feed system.
- Taking care of the ventilation of the boiler room. Lack of air required for the combustion process can disturb the combustion process or lead to the flame going backwards towards the fuel feed system.
- Setting the current operating parameters. The customer decides and sets the values at which the appliance is to operate, e.g., boiler setpoint temperature, room thermostat temperature, supervision and burner output modulation parameters. Incorrect values may lead to malfunction of the boiler.

The burner servicing is the responsibility of the authorised installer. The maintenance includes:

- First burner start-up validated by an entry in the first start-up card, described in [section 5](#).
- Setting and adjusting the operating and installation parameters located in the service settings of the controller. Access to the service settings is protected by a password accessible only to the authorised installer.
- Annual service of the burner as described in [section 8.2](#).
- Warranty and post-warranty service. Repair and replacement of device components.

1.4 List of symbols.



Electrical shock hazard. Electrical device supplied with 230V mains voltage.



WARNING: Hot surfaces.



Do not extinguish with water.



Don't throw.



Electrical and electronic components. Dispose of in accordance with the guidelines of Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE).



NOTE: Important information.

1.5 Personal protection equipment.

Use the following protective measures during operation and servicing:



Protect your eyes from dust and heat.



Keep hands away from hot components.

1.6 Residual risk.

In spite of all the safety measures that the device is equipped with, the following risks cannot be ruled out:

- Flame release beyond the burner. All surfaces around the burner should be non-combustible and free from combustible debris.
- Smoke. The boiler room should be equipped with an efficient ventilation system.



2. Set completion.

2.1 Storage and transport.

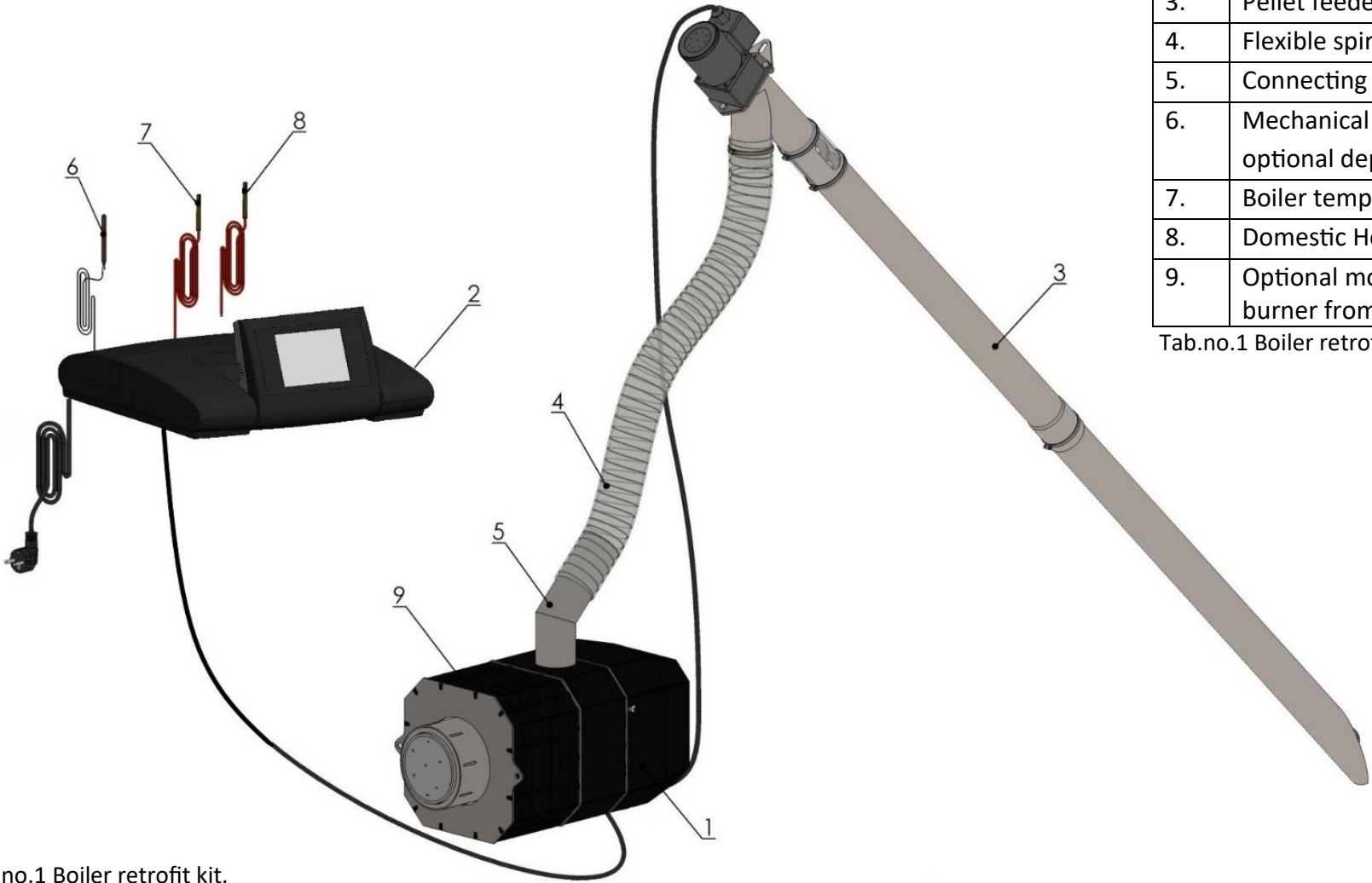
The device must not be exposed to direct weather conditions, i.e., rain and sunshine. The storage and transport temperature should not exceed the range $-15...+65^{\circ}\text{C}$. Hand-carrying is allowed.

WARNING



DON'T THROW

2.2 Set elements.



No	Component
1.	ROTARY burner
2.	Controller by Plum
3.	Pellet feeder
4.	Flexible spiro pipe
5.	Connecting elbow (chute or pipe socket)
6.	Mechanical STB protection (standard or optional depending on controller version)
7.	Boiler temperature sensor
8.	Domestic Hot Water (DHW)
9.	Optional mounting flange to separate the burner from the boiler door.

Tab.no.1 Boiler retrofit kit.

Fig.no.1 Boiler retrofit kit.

No	Component
1.	ROTARY burner
2.	Controller by Plum
2a.	Control panel
3.	Pellet feeder
4.	Flexible spiro pipe
5.	Connecting elbow (chute or pipe socket)
6.	Mechanical STB protection (standard or optional depending on controller version)
7.	Boiler temperature sensor
8.	Domestic Hot Water (DHW)
9.	Optional mounting flange to separate the burner from the boiler door.

Tab.no.2 Boiler installation set.

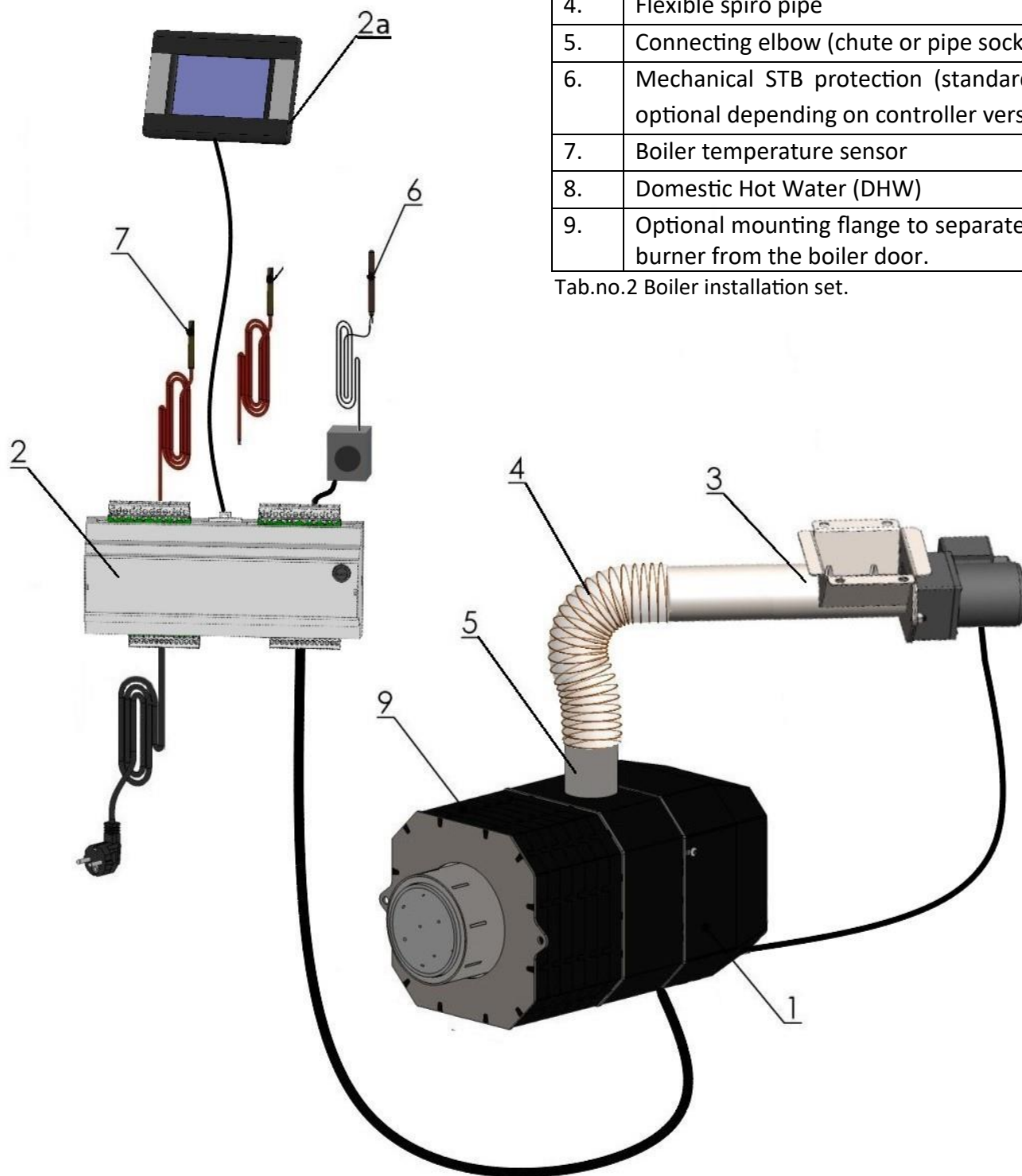


Fig.no.2 Boiler installation set.

2.3 Accessories and options.

Burner accessories may vary depending on the option ordered.

- **Sloping or horizontal feeder** in various length. The feeder can be shortened during installation.
- **Spiro pipe** in various lengths. The pipe can be shortened during installation.
- **Connecting elbow (chute or pipe socket)** comes in angular or straight form.
- **Mounting flange** is used to properly distance the burner from the boiler door. The flange is supplied in self-assembly form with the possibility to select the length by breaking out sections. See [section 4.3](#) for assembly dimensions.

Several models of Plum EcoMax controllers are available.

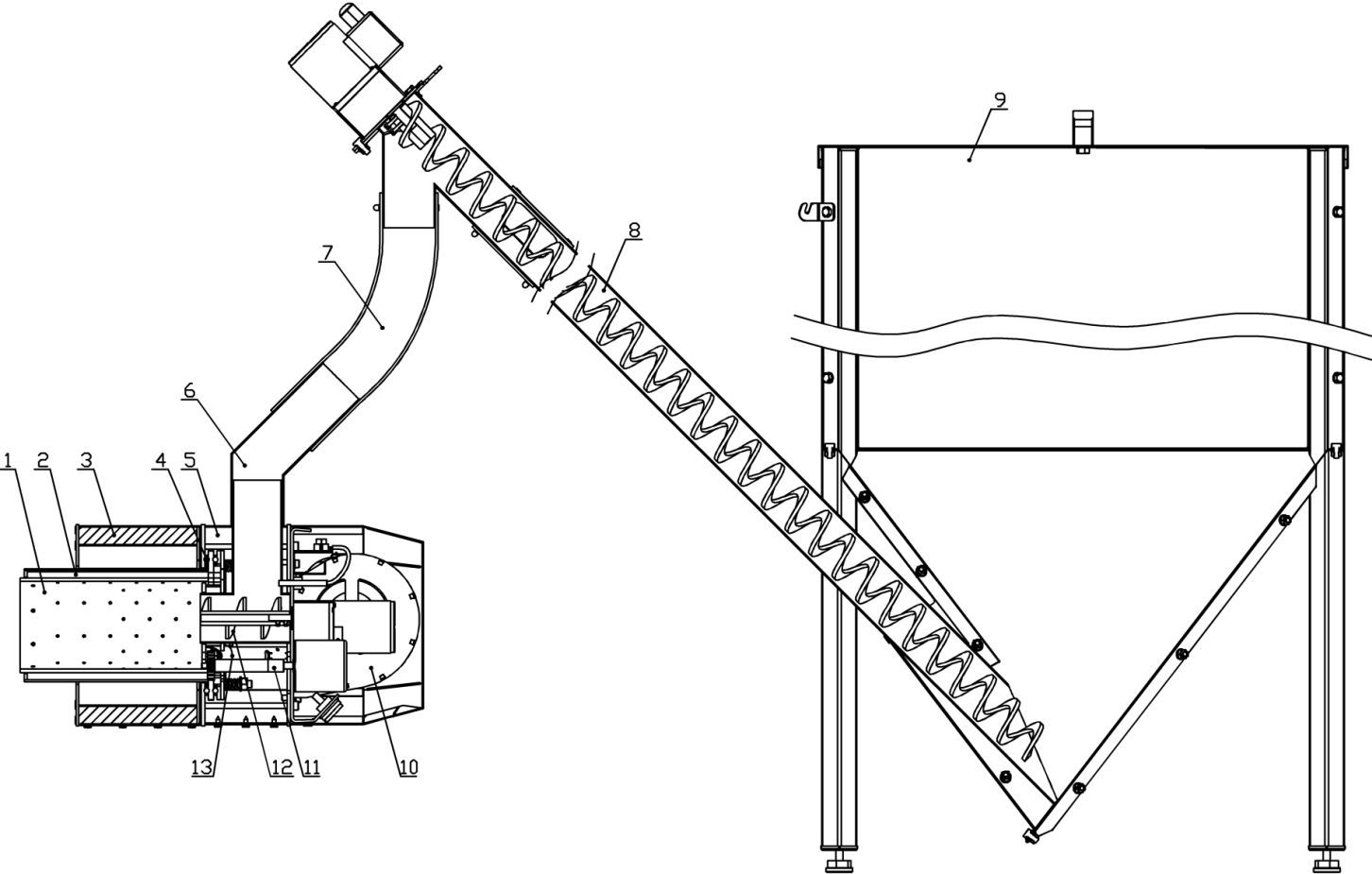
- **EcoMax 920** – a controller in an external casing. It is available with a control panel in either a built-in or isolated version. It is equipped with burner control and hydraulic system control, e.g., for a mixer actuator. Recommended for modernisation of boilers due to the possibility of mounting on the wall or boiler casing.
- **EcoMax 860** – A controller without an outer casing in the form of a DIN rail-mounted module. Available with different control panels such as SIMTouch (graphic with buttons) or Touch (colour touchscreen). It is equipped with a burner and hydraulic system control, e.g., for a mixer actuator. Recommended for boilers with built-in automation.
- **EcoMax 360 and 361** – A basic controller enclosed in a small aesthetic casing. It has basic burner and boiler control functions. Only available with SimTouch control panel (graphic panel with buttons). In the 360 version, the panel is built into the controller casing. The 361 controller has a separate panel. Recommended for simple cost-effective installations.

It is possible to order additional controller accessories through an authorised distributor. All additional devices have KIPi customisation, which means that devices purchased from unofficial sources will not work together.

- **Module B and C** – expansion module for operating two additional heating circuits and, in the case of the 360 and 361 controllers, expanding them to include buffer operation (B) or hot water circulation (C).
- **Lambda module** – Depending on the amount of oxygen in the flue gases, a lambda probe module will adjust the burner fan.
- **EcoNet module** – an internet module for controlling the burner, boiler and heating system from anywhere in the world via WI-FI, in an app or via the website.
- **Flue gas temperature sensor** – Sensor installed in the boiler flue. The higher the flue gas temperature, the less heat is transferred to the water, which means fouling of the boiler exchanger.
- **Outdoor temperature sensor** – makes it possible to modulate the desired temperature of the boiler or the circuits according to the temperature outside the building.
- **Room thermostat** – different models according to customer requirements. The purpose of the room thermostat is to maintain a constant set room temperature by regulating heating circuits or shutting down the boiler.
- **Additional temperature sensors** – CT4 sensor can be used as a temperature sensor for boiler, DHW, heating circuits, buffer, circulation. After connecting the sensor, new options will appear in the controller menu. Variants with various cable lengths are available.

3. Product description.

3.1 Design.



No	Description
1.	Rotary combustion chamber
2.	Rotary aeration chamber
3.	Mounting flange (optional)
4.	Aeration and combustion chamber bearing
5.	Blower chamber
6.	Connecting elbow
7.	Spiro pipe
8.	Fuel feeder
9.	External fuel tank (optional)
10.	Fan
11.	Combustion chamber rotation mechanism
12.	Fuel feeder for combustion chamber (stoker)
13.	Igniter

Tab. no.3 Construction of the burner set.

Fig.no.3 Construction of the burner set.

3.2 Description of operation.

The KIPi Rotary burner is an automatic, self-cleaning device, which means that the firing-up, extinguishing and cleaning cycles take place automatically, without the user's intervention, by means of an installed controller.

Burner Fire Up.

1. The feeder picks up the dose of pellets from the hopper.
2. The pellets fall down the spiro pipe to the burner tee. The spiro pipe should not be filled with pellets.
3. The fuel dose is transferred by the internal feeder (stoker) into the combustion chamber.
4. The igniter is lit and the blower fan is activated. The pellets are ignited by a stream of hot air.
5. When the value of the flame detected by the optical sensor exceeds 5%, the controller considers the ignition successful and switches to continuous firing mode.
6. If the flame value does not exceed 5% within 3 minutes, the controller will make 3 firing attempts. After the third unsuccessful attempt, a message about the failed ignition will be displayed.

Burner operation.

1. Once in operation, the burner will gradually modulate its output by increasing the fuel dose and air blowing.
2. Operation takes place in repetitive cycles. Fuel feeding -> combustion -> rotation of the combustion chamber to flip and purge the load.
3. The operating cycle will continue uninterrupted until the preset boiler temperature is reached.
4. When the preset temperature is reached, the burner can switch to one of two states: stand-by or Supervision.

Supervision.

1. A minimum amount of fuel and air will be supplied to the burner at intervals to keep the fuel glowing inside the combustion chamber.
2. If the boiler temperature drops to the set point, minus the firing-up hysteresis, it means that there is a heat demand and the burner immediately enters the operation mode.
3. If there is no demand for heat for a certain period of time (the temperature does not fall below the firing-up hysteresis), the burner enters the stand-by mode.

Burning off.

1. Fuel feeding is stopped.
2. The fan speed will increase to burn off any residual fuel in the combustion chamber.
3. The combustion chamber will start to rotate continuously for cleaning.
4. The power of the fan will increase to 100% in order to blow out the residue from the combustion process.
5. Once the cleaning process is complete, the controller will enter a standby mode.

Stand-by.

1. The controller will control the boiler temperature and manage the plumbing system.
2. If the boiler temperature falls below the set temperature, minus the firing hysteresis, the burner will go into firing mode.

3.3 Safety features.

The burner system is equipped with the following safety measures:

- **Flame detection** – The photocell located inside the burner casing displays the flame value on the control panel. Do not open the boiler door if the value is not zero.
- **Burner temperature sensor** – Temperature sensor located inside the burner inlet tee. It protects against burner overheating or flue gas backflow into the fuel feed system. An increase in temperature in the T-piece sets off an alarm and cuts off burner operation.
- **Spiro pipe** – Should the flames resurface and enter the fuel feed system; the flexible plastic pipe is to be destroyed. No pellets should accumulate in the tube during burner operation. In the event of the flame escaping from the burner, the tube will melt, physically cutting off the connection between the feeder and the fuel hopper.
- **Boiler temperature sensor** – The sensor should be placed in the intended fixing in the boiler water jacket or on the supply pipe (boiler outlet). When the preset boiler temperature is exceeded, the burner will go into extinguishing mode. In case of a critical exceed, an alarm will be triggered, causing immediate burner shutoff.
- **STB protection** – Mechanical protection consists of a gas-filled capillary and a contactor. If the boiler temperature is exceeded (95 degrees Celsius by default), the gas expands and the electrical contact opens, cutting off power to the controller. The pipe connecting the sensor to the contactor should not be bent or cut. The sensor should be placed in the designated fixing in the boiler water jacket or on the supply pipe (boiler outlet). After the boiler has cooled down, the protection can be reset by means of a button on the boiler casing or the controller.



If any of the safety devices are activated, do not start the burner until the cause of the shutdown has been removed.

3.4 Fuel specifications.

The burner should only be operated with fuel having the following characteristics:

Fraction	pellets
Diameter	6±1mm, 8±1mm
Length	3,15 mm ÷ 40 mm
Dust amount	≤ 1%
Bulk density	≥ 600 kg/m ³
Moisture	≤ 10%
Calorific value	16,5÷19 MJ/kg
Ash	≤ 0,7%

Tab.no.4 fuel specification.

The nominal capacity of the burners is given for the use of pellets manufactured in accordance with DIN or DIN plus specifications. For pellets with other combustion parameters, in particular different calorific values, ash content and moisture, the burner output will be different, usually less.

4. Installation.

4.1 Burner installation conditions.

- The boiler room should meet the fire protection requirements.
- Flammable materials must not be stored in the boiler room.
- The chimney installation should have a valid chimney sweep's opinion.
- The ventilation system should meet the minimum requirements:

Power range	Requirements for the ventilation system	
	Cross-section of the supply air duct (diameter)	Cross-section of the exhaust duct (diameter)
Up to 30 kW	20 000 mm ² (ø160 mm)	20 000 mm ² (ø160 mm)
30-60 kW	30 000 mm ² (ø200 mm)	20 000 mm ² (ø160 mm)

Tab.no.5 Ventilation requirements.

4.2 Burner installation.

The most common place for burner installation is the boiler door. The burner should be installed in such a way that it can be serviced and the combustion chamber can be accessed. If it is not possible to install the burner in the middle of the boiler door, it is possible to install it asymmetrically or on the side of the boiler. During the installation, the following dimensions must be kept:

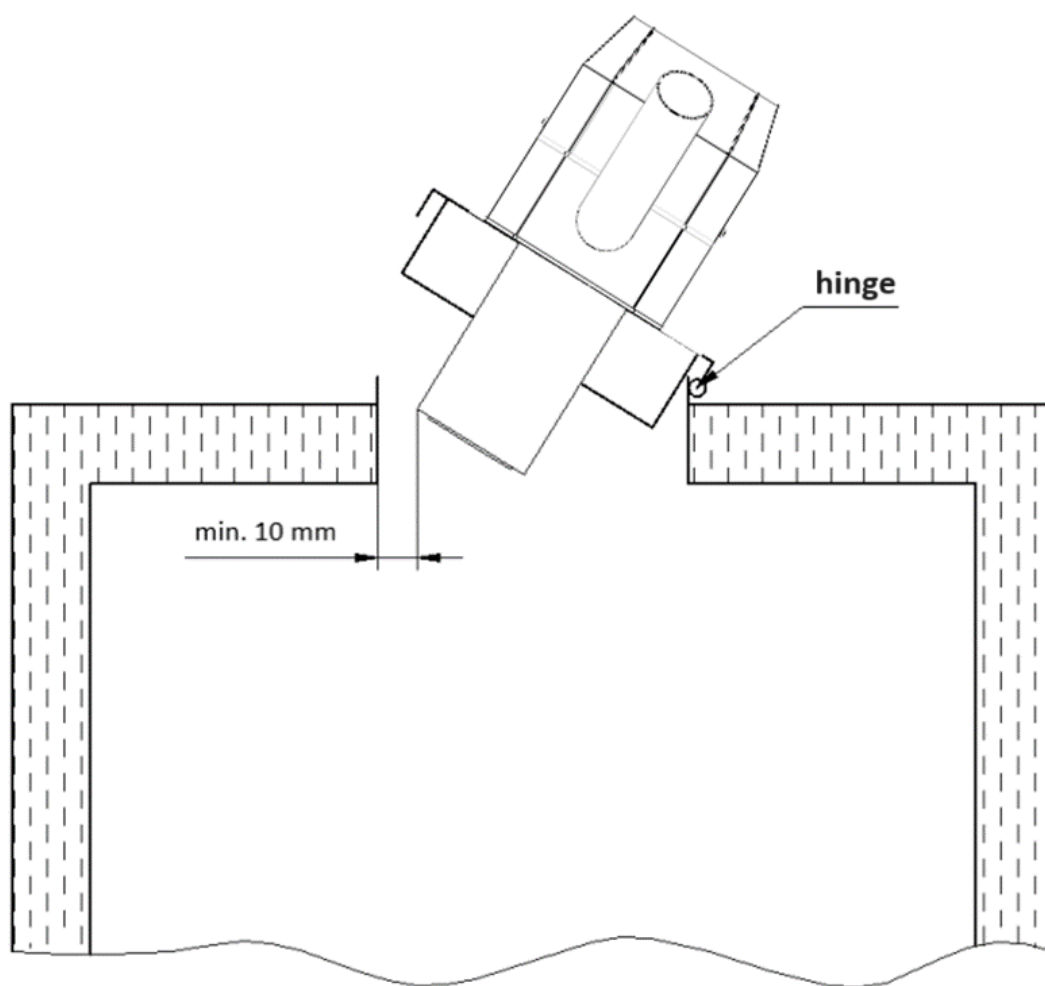


Fig.no.4 Space required for burner installation. View from the top.

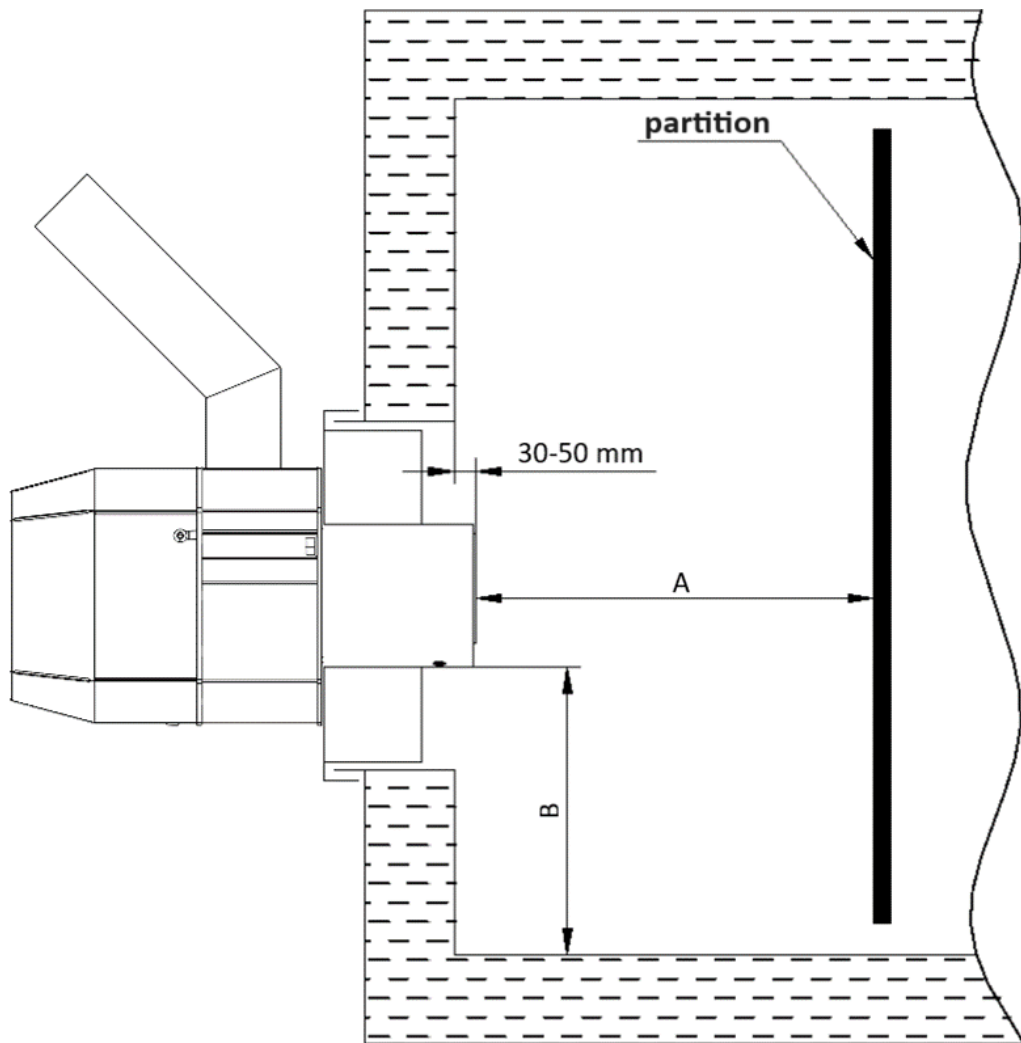


Fig.no.5 Minimum dimensions for burner installation.

Min. distance for smoke propagation		
Burner	A	B minimum
10 kW	250-350mm	100mm
16 kW		
20 kW		
26 kW		
36 kW		
50 kW	350-450mm	150mm

Tab.no 6 Minimum dimensions for burner installation.

In order to distance the combustion chamber of the burner from the walls of the boiler compartment, the burner should be moved away from the door using an installation flange of appropriate length.



Ash build-up at the boiler chamber's bottom must be kept out of the combustion chamber.

4.3 Assembly of the burner to the boiler door.

To fit the burner to the boiler door, cut the mounting holes according to the dimensions below:

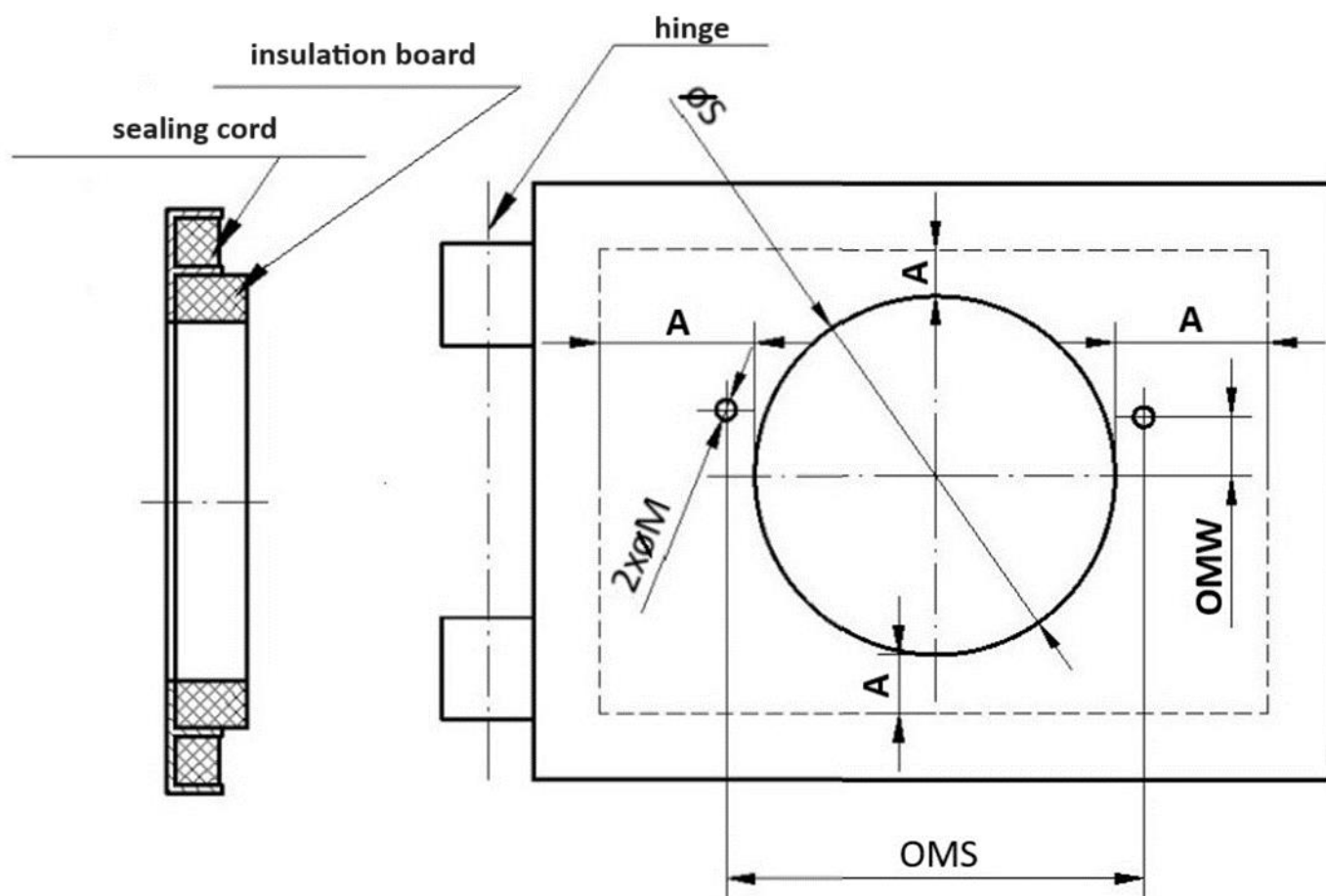


Fig.no.6 Door cutout for direct burner installation.

Burner	øS [mm]	øM [mm]	A [mm]	OMS [mm]	OMW [mm]
10 kW	114	9	50	185	40
16 kW	114	9	50	185	40
20 kW	120	9	50	185	40
26 kW	135	9	50	205	45
36 kW	146	9	45	205	45
50 kW	175	9	45	230	50

Tab.no.7 Door cutout for direct burner installation.

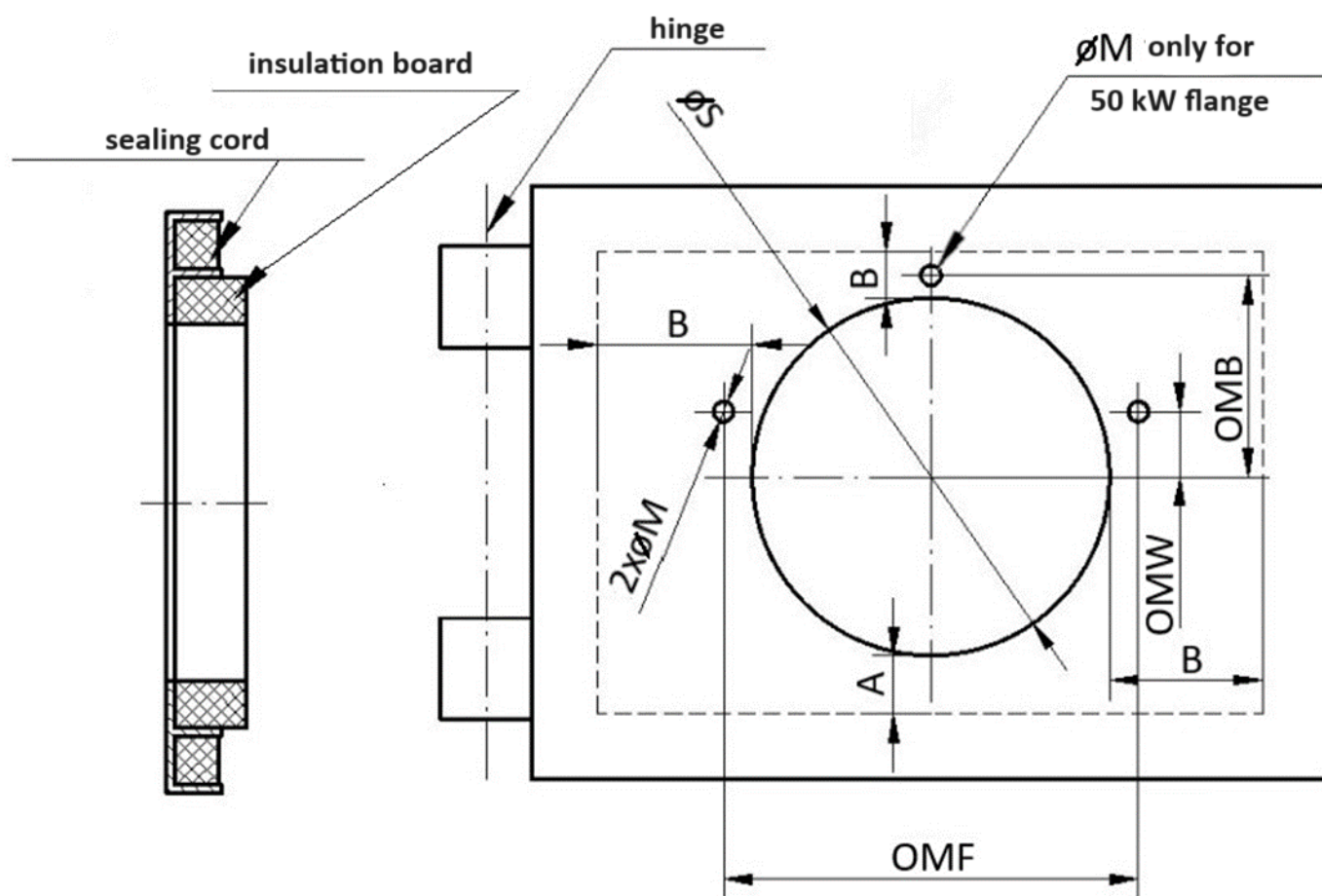


Fig.nr.7 Door cut-out for burner installation with flange:

Burner	øS [mm]	øM [mm]	A [mm]	B [mm]	OMW [mm]	OMF [mm]	OMB [mm]
10 kW	114	9	50	70	40	225	-
16 kW	114	9	50	70	40	225	-
20 kW	120	9	50	70	40	225	-
26 kW	135	9	50	70	45	245	-
36 kW	146	9	45	65	45	245	-
50 kW	175	9	45	65	50	270	135

Tab.no.8 Door cut-out for burner installation with flange.

4.4 Assembly of the controller.

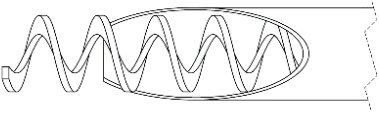
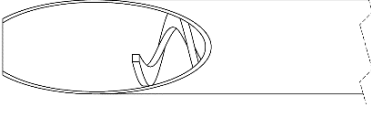
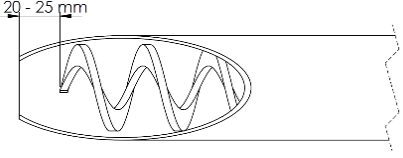
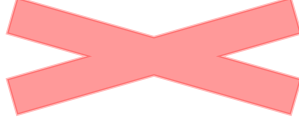
1. The controller must be installed in accordance with the model and application. It is possible to attach it on a wall, on the boiler casing, inside the boiler casing, in a control cabinet or electrical box.
2. Connect the plumbing fixtures according to the diagrams in the [section 9.1](#)
3. Connect the power supply to the controller. It is possible to supply power from a domestic 230V socket or via a cable plugged into the electrical distribution board. Please ensure that the connection is surge-protected and has a functional earth connection.
4. Connect the control cable to the connector on the burner.

	ATTENTION! Do not carry out electrical work when the power is on.	
---	--	---

4.5 Feeder installation.

The sloping feeder must be adjusted to the fuel tank and the positioning of the equipment in the room. This does not apply to horizontal feeders.

1. Adjust the length of the feeder by selecting the number of pipe modules. Pipes can be shortened, but care must be taken to cut the end that is not flared. The feeder spiral should be cut to the length of the assembled feeder.

Correct positioning of the spiral in the external slope feeder*		
		
WONG- TOO LONG 	WRONG- TOO SHORT 	GOOD 

Tab.no.9 Cutting the spiral.

2. Place the feeder in the fuel hopper
3. Hang the feeder by the hole at the feeder drive. The angle between the feeder and the ground should be between 30° – 55°
4. Cut the spiro pipe so that after installation the angle of the fuel drop is not less than 45°
5. Install the spiro pipe on the feeder outlet and the connecting elbow. Secure with hose clamp.
6. Fit a connection elbow to the inlet of the burner supply tee.
7. Connect the feeder supply cable to the connector on the burner.

	The feeder outlet should be located high enough above the burner to allow the removal of the spiro tube with the connecting elbow, and to allow free opening of the boiler door.
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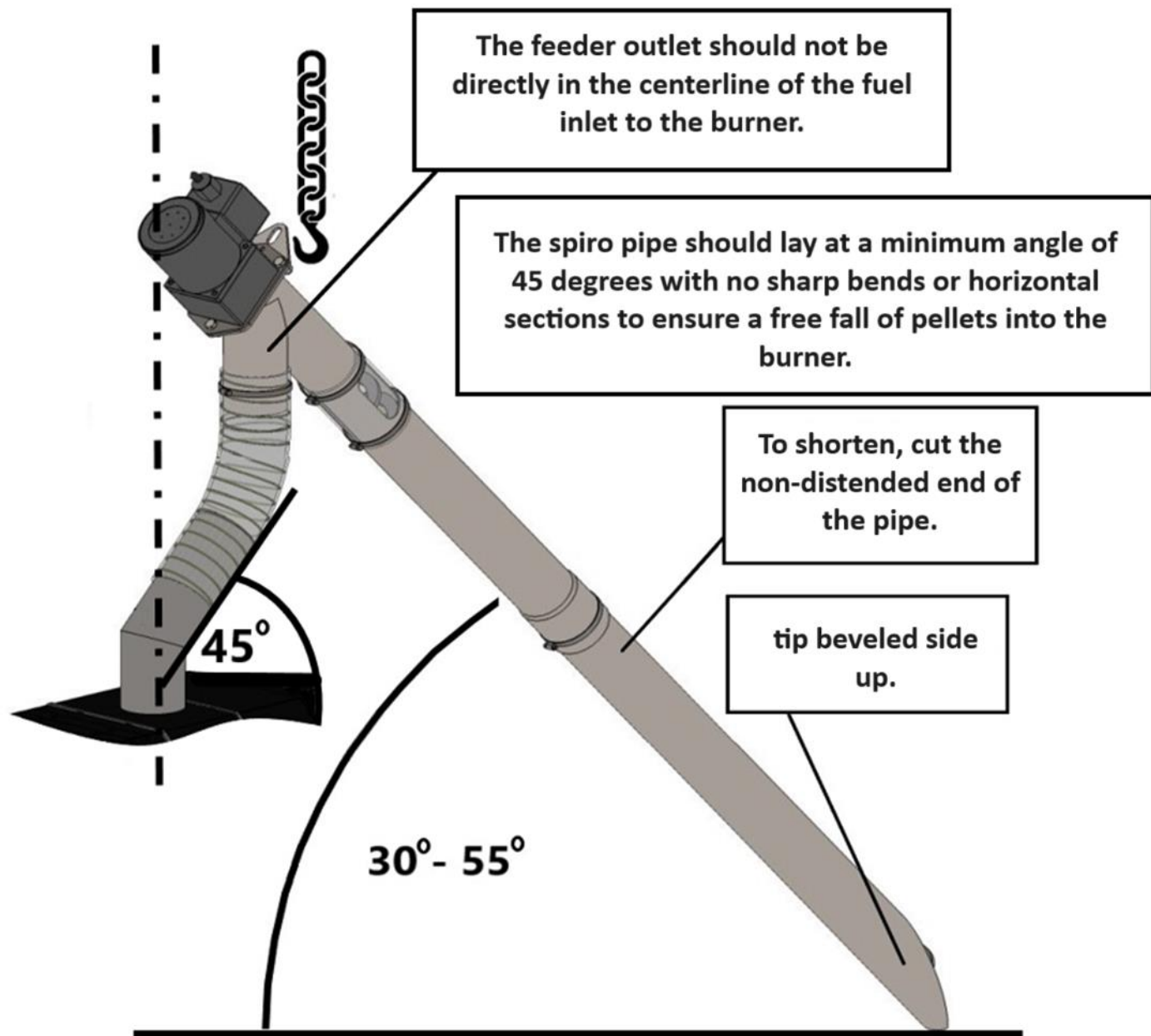


Fig.nr. 8 Feeder assembly.

5. First start-up.

The first start-up of the burner should be carried out by an authorised installer. The scope of the first start-up includes:

1. Check the ventilation of the boiler room. Lack of ventilation disqualifies the burner start-up for safety reasons.
2. Check access to operating areas: burner, controller, clean-outs, fuel tank, hydraulic system equipment.
3. Check the device for mechanical and electrical faults.
4. Check the correct installation of the burner according to the [section 4](#).
5. Check if the electrical connections of the hydraulic system to the controller are correct. Wiring diagram in [section 9.1](#).
6. Verify burner and system component functionality by commissioning in manual control.
7. Check the air-tightness of the boiler. Seals, doors, cleanouts, peepholes.
8. Check the location of the sensors and their readings in the controller information menu.
9. Check controller software version and update if necessary.
10. Selecting the burner power profile in the service menu.
11. Perform fuel reweighing and instruct the person who will be servicing the boiler on how to perform reweighing in the future. Procedure for fuel weighing in [section 6.2](#).
12. Ensure that the system is ready to fire the burner. Whether the hydraulic system is filled with water and vented, whether there is sufficient fuel in the fuel tank, whether the system's heat extraction is ensured.
13. The burner start-up described in [section 6.5](#).
14. Setting of combustion parameters. The use of exhaust gas analyser is recommended.
15. Adjustment of hydraulic system settings.



In the event that damage or malfunctions are discovered, the installer should replace burner parts with KIPi service or perform repairs themselves.



Initial activation must be confirmed by an entry in the Warranty section of the first start-up card.

6. Settings and control.

6.1 Filling the feeder.

Filling the feeder is necessary before the first start-up or when emptying the pellet hopper and restarting the burner.

The control panel should display "Boiler OFF" If not, switch off the controller according to the [section 6.6](#)

Before filling the feeder, it is best to remove the spiro pipe from the burner and direct it into the container into which the pellets will fall.

Switching on filling in the controller menu:

- Main menu
 - Manual control
 - Feeder ON

Or

- Main menu
 - Boiler settings
 - Output modulation
 - Feeder
 - Feeder filling
 - Start

Filling time may vary depending on the length and angle of the feeder. Filling should continue for about 2 minutes from the moment the pellets start to come out of the spiro tube, this will ensure that the feeder is properly filled.

6.2 Feeder test - pellet weighing.

The feeder test is essential for proper burner operation. Carry out the test when changing the type of pellets or after changing the feeder setting.

The control panel should display "Boiler OFF" If not, switch off the controller according to the [section 6.6](#)

The spiro tube should be removed from the burner and directed to the feeder where the pellet will be weighed. Before the test, the container's weight should be measured on a scale, alternatively, it can be a plastic or a pellet bag, whose weight can be ignored.

Before the test, note whether the feeder is filled with pellets. If not, carry out the filling process according to [section 6.1](#).

Start test in the controller menu:

- Main menu
 - Boiler settings
 - Output modulation
 - Feeder
 - Feeder efficiency test
 - Start

When the test is started, the pellets will drop into the container provided. The test lasts 6 minutes by default. A countdown is displayed on the control panel. At the end of the test, a window will appear on the panel allowing the user to enter the weight of the pellets dropped. Weigh the pellets and enter the value in the controller, bearing in mind that the value is in grams.



The value entered has a very significant effect on the dosage of pellets. Entering an incorrect value may cause incorrect burner operation. Entering a higher fuel value than the one used in the test results in a smaller number of dosed pellets during burner operation. On the other hand, entering a smaller value of fuel than the one specified in the test results in a higher dosage of pellets during burner operation.

Once the test has been performed correctly, the controller software will convert the dose into kilograms per hour. To calculate the value of fuel dispensed per hour, simply multiply the result of the 6-minute test times 10.

The feeder must not have less capacity than:

Burner	Feeder capacity
10 kW	≥4 kg/h
16 kW	≥4 kg/h
20 kW	≥ 5 kg/h
26 kW	≥6 kg/h
36 kW	≥8 kg/h
50 kW	≥11 kg/h

Tab.no.10 Minimum feeder capacity.

Values less than or close to this may indicate a bad fuel feeder setting. See point 4.4

6.3 Blower modulation.

Regulation of the air supplied by the fan is required for proper combustion. The fan values are set by default according to the burner power profile selected during the first start-up.

Values may differ from factory values depending on conditions such as: type of boiler, cross sections, chimney length, flow resistance. It is therefore advisable to carry out adjustments on each installation on the basis of a flue gas analyser (measurement of the oxygen content in the flue gas).

The adjustment should be made on a stable burner operation. Do not change the airflow value drastically. It is recommended to change it by approx. 2% and observe the effects of the adjustment for approx. 2 min.

The values should be changed in the controller menu:

- Main menu
 - Boiler settings
 - Output modulation
 - Blow-in output – MAX

Correct combustion can be judged by the colour of the smoke and observation of the flame.

Smoke colour assessment:

Grey - indication of low air content - excessive oxygenation - increase fan blowing.

Invisible - outgoing gases cause the air to ripple - the humidity of the gases is above the dew point and this is a desirable situation.

White - this colour occurs as a result of the condensation of vapour, indicating that there is a low content of unburned CO.

Correct appearance of combustion:

- Non-flaming, bright yellow, concentrated flame emanating from the combustion chamber.
- Furnace tube covered with light greyish tarnish.
- Walls of the first chamber of the boiler or exchanger covered with a light greyish tarnish.

6.4 Heat temperature set-up.

The set heating temperature is the temperature of the water that the controller will maintain inside the boiler.

When the set temperature is exceeded, the burner will go into burning off or supervision mode to avoid overheating of the boiler.

In the case of burner operation in Fuzzy Logic mode, the burner will reduce its output when the set temperature is exceeded. The burner will be extinguished when the temperature exceeds the setpoint plus the extinguishing hysteresis.

When the temperature falls below the set temperature by the firing-up hysteresis, the burner enters the firing-up mode and then operation.

The temperature in the boiler is maintained by oscillating within the set temperature range.

- Set temp. + extinguishing hysteresis = burning off
- Set temp. - firing hysteresis = firing up and running

The hysteresis values can be changed by the installer in the service menu of the controller.

To change the temperature setpoint in the controller menu:

- Main menu
 - Boiler settings
 - Preset boiler temperature

6.5 Switching on.

When the control panel displays "Burner OFF" and the current time, the controller does not control the burner or the heating system.

To start the operation of the device, depending on the model of the control panel, press the confirmation button or select the "on" icon in the touchscreen menu.

Confirm the message whether to start the boiler by selecting "YES".

On the home screen you will see the following information:

- Burner status: fire up, operation, burning off
- Set temperature and current temperature of the boiler.
- Sensor readings and status of the heating system.
- Icons that show how each burner and heating system component operates.

The burner will operate in start-up, running and extinguishing cycles until the controller is switched off.

6.6 Switching off.

To stop the operation of the device, depending on the control panel model, press the back button or select the "back" icon in the touchscreen menu.

Confirm the message whether to switch off the boiler by selecting "YES".

If the burner is in operation, it will immediately go into shut-off and cleaning mode.

After cleaning, the control panel will display the message "Burner OFF".

7. Operations.

7.1 Rules for safe use.

It is forbidden to use the burner without the covers in place.

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

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

It is forbidden to use the burner without ensuring the required ventilation of the room as specified in the design of the boiler room, covered by the relevant building regulations.

Do not use the burner if the temperature sensors are disconnected or incorrectly fitted.

Do not use the burner if there is no chimney draught.

Do not make changes to the service settings of the controller without the consent of the installer.

In the event of burner damage, contact your installer.

7.2 Disposal.

Once the burner has reached the end of its useful life, it must be disposed of in an environmentally responsible manner. More than 90% of burner components are recyclable as plastic and metal. The ceramic of the igniter and the grease in the gearboxes of the geared motors are not recyclable.

Electrical and electronic components must be disposed of in accordance with the guidelines of Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), i.e.:

- dispose of at a certified recycling company,
- do not dispose of with household waste,
- do not burn the product.



8. Maintenance.

8.1 Description of faults and errors.

Error	Cause of the error	How to resolve the error
Burner does not ignite Message: "Failed firing up attempt".	No fuel in the hopper	– Refill fuel in the hopper – Carry out the procedure for filling the feeder – section 6.1
	The fuel feed augers have jammed.	– Check for anything that might be blocking the feeders. – Empty the feeder pipe of pellets and start the feeder on manual control.
	Defective igniter	– Contact an authorised installer.
	Defective drives.	– Start the feeder and feeder 2 in manual control. Observe the operation of the feed augers. If the feeders do not move or their operation is abnormal, contact an authorised installer.
	Slag in the furnace	– Clean the combustion chamber 
	Defective or dirty optical flame sensor.	– Clean the sensor lens – Expose the sensor to sunlight or light the inside of the burner combustion chamber with a torch. Observe the flame value display in the information menu. If the values do not increase, contact an authorised installer.
Alarm: "Maximum burner temperature exceeded". The controller will automatically enter the extinction mode	Slag or ashes in the combustion chamber of a central heating boiler at the height of the burner combustion chamber	– Clean the boiler combustion chamber. 
	Excessive temperature rise in the burner casing due to backfire from the combustion chamber.	  – The alarm can be cancelled once the burner has cooled down. – Check if the air access to the burner has been cut off. – Check the ventilation of the boiler room. – Start the fan in manual control.
	Insufficient chimney draft. Lack of protection against wind blowing up the chimney. Contaminated boiler flues.	– Verify the value of the chimney draught and take possible measures to increase it. – Check if the spiro pipe feeding the fuel has not been smoked or melted.
	Slag or ashes in the combustion chamber of a central heating boiler at the height of the burner combustion chamber.	– Clean the combustion chamber of the central heating boiler.
Alarm:	Failure of the temperature sensor inside the burner.	– Contact an authorised installer

"Burner temperature sensor failure".	Breakdown in communication between burner and controller.	– Check the connection of the control cable. Ensure that the plug is not mechanically damaged.
Alarm: "Maximum boiler temperature exceeded".	Boiler temperature set in the controller exceeded	– Wait until the water temperature falls below the set point. – Delete error by pressing button.
	Setting the boiler operating temperature too low	– Increase boiler operating temperature in accordance with point 6.4.
	Exceeding the critical operating temperature of the boiler (95 OC) - STB sensor activation 	– Check heat take-up by the heating system. – Run all hydraulic pumps in manual control and observe their operation.
Alarm: "Boiler temperature sensor failure".	Boiler temp. sensor defective	– Contact an authorised installer
The flame value on the controller immediately after switching on exceeds 5%. When extinguishing, it does not drop to 0.	Malfunction of the optical flame sensor.	- Check if there is bright light falling on the burner that can penetrate the burner casing. - Check that there are no large sources of electromagnetic interference near the burner. - Check the earthing performance of the electrical installation.
Burner smokes	Insufficient air supply to combustion chamber	– Clean the furnace
	The burner air intake opening is covered	– Clean the burner air inlet located on the bottom of the burner
	Fan failure	– Start the fan in manual control. Listen to the operation of the fan. If the fan does not run or makes a noise, contact an authorised installer
Too much slag in the furnace	Wrong type of fuel	– Use fuel recommended by the manufacturer
	Damage to the combustion chamber rotation drive	– Start the cleaning process in the manual control. Observe if the combustion chamber rotates. If the chamber rotation does not work, contact an authorised installer.

Tab no.11 Troubleshooting.

8.2 Inspection.

The inspection of the burner should be carried out by an authorised installer. The scope of the inspection includes:

Burner dismantling and disassembly.

1. Remove burner cover
2. Visually check the condition of the electrical system. Look for frayed or dislodged wires, damaged or burned connector pins.
3. Do the operational test of motors by switching on elements in manual control.
4. Do the igniter glow test by switching on in manual control.
5. Check for contamination of optical flame sensor.
6. Check for contamination of the burner fan. Clean if necessary.
7. **WARNING! Disconnect the burner from the power and control supply.**
8. Remove the drive plate.
9. Check the condition of the drive shaft and pinion ring.
10. Dismantle the clamping unit.
11. Clean and lubricate bearings and guide races.
12. Dismantle and clean the combustion chamber.
13. Assemble and install the burner, connect power and control.
14. Check operation by manual control.



Controller adjustment.

1. Check software version and update if necessary.
2. Check the performance of the sensors in the information menu.
3. Check the operation of the optical flame sensor by exposing it to daylight, or shining into the combustion chamber and observing the values on the controller screen.
4. Adjust the combustion parameters.
5. Adjust the hydraulic system settings.



If flaws are found, they need to be fixed, and worn-out or broken parts need to be replaced in collaboration with the KIPi service.



The inspection must be acknowledged by an entry in the Warranty section of the inspection card.

8.3 Spare parts list.

8.3.1 Burner 10kW-20kW.

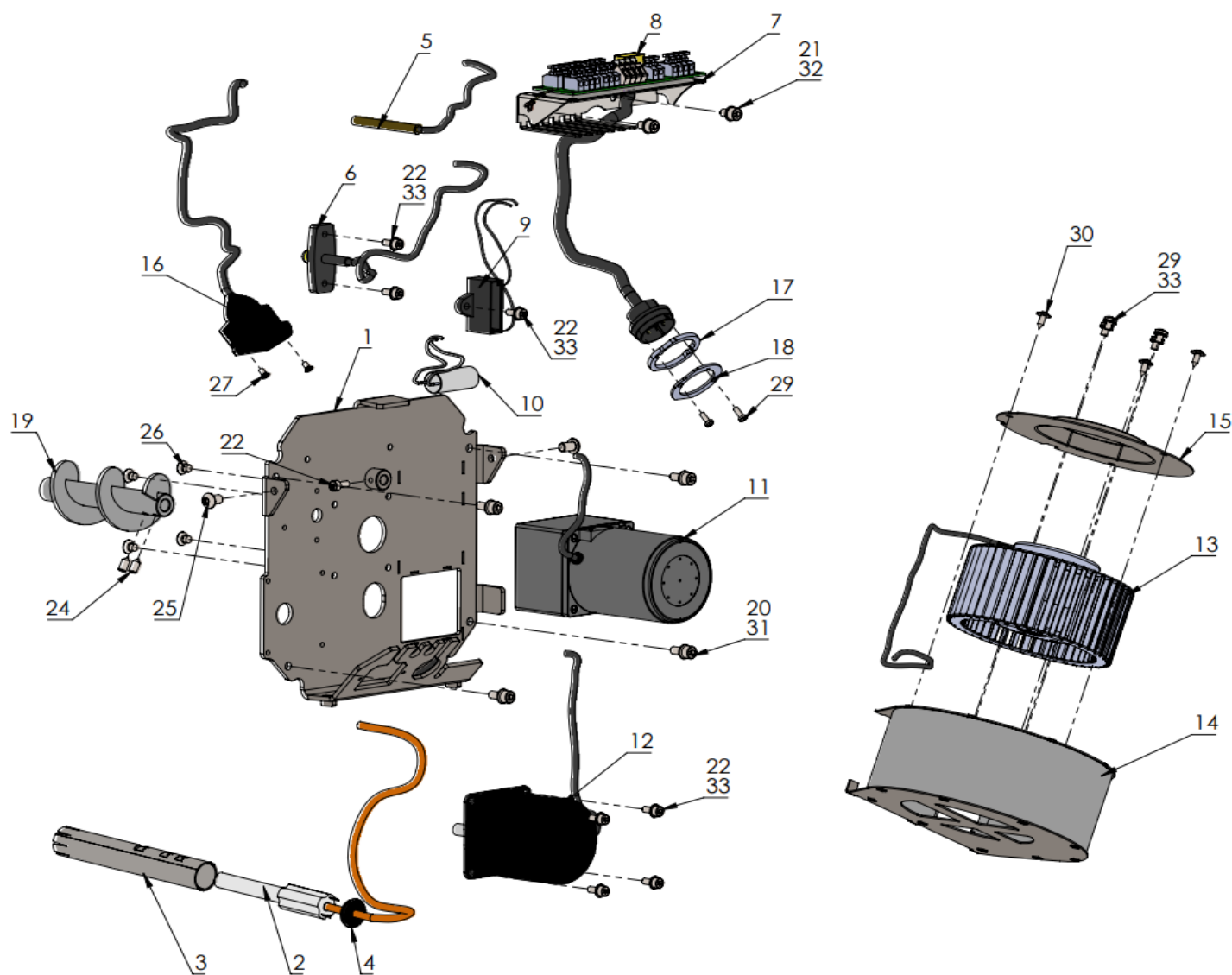


Fig.no.9 Burner drive plate parts 10kW-20KW.

No	Part name	Quantity
1	Drive plate	1
2	Ceramic igniter	1
3	Igniter tube PR 16-100kW	1
4	Igniter tube rubber	1
5	Temperature sensor CT4	1
6	Optical flame sensor OCP 5	1
7	PCB electrical strip	1
8	Capacitor 0.47uF - Rotating chamber	1
9	Capacitor 1uF - Stoker	1
10	1.5uF capacitor - ventilator	1
11	Gearmotor 2IK	1
12	Gearmotor 59 TYD	1
13	Fan rotor R2E-108	1
14	Fan box	1
15	Fan cover	1
16	IEC 3PIN socket KP 10A/250V,16-50kW	1
17	Washer 12 pin	1
18	Pressure washer 12 pin	1
19	Stoker 26/36/50kW	1
20	M6x12 hexagon socket ISO4762	4
21	M5x10 hexagon socket head ISO4762	2
22	M4x10 hexagon socket wrench ISO4762	4
23	M4x6 cylindrical ISO4762 Allen key	5
24	M6x10 Allen key ISO4026	2
25	M6x10 hexagon socket head ISO 7380-1	2
26	M4x10 tapered DIN965	4
27	M3x6 tapered DIN965	2
28	M3x8 lens DIN7985	2
29	M4x6 lens DIN7985	4
30	ST3.5x9.5 sheet metal screw ISO7049 C	3
31	M6 spring washer DIN 127 B	4
32	M5 spring washer DIN 127 B	2
33	M4 spring washer DIN 127 B	11

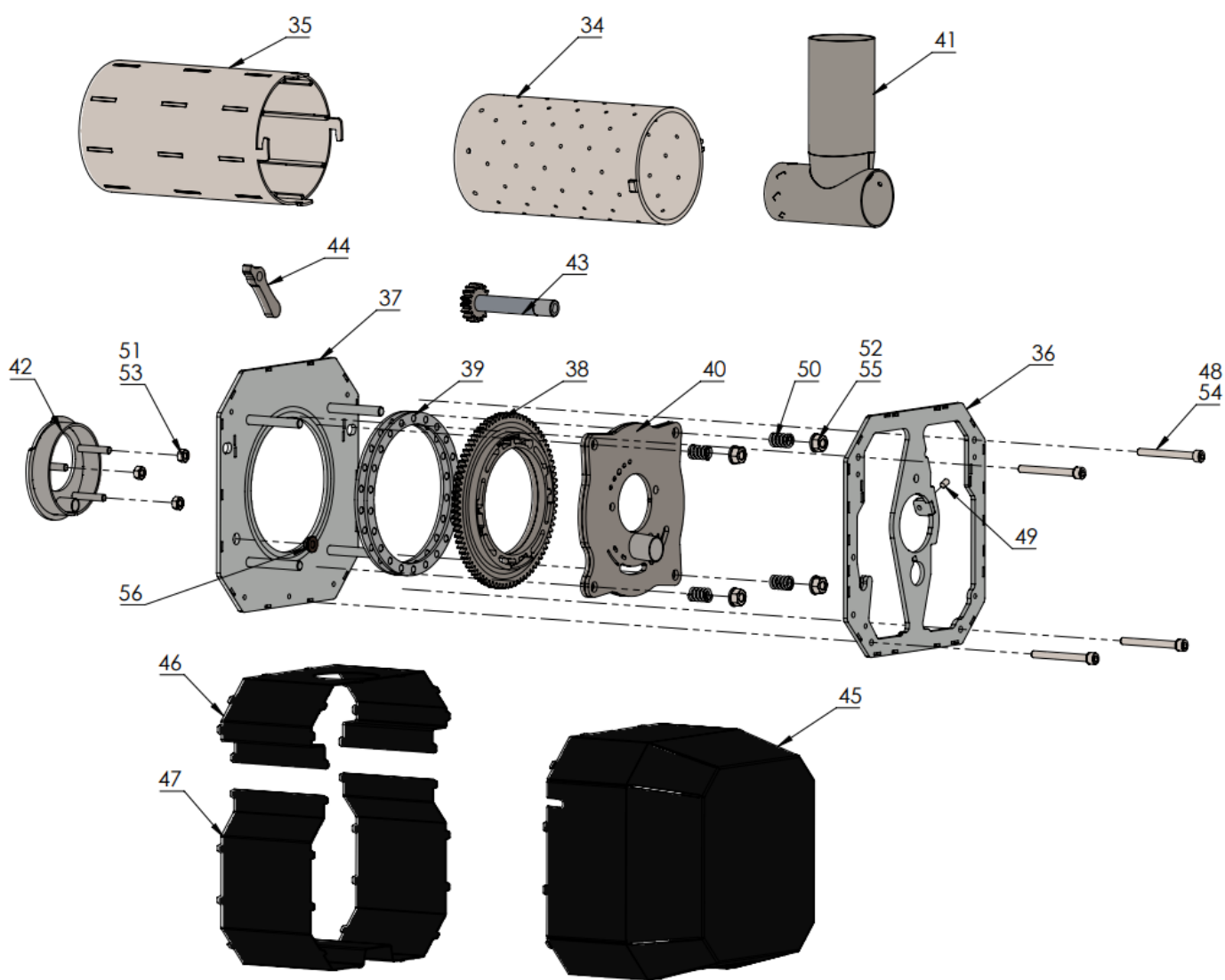


Fig.no 10 Burner body parts 10kW-20kW.

34	Combustion chamber	1
35	Blower chamber	1
36	Front panel	1
37	Back plate	1
38	Wreath	1
39	Bearing cage	2
40	Press-on module	1
41	Fuel supply tee 10-16-20 kW	1
42	Screen	1
43	Drive shaft	1
44	Locking pawl	1
45	Burner cover	1
46	Upper burner housing cover	1
47	Lower burner housing cover	1
48	M5x103 Hexagon socket head ISO4762	4
49	M6x10 grub screw ISO7380-1	1
50	Compression spring	4
51	M6 brass nut DIN934	4
52	M8 self-locking nut	4
53	M6 spring washer DIN127 B	3
54	M5 spring washer DIN127 B	4
55	M8 plain washer DIN125 A	4
56	Brown bushing	1

Tab. No.12 Spare parts for burners 10-20kW.

8.3.2 Burner 26kW-50kW.

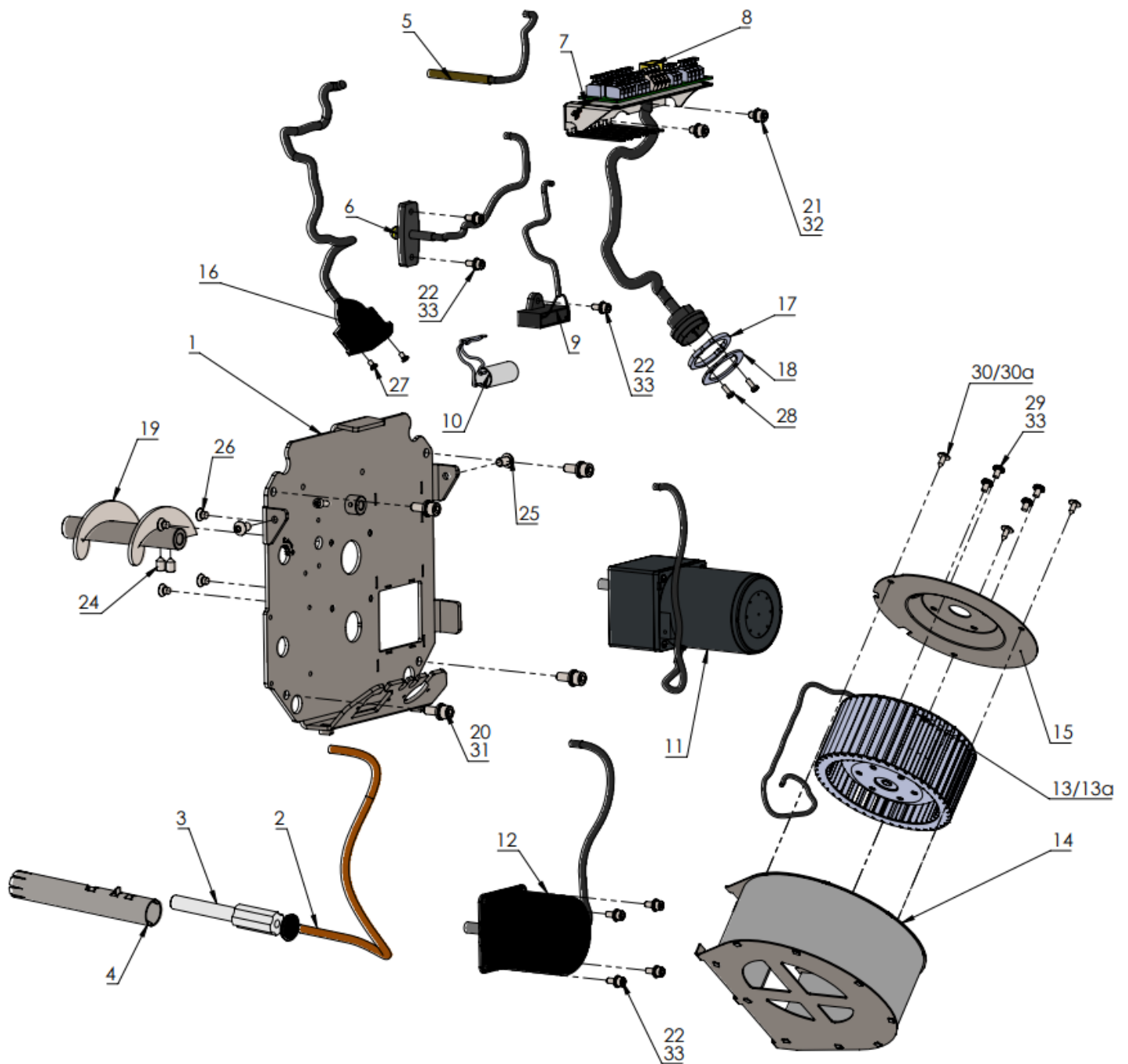


Fig.no.11 Burner drive plate parts 26kW-50kW.

no	Parts name	Quantity
1	Drive plate	1
2	Ceramic igniter	1
3	Igniter tube PR 16-100kW	1
4	Igniter tube rubber	1
5	Temperature sensor CT4	1
6	Optical flame sensor OCP 5	1
7	PCB electrical strip	1
8	Capacitor 0.47uF - Rotating chamber	1
9	Capacitor 1uF - Stoker	1
10	1.5uF capacitor - ventilator	1
10a	2uF capacitor - fan	1
11	Gearmotor 2IK	1
12	Gearmotor 59 TYD	1
13	Fan rotor R2E-108	1
13a	Fan rotor R2E120P	1
14	Fan box	1
15	Fan cover	1
16	IEC 3PIN socket KP 10A/250V,16-50kW	1
17	Washer 12 pin	1
18	Pressure washer 12 pin	1
19	Stoker 26/36/50kW	1
20	M6x12 hexagon socket ISO4762	4
21	M5x10 hexagon socket head ISO4762	2
22	M4x10 hexagon socket wrench ISO4762	4
23	M4x6 cylindrical ISO4762 Allen key	5
24	M6x10 hexagon socket head ISO4026	2
25	M6x15 hexagon socket head ISO 7380-1	2
26	M4x10 tapered DIN965	4
27	M3x6 tapered DIN965	2
28	M3x8 lens DIN7985	2
29	M4x6 lens DIN7985	4
30	ST3.5x9.5 sheet metal screw ISO7049 C	3
30a	ST4.8x9.5 Sheet metal screw ISO7049 C	3
31	M6 spring washer DIN 127 B	4
32	M5 spring washer DIN 127 B	2
33	M4 spring washer DIN 127 B	11

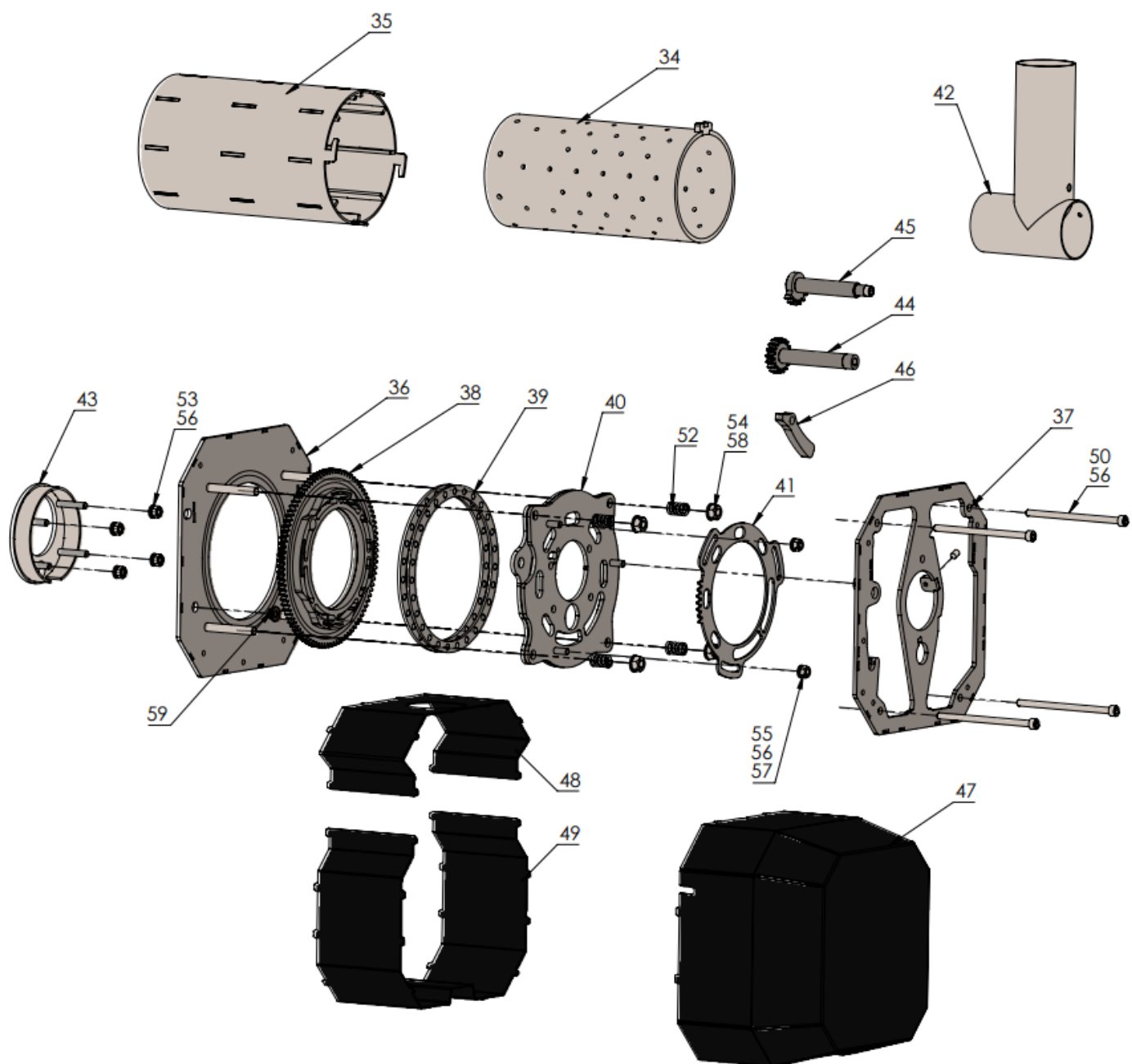


Fig.no.12 Burner body parts 26kW-50kW.

48	Upper burner housing cover	1
49	Lower burner housing cover	1
50	M6x103 Hexagon socket head ISO4762	4
51	M6x10 grub screw ISO7380-1	1
52	Compression spring	4
53	M6 nut brass DIN934	4
54	M8 nut zinc DIN934	4
55	M6 self-locking nut	3
56	M6 spring washer DIN127 B	11
57	M6 plain washer DIN125 A	3
58	M8 plain washer DIN125 A	4
59	Brown bushing	1

Tab. No.13 Spare parts for burners 26-50kW.

8.4 Servicing.

	Make sure the burner is cooled down before proceeding with any operation.	
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	Do not carry out electrical work while the power is on.	
---	--	---

8.4.1 Replacing the igniter.

The igniter may be replaced by an authorised fitter or by a person holding an SEP licence up to 1 kV.

1. Disconnect the external feeder supply and control cable from the burner.
2. Remove the screws (1) holding the burner casing - 2 pieces.
3. Remove the burner casing (2).
4. Disconnect the igniter wires from the ZA connection block on the PCB, terminals L and N (3).
5. Remove the rubber sealing grommet (4) from the igniter tube (5).
6. While carefully pulling on the igniter cable, remove the igniter (6) from the tube (5).
7. Insert the new igniter into the tube (5). When inserting the igniter, turn it so that the concave part hits the bent nose of the igniter tube (5). Push the igniter in until you feel a clear barrier - the end of the igniter should remain about 20 mm from the end of the tube (5).
8. Place the rubber sealing grommet (4) in the igniter tube (5), hooking the grommet flange behind the noses (7) of the igniter tube (2 pcs.). The grommet should be tight around the perimeter of the tube.
9. Confidently connect the igniter wires to the terminals L - brown wire, N - blue wire.
10. Arrange the cable from the igniter on the left-hand side so that it cannot rub against the fan impeller or interfere with the closing of the casing.
11. Fit the burner casing (2).
12. Screw in the casing retaining screws (1).
13. Connect the feeder supply and burner control cables.
14. The burner is ready to continue operating.

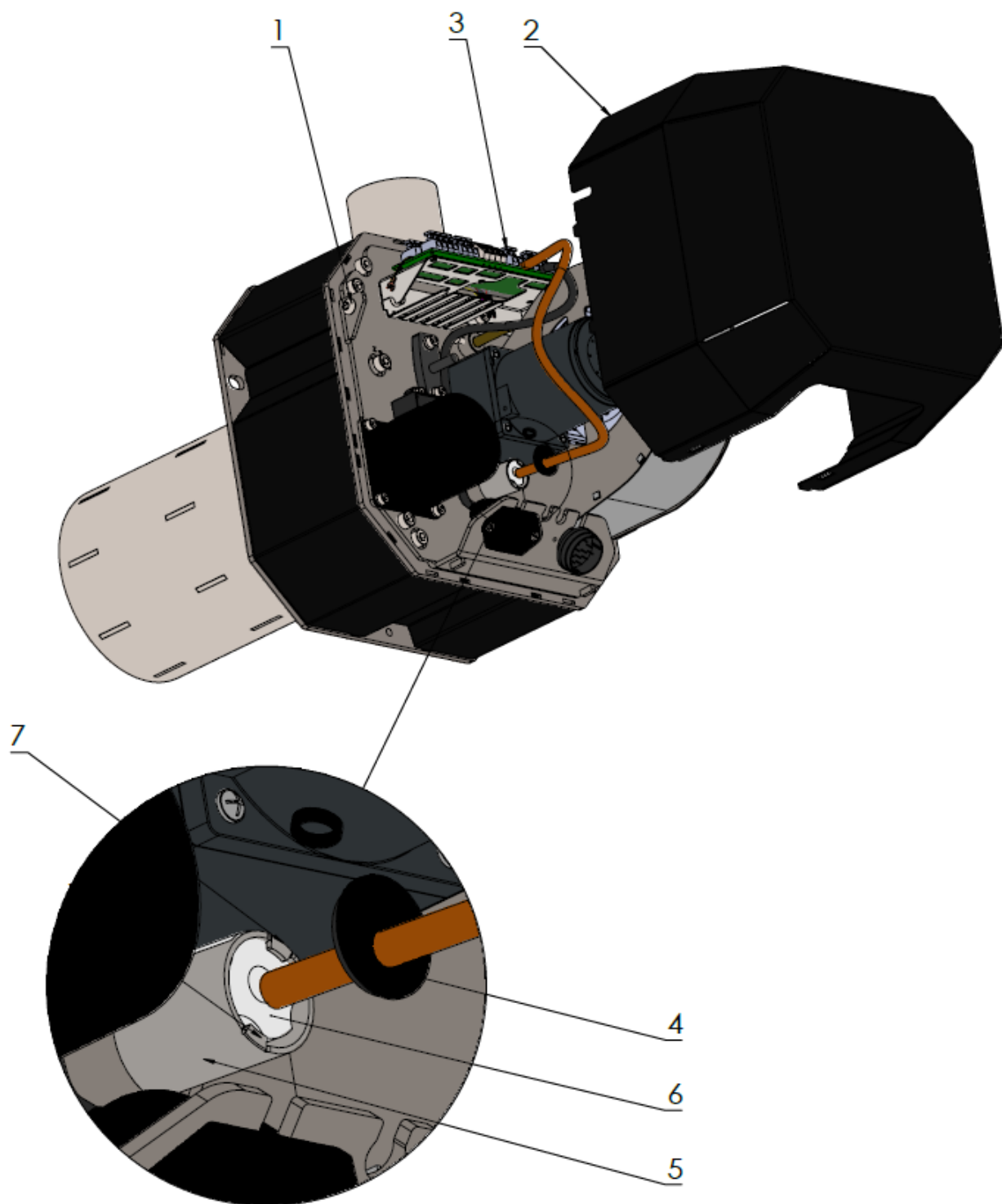


Fig.no.13 Changing the igniter.

8.4.2 Adjustment of the air discharge shutter

Mechanical adjustment of the amount of secondary air supplied to the combustion is possible. The amount of air is regulated by a shutter on the throttle module. In order to allow adjustment during burner operation without dismantling the burner, the shutter is moved by a pinion whose adjusting screw is located on the drive plate.

1. Remove the burner casing fixing screws (1) - 2 pcs.
2. Remove the burner casing (2).
3. Use an ampoule spanner, size 5 (4) to turn the shaft screw (3). Counter-clockwise rotation reduces blowing, clockwise rotation increases it. Rotation from minimum to maximum position is 90°.
4. Once the adjustment is complete, replace the burner casing (2) and tighten the screws (1).

8.4.3 Cleaning the flame sensor.

1. Remove the burner casing fixing screws (1) - 2 pcs.
2. Remove the burner casing (2).
3. Remove the sensor from the socket (5). The sensor is secured in the socket by a latch.
4. Point the sensor at daylight and observe the flame value display in the information menu. A working and clean sensor should indicate a value of 100%.
5. If necessary, wipe the sensor lens with a soft cloth.
6. Insert the sensor into the holder screwed onto the drive board. Push in until the latch clicks.
7. Check the integrity of the installation by shining light into the combustion chamber of the burner and observing the values on the controller screen in the information menu.
8. If there is no indication, it may be necessary to clean the holes in the screen inside the combustion chamber or adjust the sensor placement depth. There is a screw on the sensor casing, the loosening of which allows adjustment of the sensor placement depth.
9. Fit the burner housing (2) and screw in the screws (1).

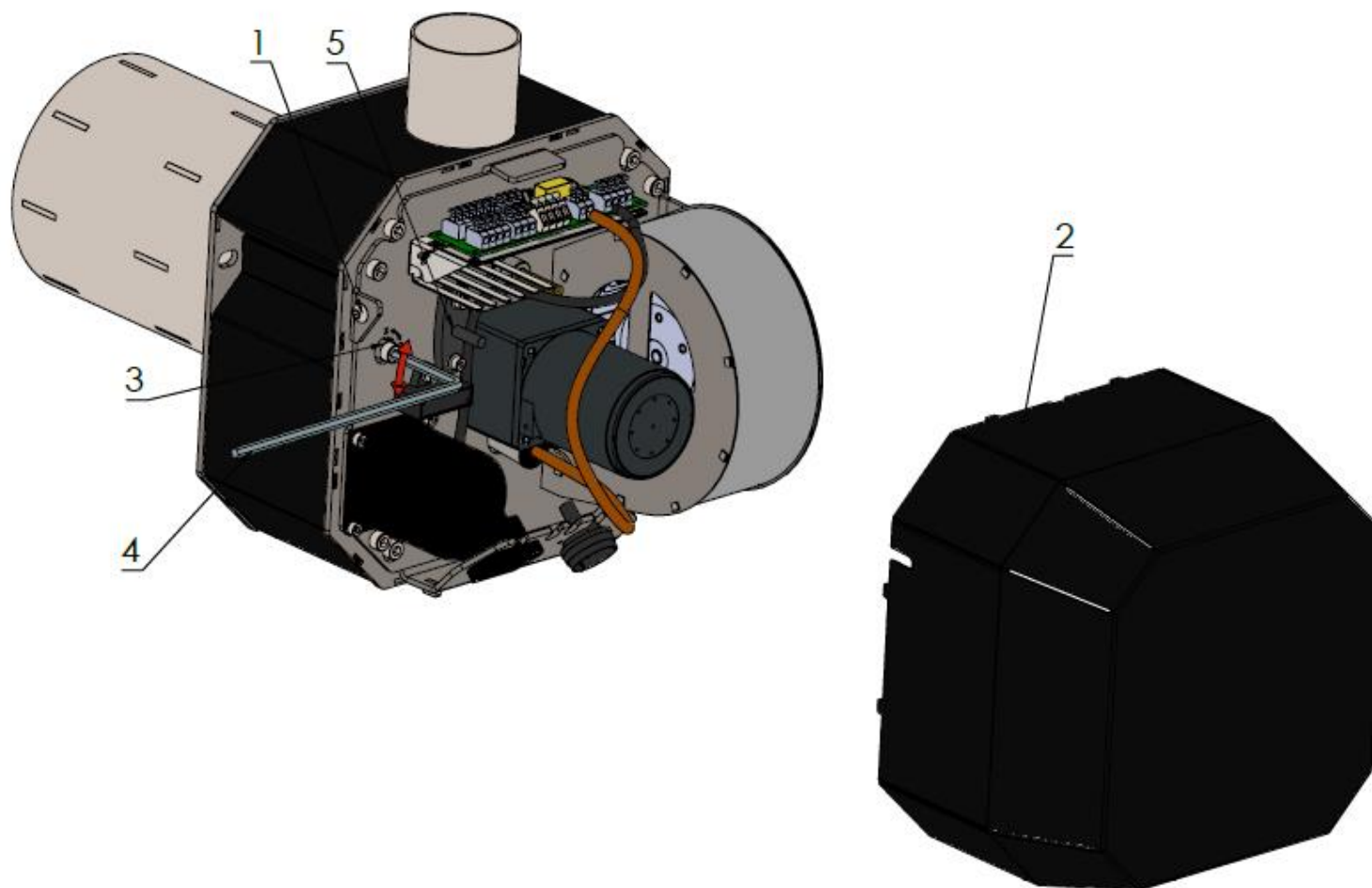


Fig.no.14 Adjustment of the blower shutter* / Cleaning of the optical sensor.

* - does not apply to the 10 kW, 16 kW and 20 kW burner, they do not have an adjustable shutter.

8.4.4 Cleaning the blower chamber.

1. Disconnect the external feeder and controller cables from the burner.
2. Open the boiler door so that you can access the fire tube.
3. Remove the bolts securing the burner casing - 2 pcs.
4. Remove the burner casing (9).
5. Remove the screws securing the drive plate (7) - 4 pcs.
6. Remove the igniter from its socket.
7. Carefully remove the drive and fan plate (8).
8. Put the dismantled component in a safe place, paying particular attention to the igniter.
9. Locate and remove the screw (5), if it is set so that it cannot be unscrewed - turn outer tube 1 by hand in the direction marked "Z".
10. Rotate the burner chambers in the direction marked "O" to release them from the drive.
11. Remove the combustion chamber (2) from the blower chamber (1). Disconnection of the chambers may be difficult due to thermal expansion of the material and wedging. It is possible to clean the chambers without disconnecting them, for this purpose, it is necessary to inspect and clean the space between the chambers.
12. Clean the removed chambers, and if necessary clean the air vents of the combustion chamber (2).
13. Once the chambers have been cleaned, the burner can be installed.
14. Place the combustion chamber (2) in the blower chamber (1) - making sure that the take-up (4) is placed in the rib (3) which has an undercut.
15. Assemble the two chambers in the burner drive by hitting the rim grooves (11) with the hooks of the blow-up chamber (1).
16. Rotate the chambers in the "Z" direction until you feel resistance.
17. Ensure that the screw hole has passed the rib of the blower chamber. The bolt, when screwed in, should reach behind the rib.
18. Screw in the chamber locking screw (5) - it is important that it is screwed in all the way.
19. Install the drive plate (8), during this operation place the igniter (12) in its socket and secure it with a rubber sealing grommet. The undercut (10) in the drive shaft must be aligned with the undercut in the drive motor shaft. The drive shaft can be rotated by turning the burner chambers in the "Z" direction. The temperature sensor (13) should hit the socket in the fuel feed tee. Screw in the screws (7).
20. Attach cover (9).
21. Screw in cover screws.
22. Close the boiler door.
23. Connect feeder supply cable and burner control cable.
24. The burner is ready to continue operating.

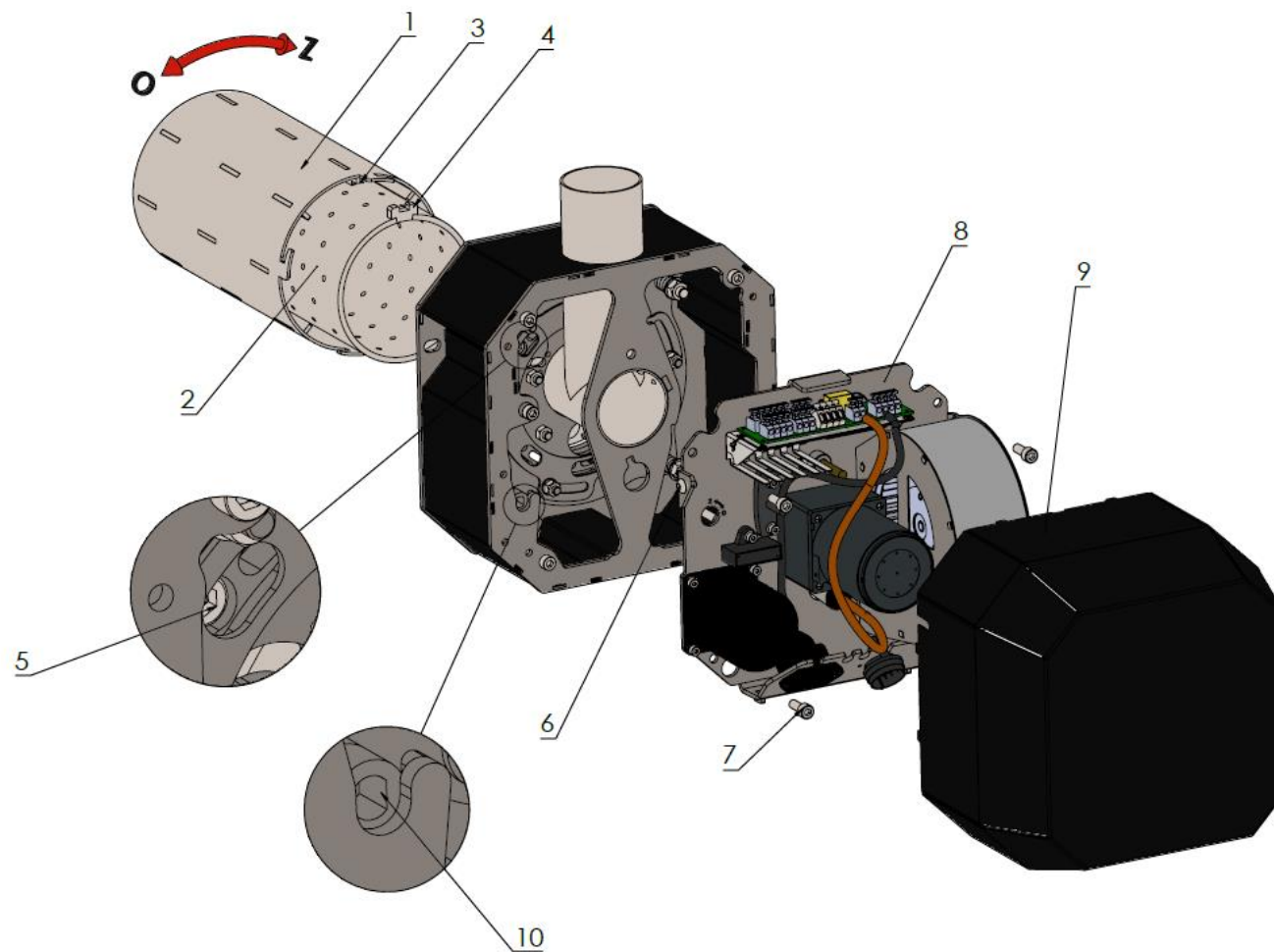


Fig.no.15 Cleaning the blower chamber. Rear view.

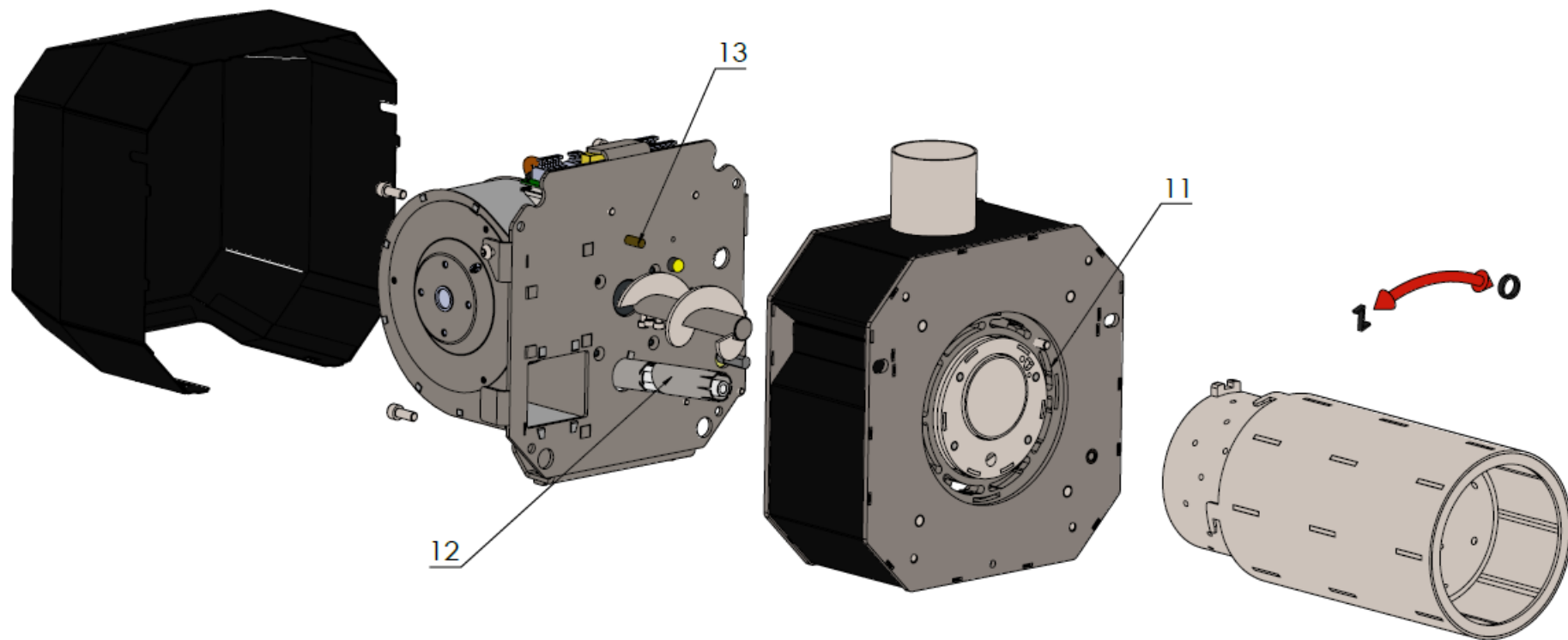


Fig.no.16 Cleaning the blower chamber. Front view.

8.4.5 Lubrication of combustion chamber bearings.

1. Disconnect the external feeder supply and control cable from the burner.
2. Remove the screws (1) securing the burner housing - 2 pcs.
3. Remove the burner casing (2).
4. Remove the screws securing the drive plate (4) - 4 pcs.
5. Remove the igniter (5) from its socket.
6. Carefully remove the drive and fan plate (3).
7. Put the dismantled component in a safe place, paying particular attention to the igniter.
8. Loosen the burner casing screws (6).
9. Remove the body cover (7) including the frame (8), tee (9), drive shaft (14) and shutter rotation shaft (15), if necessary, remove the screw holding the tee.
10. Lubricate the combustion chamber bearings (10) in several places around the perimeter, between the bearing raceway and the bearing cage. Use a solid grease (e.g., towot, LT 43) for lubrication.
11. Place the drive shaft (14) in the hole with the bushing (18) of the burner faceplate. The pawl (12) should fit between the teeth of the gear (13) - as shown in the picture.
12. Insert the shutter shaft (15) into the bore of the bearing pressure plate, set the gearing as shown - this is the setting for shutter closure - i.e., smallest airflow.
13. Fit the body cover (7) with the tee (9) and frame (8). The tabs in the cover plate should fit into the sockets in the burner faceplate, the tee should be placed in the hole in the screen. Fit the frame (8) - here, too, the tabs should fit into the corresponding sockets. Tighten the tee fixing screw if necessary. The end of the drive shaft (14) should hit the slot (17), while the shutter rotation shaft (15) should hit the hole (16).
14. Screw in the body screws (6).
15. Install the drive plate (3), during this operation place the igniter (5) in its socket and secure it with a rubber sealing grommet. The undercut (11) in the drive shaft must be aligned with the undercut in the drive motor shaft - the drive shaft can be rotated by turning the chambers in "Z" direction. The temperature sensor must fit into the socket in the fuel feed tee.
16. Screw in the screws of the drive plate (4).
17. Attach cover (2).
18. Screw in casing screws (1).
19. Connect the feeder supply and burner control cables.

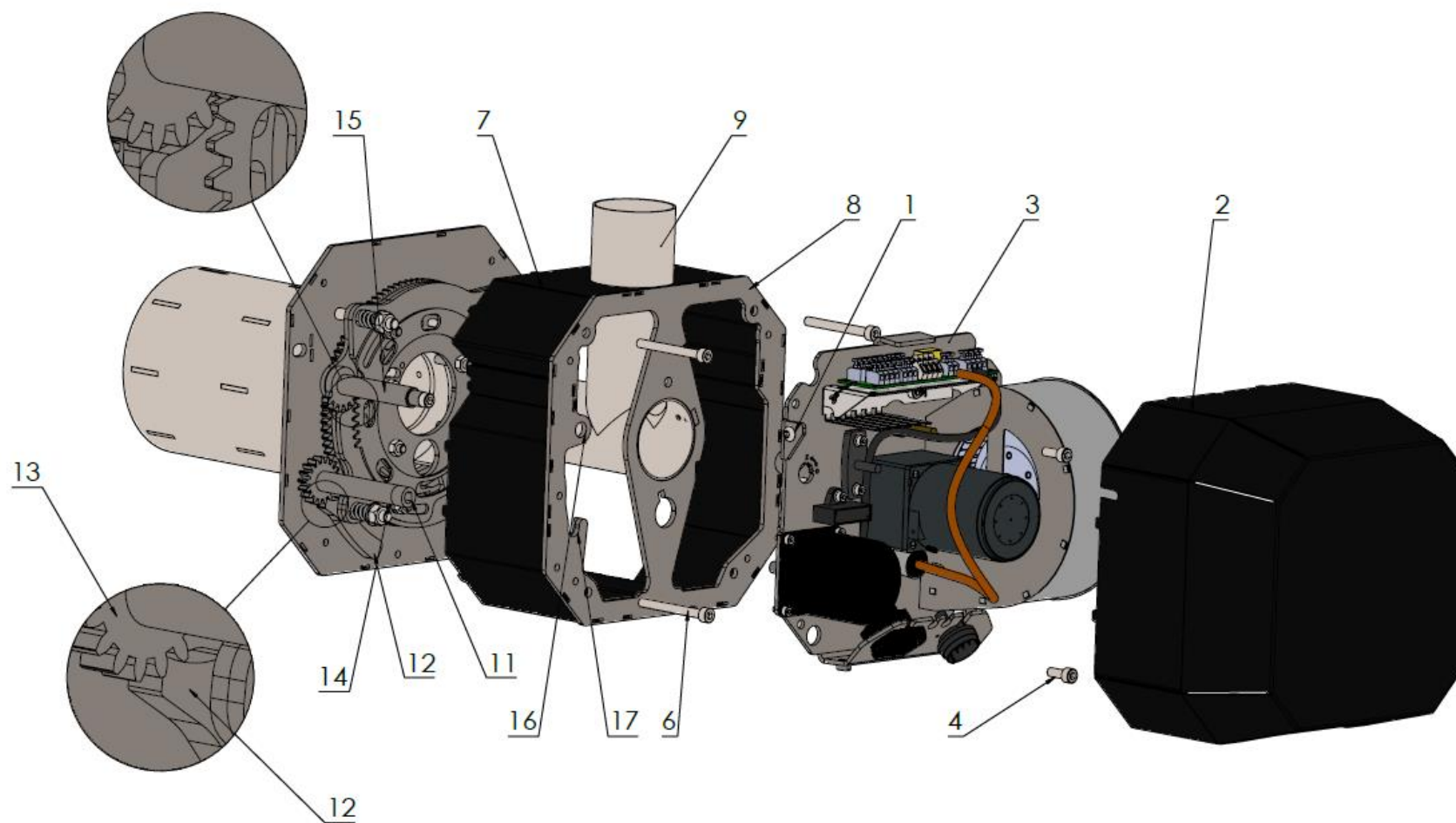


Fig.no. 17 Lubrication of the combustion chamber bearings. Rear view.

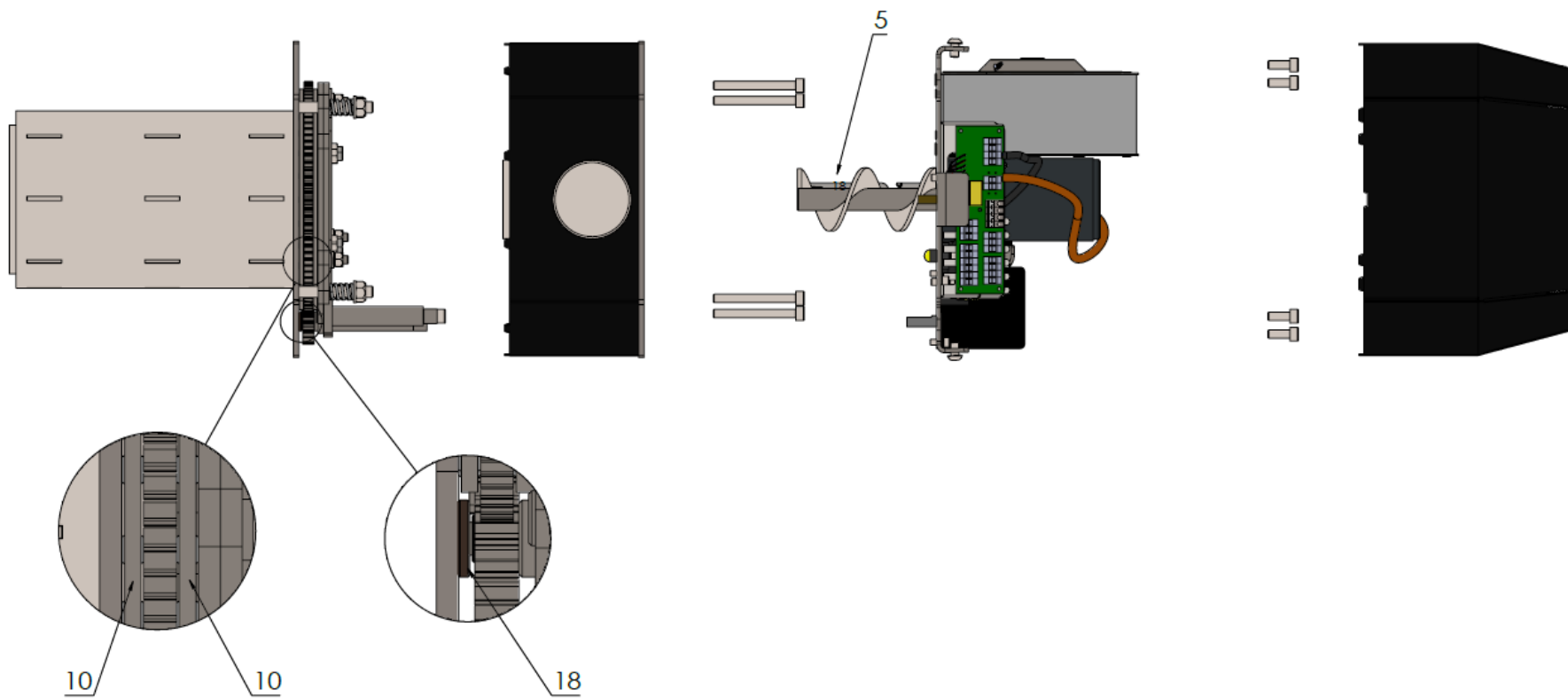


Fig.no. 18 Lubrication of the combustion chamber bearings. Side view.

9. Technical documentation.

9.1 Electrical diagrams, connections.

9.1.1 EcoMAX 360 controllers .

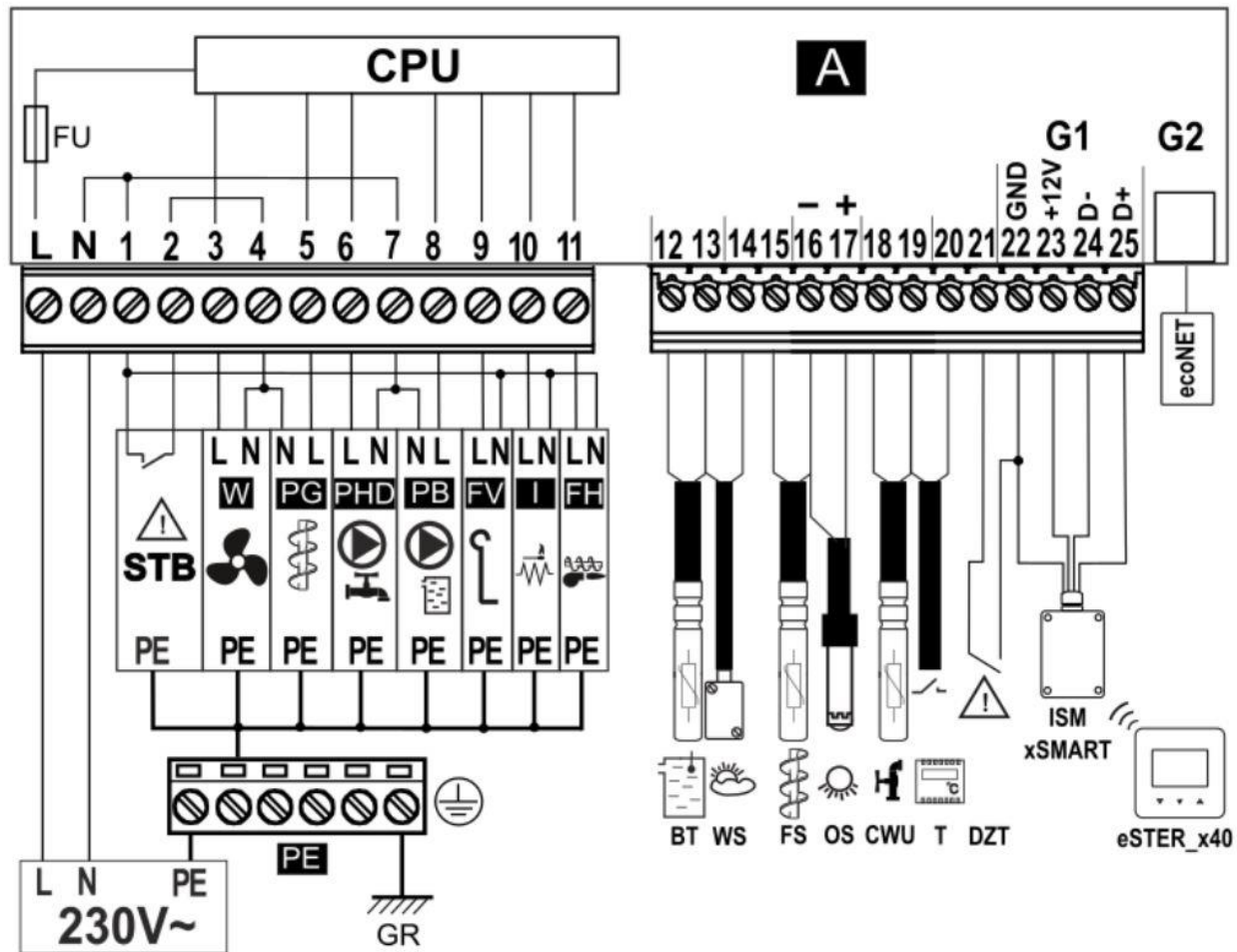


Fig.no.19 Circuit diagram for EcoMax 360 controllers.

EcoMax 360 controller functionality:

Connection marking	Function/Subassembly
L, N	electrical supply ~230 V
PE	protective terminals
FU	control fuse (T6.3A, 230V~)
STB	safety temperature limiter (disconnects fan and feeder)
W	fan
PG	main fuel feeder
PHD	DHW pump
PB	boiler pump
FV	rotary burner cleaning motor
I	igniter
FH	burner feeder (stoker)
BT	boiler temperature sensor CT4 type
WS	outdoor temperature sensor (weather type) CT6-P
FS	Fuel feeder temperature sensor CT4 type
OS	optical flame brightness sensor OCP type
CWU	DHW temperature sensor CT4 type
T	standard room thermostat (Turn-only)
DZT	additional protection with Turn-only contact (optional)
ISM_xSMART	radio module with room panel eSTER_x40 (room thermostat function)
ecoNET	internet module ecoNET300.

Tab. No.14 Circuit diagram for EcoMax 360 controllers.

9.1.2 EcoMAX 361 controller.

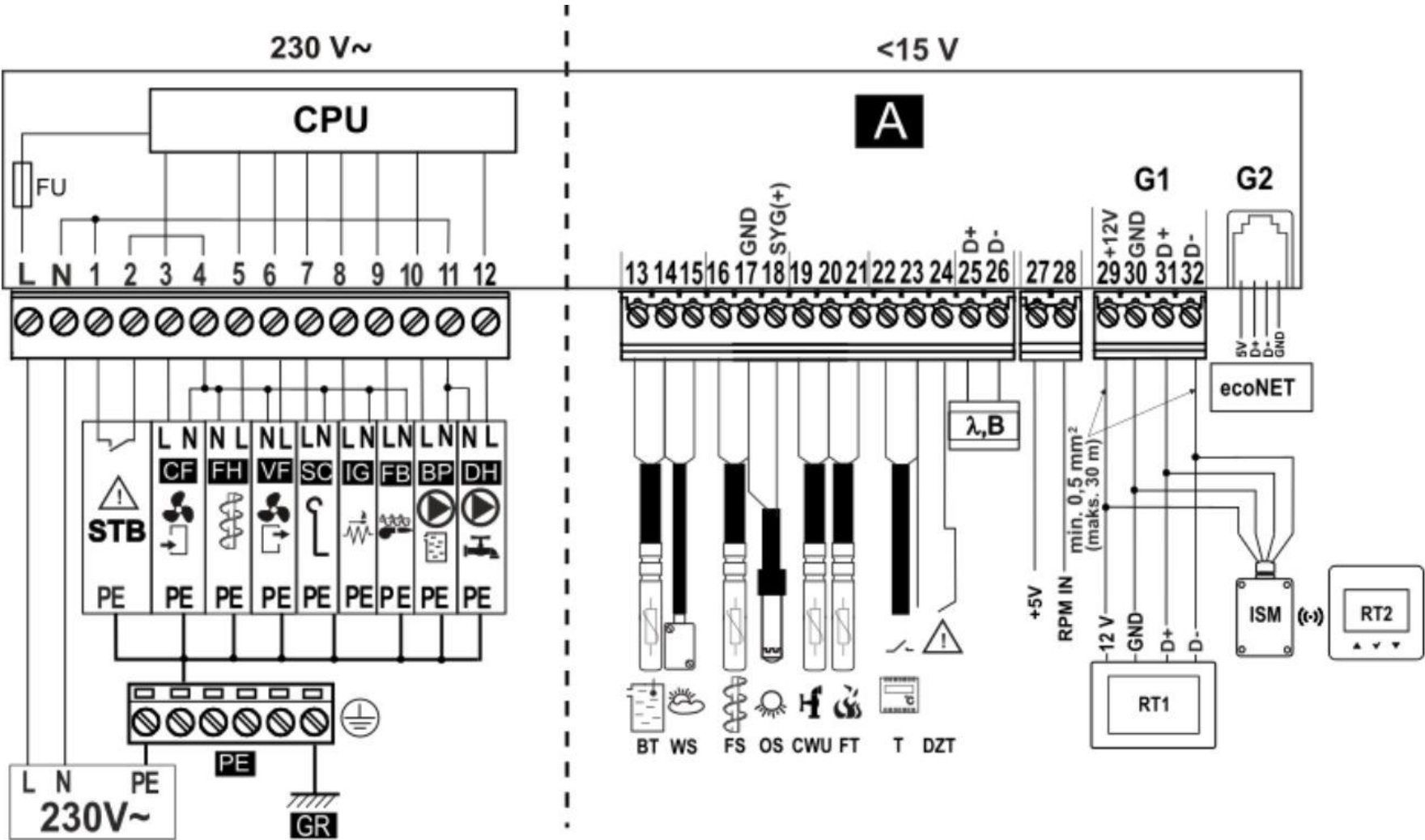


Fig.no.20 Circuit diagram for EcoMax 361 controllers.

EcoMax 361 controller functionality:

Connection marking	Function/Subassembly
L, N	mains supply 230 V~
PE	earthing strip
FU	mains fuse
STB	input for safety temperature limiter
CF	burner blower fan
FH	main fuel feeder
VF	Exhaust fan
SC	rotary motor for burner cleaning
IG	igniter
FB	burner feeder (stoker)
BP	boiler pump
DH	DHW pump
BT	boiler temperature sensor CT4 type
WS	outdoor temperature sensor (weather type) type CT6-P
FS	feeder temperature sensor CT4 type
OS	optical flame brightness sensor
CWU	DHW temperature sensor CT4 type
FT	flue gas temperature sensor CT2S type
T	universal boiler room thermostat (Turn-only)
DZT	boiler door or cylinder flap sensor
RT1	room panel with room thermostat function
RT2	wireless room thermostat with radio module ISM (room thermostat function)

Tab. No.15 Circuit diagram for EcoMax 361 controllers.

9.1.3 EcoMAX 860 controllers.

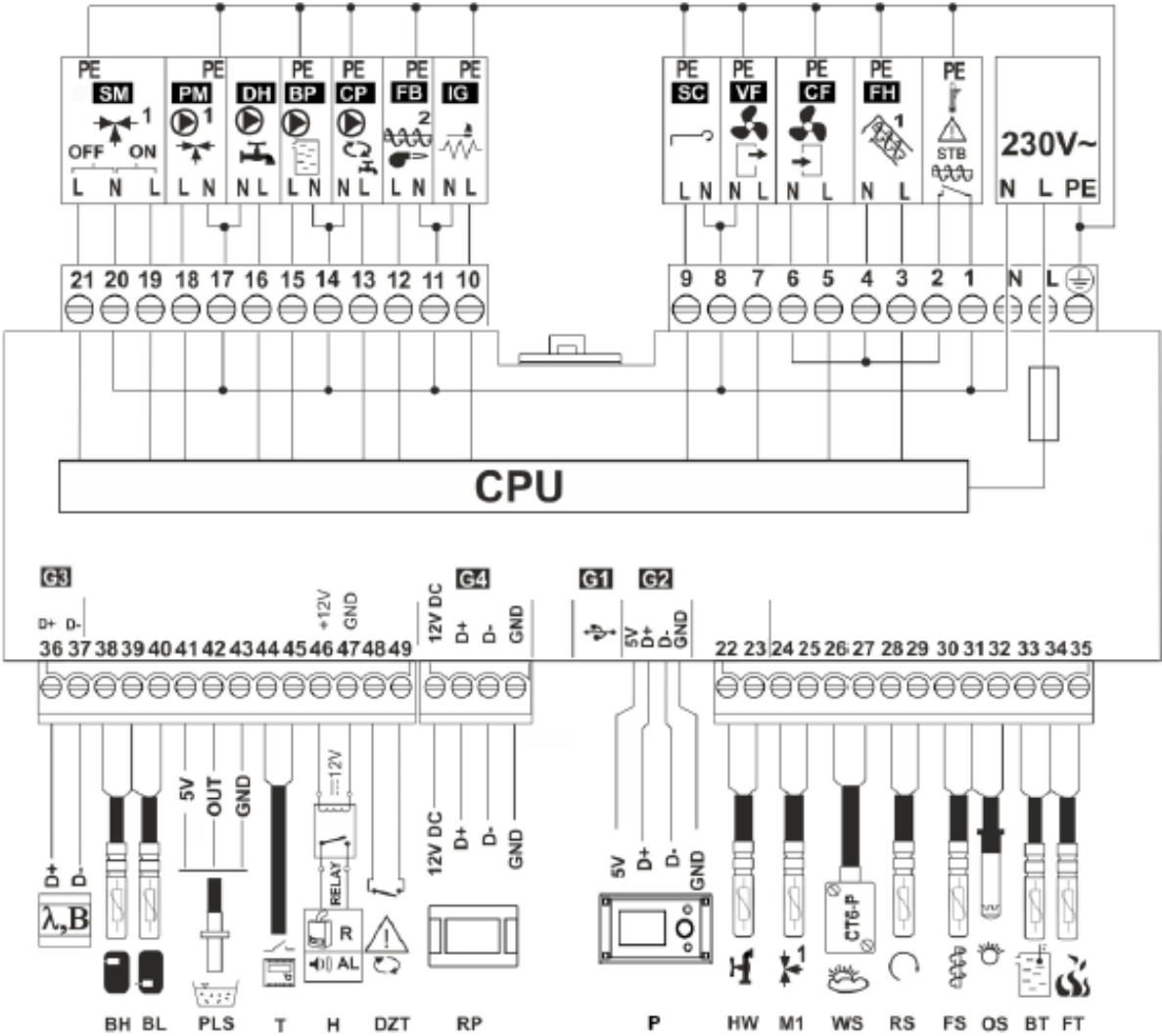


Fig.no.21 Circuit diagram of ecoMAX 860P controllers.

EcoMax 860 controller functionality:

Connection marking	Function/Subassembly
λ	Lambda probe module
B	module for operating additional heating circuits
BH	buffer temp. sensor upper CT4
BL	buffer temp. sensor lower CT4
PLS	fuel level sensor
T	room thermostat (short circuit)
H	voltage output to control reserve boiler R or to signal AL alarms.
RELAY	12VDC relay
DZT	boiler door opening sensor
RP	ecoSTER TOUCH room panel with room thermostat function
P	control panel
HW	DHW temp. sensor CT4
M1	temperature sensor of regulated circuit (mixer1) CT4
WS	weather-compensated temperature sensor CT6P
RS	return water temperature sensor CT4
FS	feeder temperature sensor CT4
OS	optical flame brightness sensor
BT	boiler temp sensor CT4
FT	Exhaust gas temperature sensor CT2S
L N PE	mains supply 230V~
CPU	control
STB	input to safety temperature limiter
FH	main feeder
CF	burner blower fan
VF	exhaust fan
SC	burner cleaning rotary motor
IG	igniter
FB	fuel feeder
CP	DHW circulation pump
BP	boiler pump
DH	DHW pump
PM	mixer 1 pump
SM	mixer servo

Tab. No.16 Circuit diagram of EcoMax 860 controllers.

9.1.4 EcoMAX 920 Controllers.

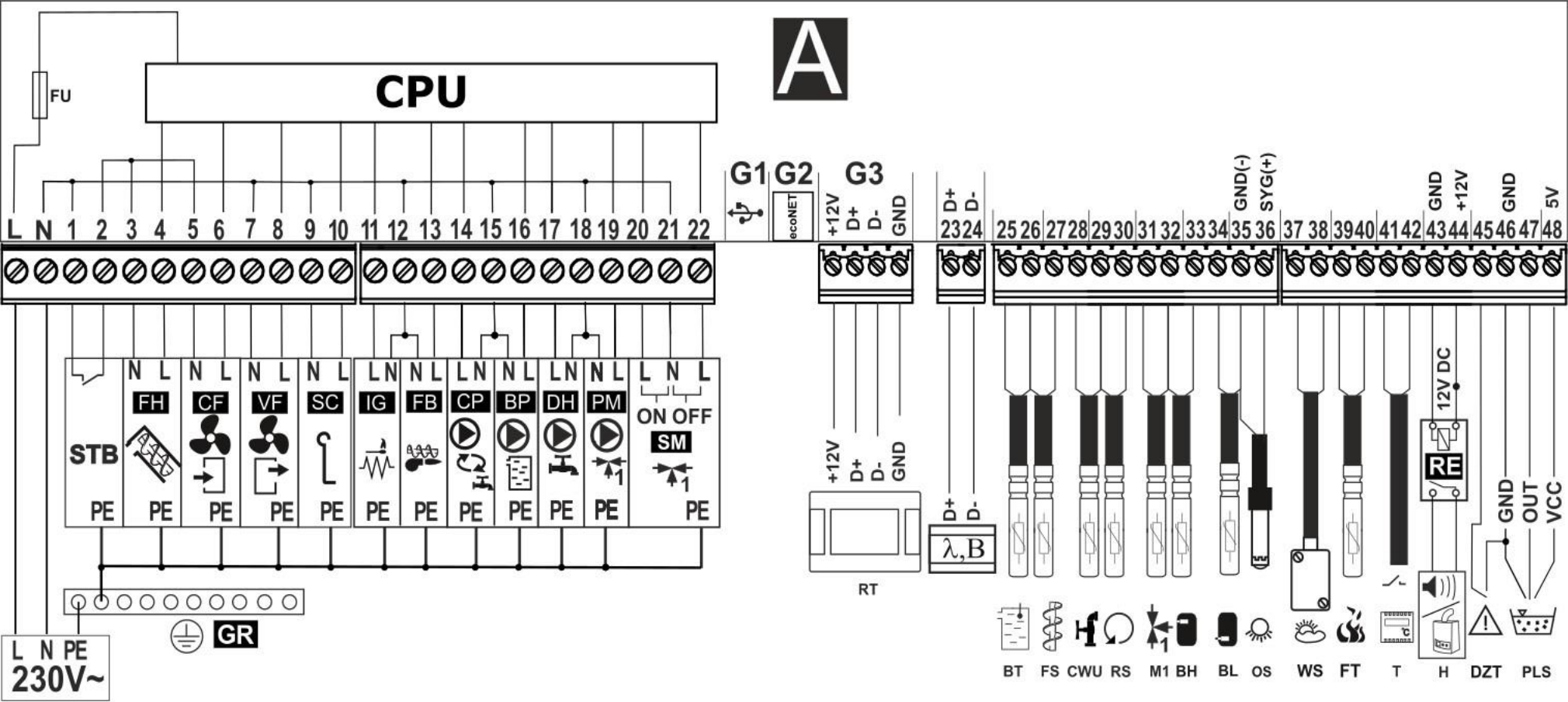


Fig.no.22 Circuit diagram of ecoMAX 920 controllers.

EcoMax 920 controller functionality:

Connection marking	Function/Subassembly
LNPE	power supply 230V~
CPU	control
FU	fuse
STB	input to safety temp. limiter
FH	main feeder
CF	burner blower fan
VF	exhaust fan
SC	burner cleaning rotary motor
IG	igniter
FB	fuel feeder
CP	DHW circulation pump
BP	boiler pump
DH	DHW pump
PM	mixer 1 pump
SM	mixer servo
RT	room panel ecoSTER TOUCH with room thermostat function
λ	Lambda probe module
B	module for operating additional heating circuits
BT	boiler temp. sensor CT4
FS	feeder temperature sensor CT4
CWU	DHW temperature sensor CT4
RS	return water temperature sensor CT4
M1	temperature sensor of regulated circuit (mixer1) CT4
BH	buffer upper temperature sensor CT4
BL	buffer temperature sensor lower CT4
OS	optical flame brightness sensor
WS	weather temperature sensor CT6P
FT	flue gas temperature sensor CT2S
T	room thermostat (short-circuit)
H	voltage output for control of reserve boiler R or for alarm signalling AL.
RELAY	12VDC relay
DZT	boiler door opening sensor
PLS	fuel level sensor

Tab. No.17 Circuit diagram of EcoMax 920 controllers.

9.1.5 Electrical diagram of the burner.

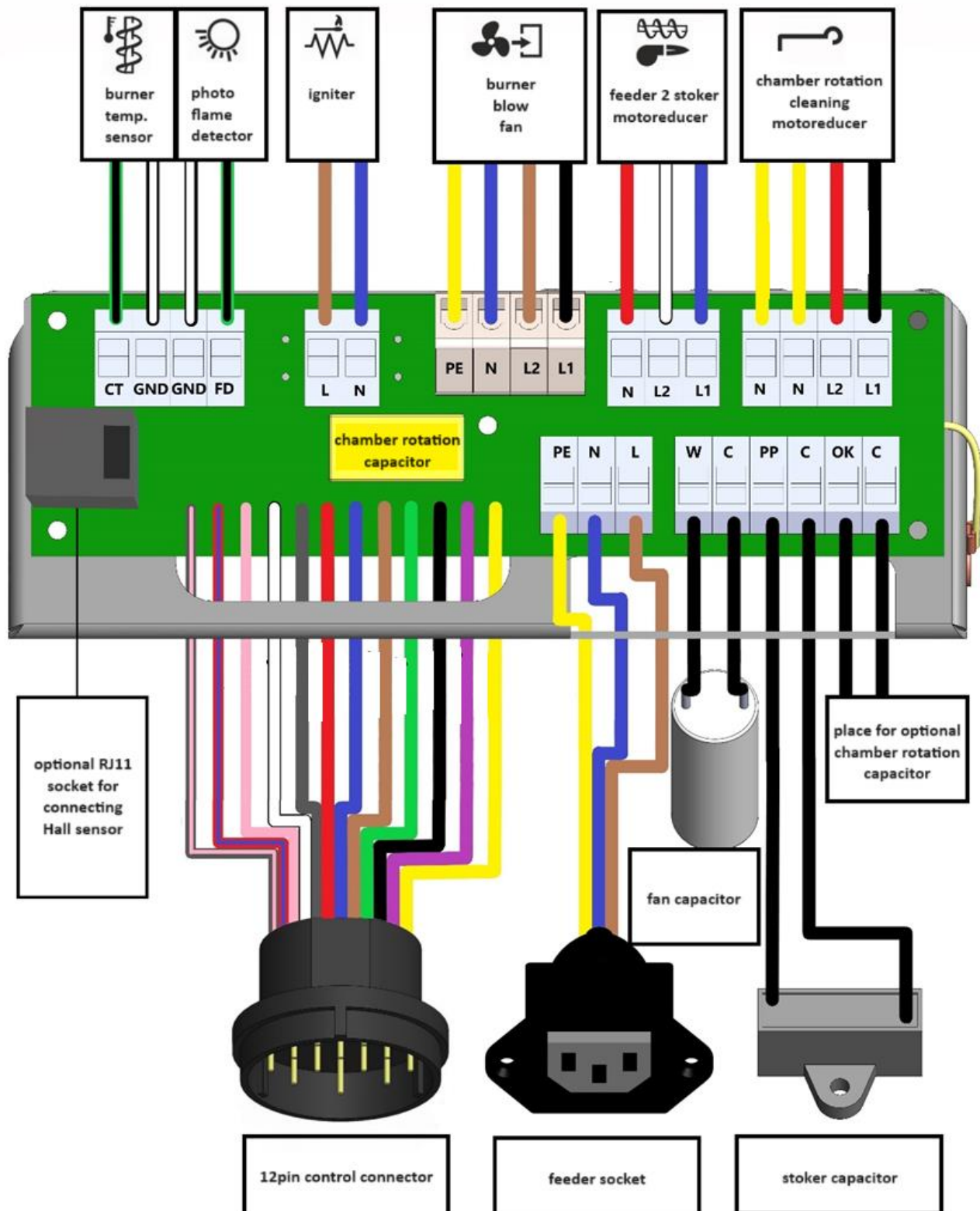


Fig.no.23 Electrical diagram of the burner.

Description of the 12pin control connector

pin	Cable colour	Hardware	Voltage	Max current
1	Blue	Neutral	230V Neutral	2A
2	Black	Fan	230V Phase	2A
3	Red	Chamber rotation	230V Phase	3A
4	Red/blue	Hall sensor/electromagnet	-5V	0.8A
5	Purple	External feeder	230V Phase	2A
6	Pink/gray	Hall sensor/electromagnet	1-5V	0.8A
7	Pink	Burner temp sensor	+0.1-1.0V	0.8A
8	Gray	Flame sensor	+1-5V	0.8A
9	White	Sensor GND	-5V	0.8A
10	Brown	Igniter	230V Phase	3A
11	Green	Stoker (internal feeder)	230V Phase	3A
12	Yellow	Grounding	GND	

Tab. No.18 Control connector.

9.2 Overall dimensions.

9.2.1 ROTARY 10 kW.

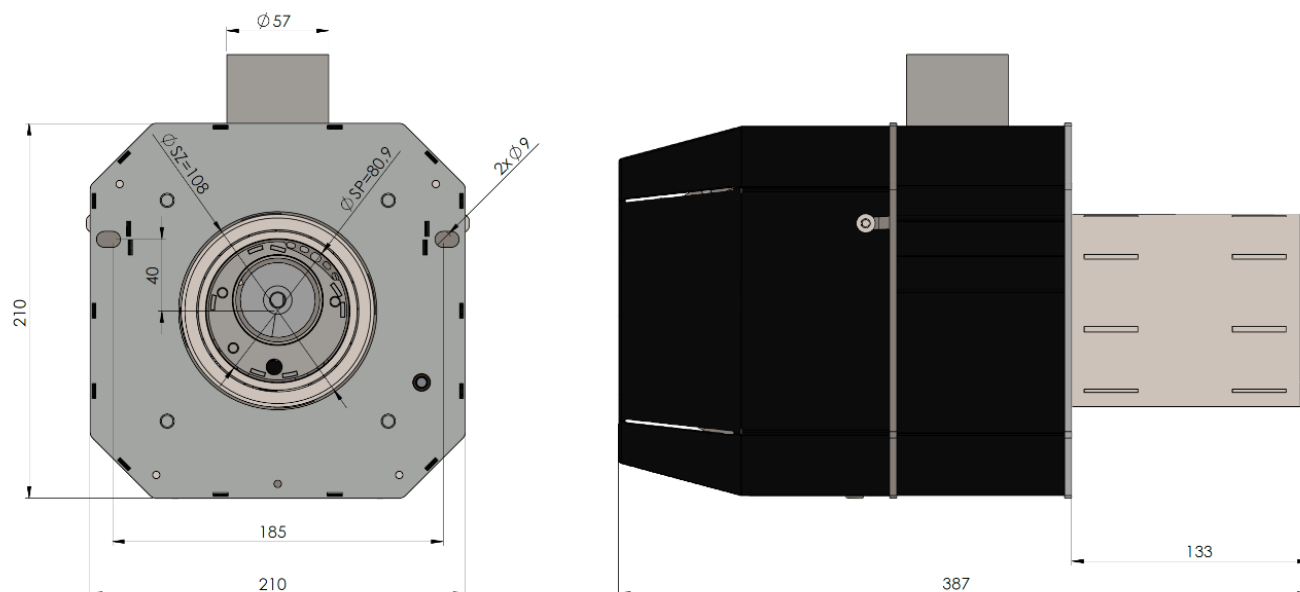


Fig.no.24 Dimensions of 10kW burner without flange.

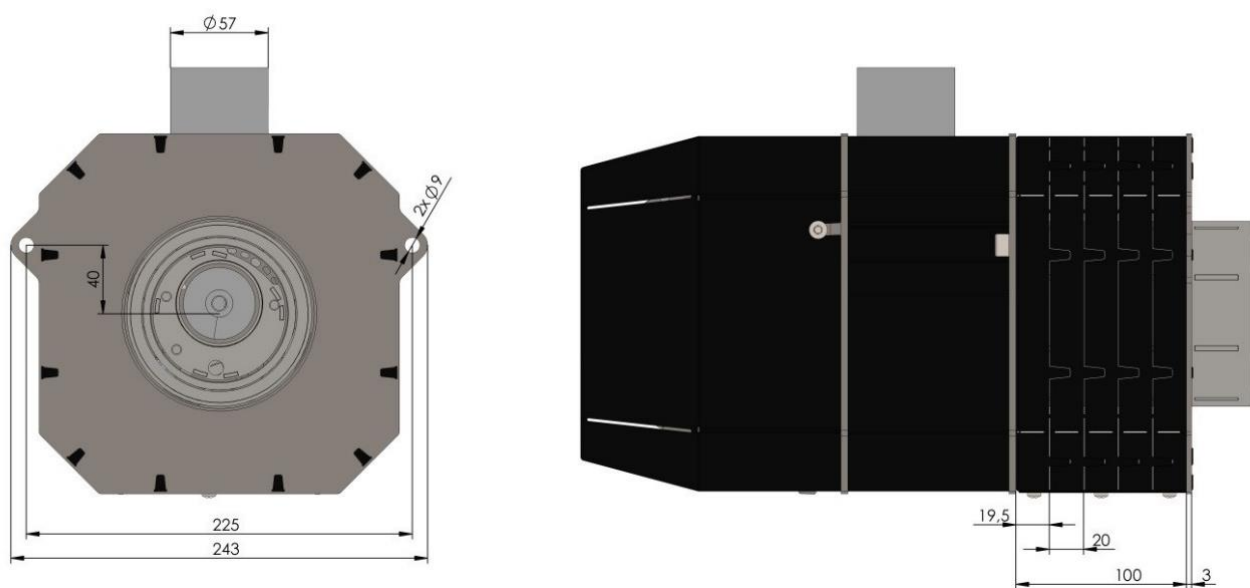


Fig.no.25 Dimensions of 10kW burner with flange.

9.2.2 ROTARY 16 kW.

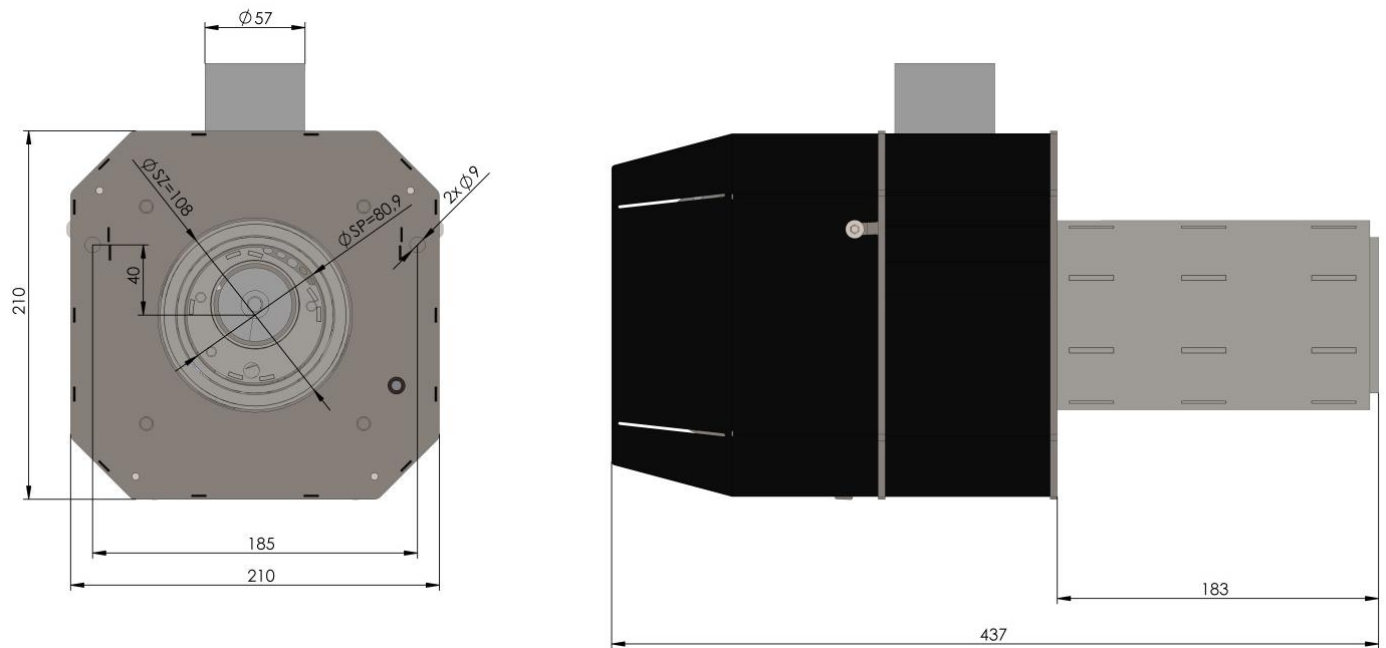


fig.no.26 Dimensions of 16kW burner without flange.

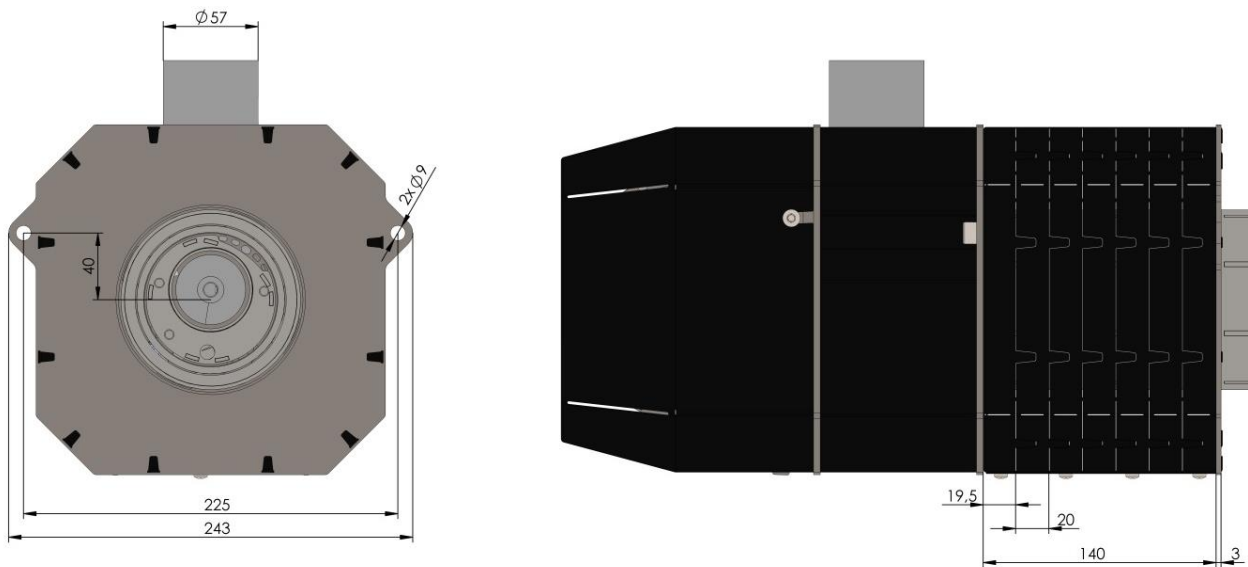


Fig.no.27 Dimensions of 16kW burner with flange.

9.2.3 ROTARY 20 kW.

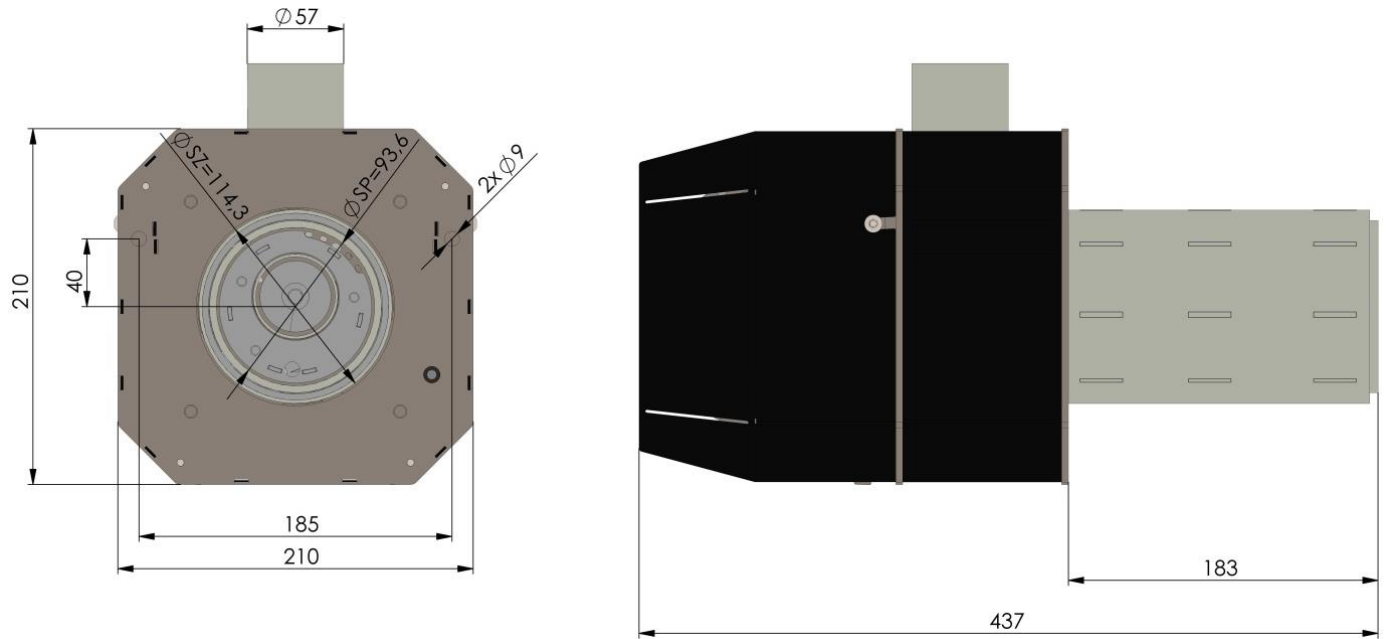


Fig.no.28 Dimensions of 20kW burner without flange.

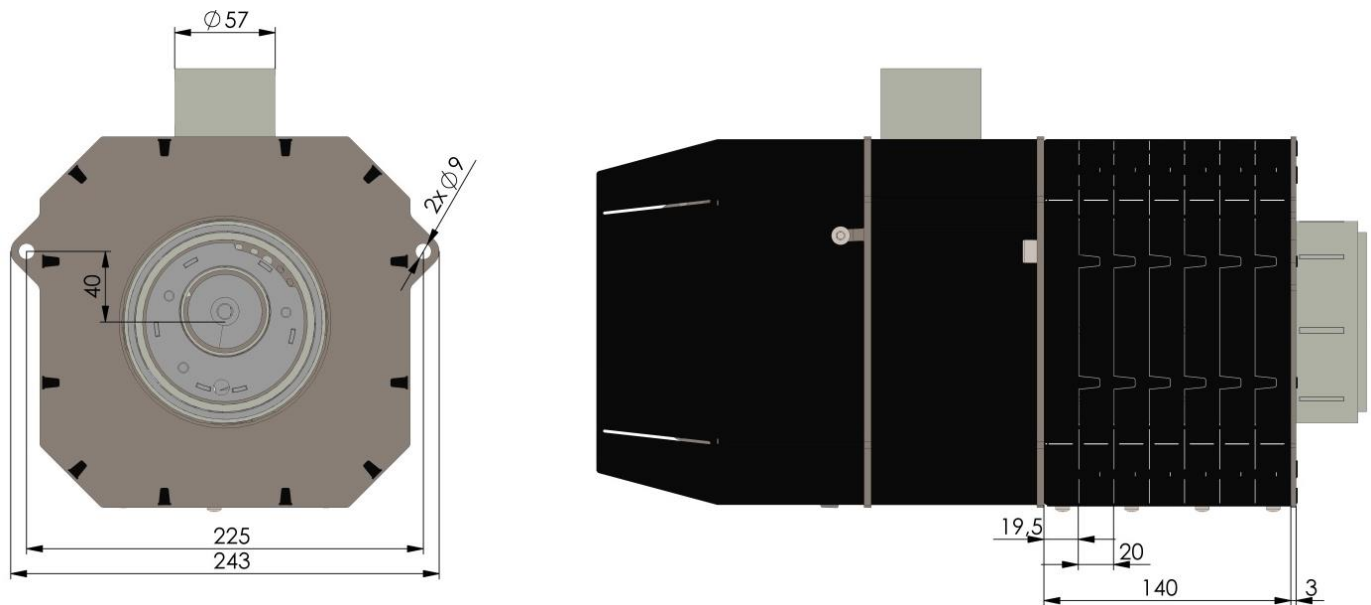


Fig.no.29 Dimensions of 20kW burner with flange.

9.2.4 ROTARY 26 kW.

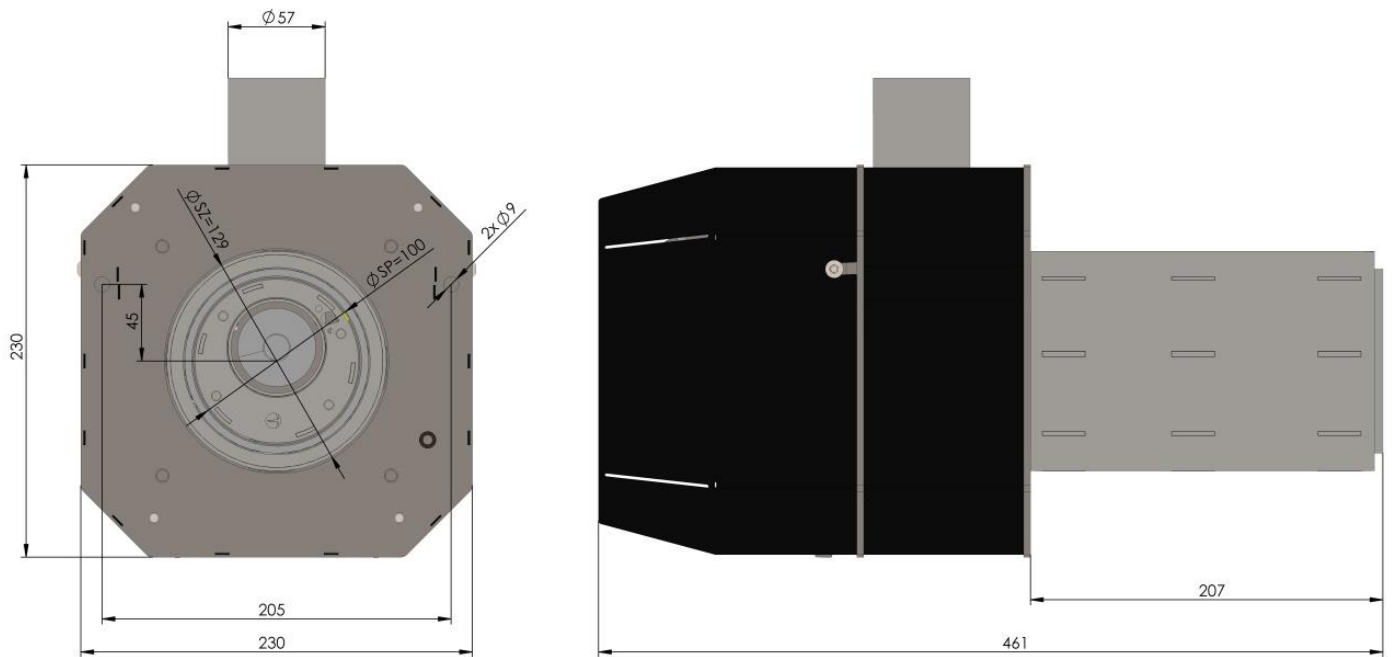


Fig.no.30 Dimensions of 26kW burner without flange.

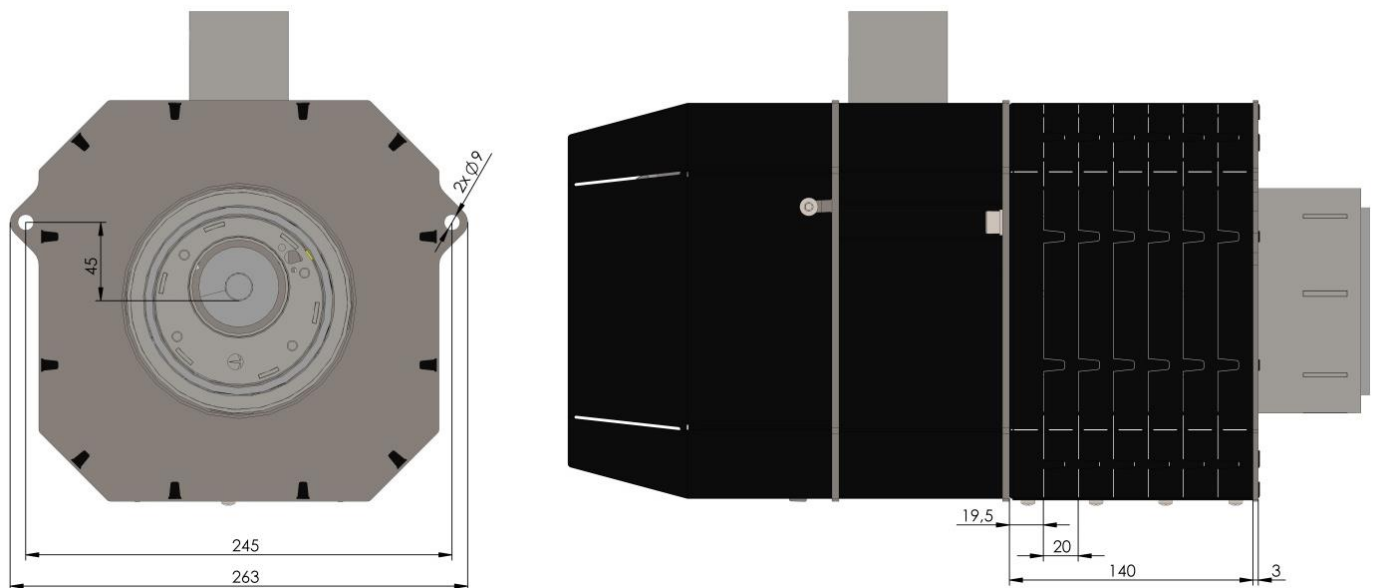


Fig.no.31 Dimensions of 26kW burner with flange.

9.2.5 ROTARY 36 kW.

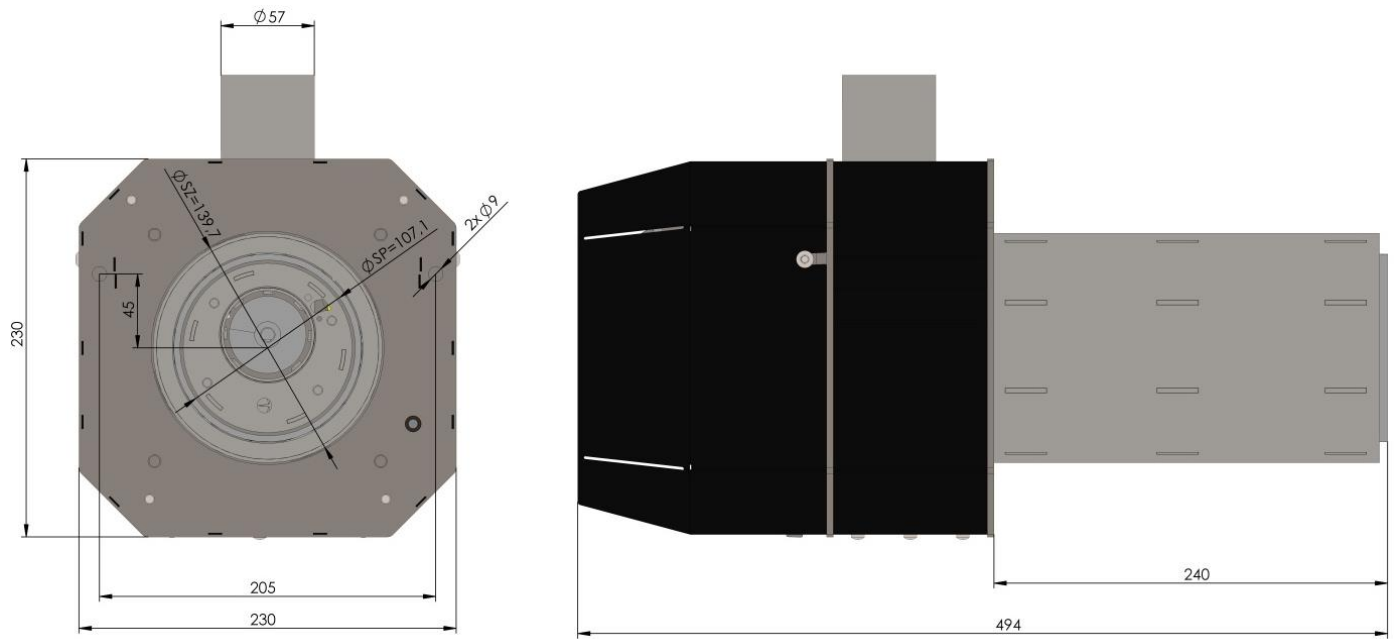


Fig.no.32 Dimensions of 36kW burner without flange.

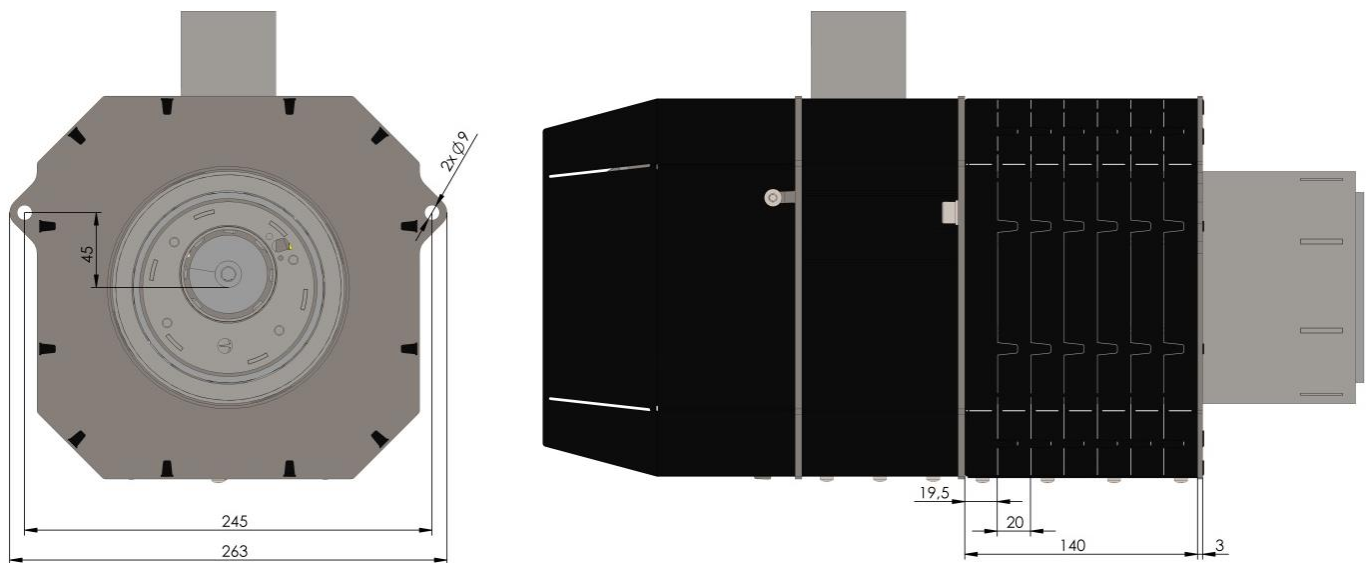


Fig.no.33 Dimensions of 36kW burner with flange.

9.2.6 ROTARY 50 kW.

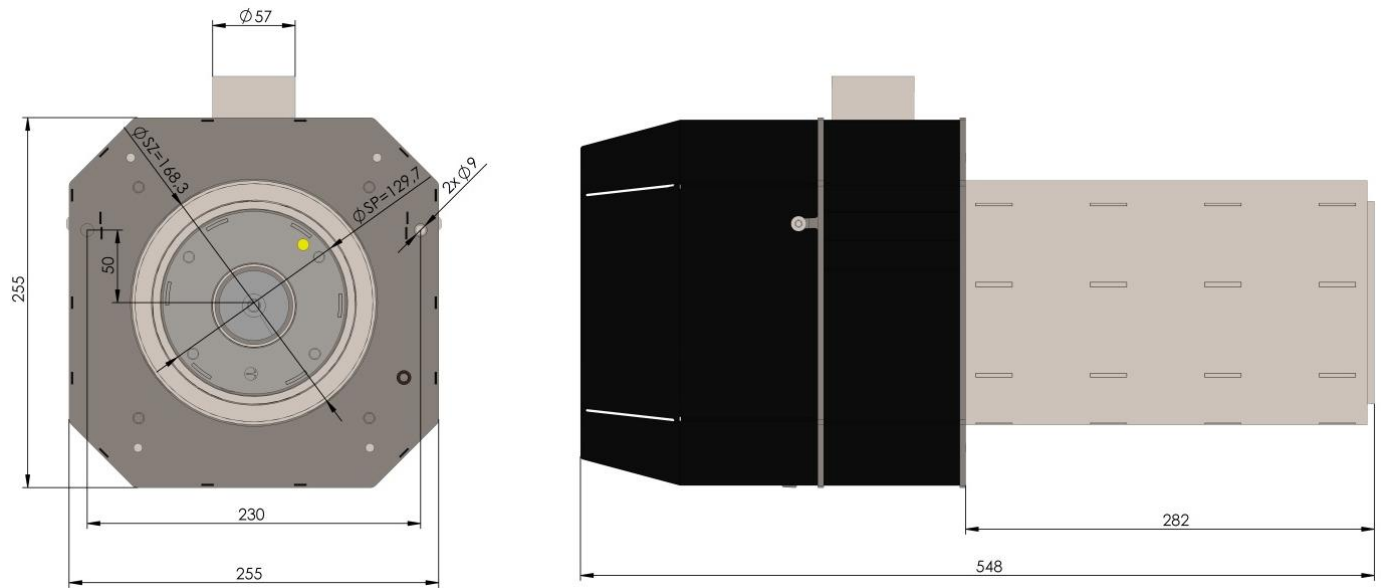


Fig.no.34 Dimensions of 50kW burner without flange.

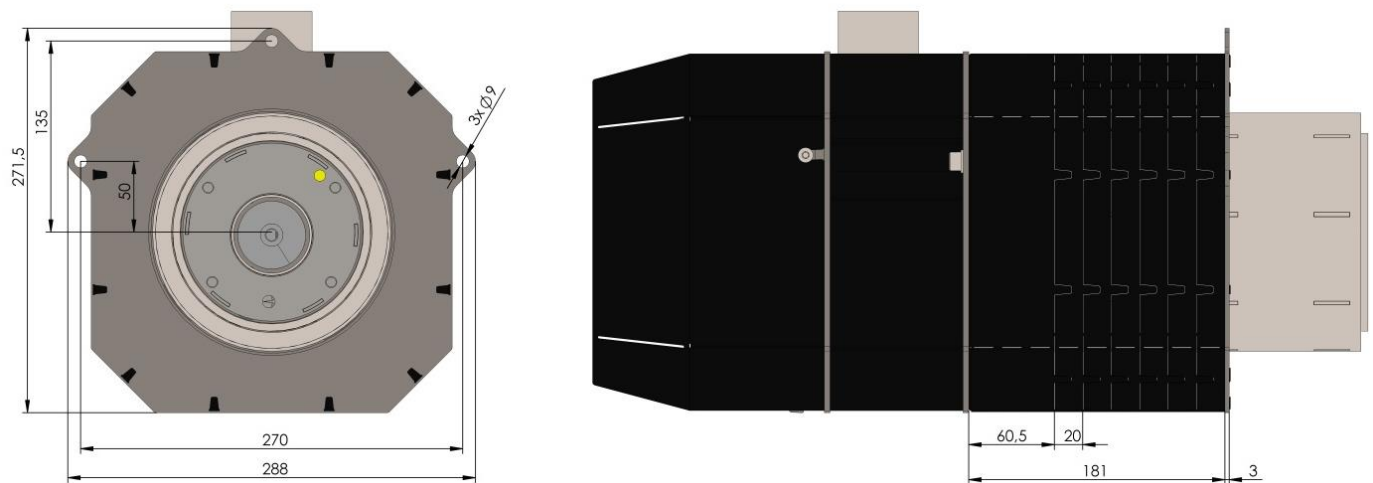


Fig.no.35 Dimensions of 50kW burner with flange.

9.3 Technical data

Parameter	Models			
	10 kW	16 kW	20 kW	26 kW
1. Power	3-10 kW*	4-16 kW*	5-20 kW*	6-26 kW*
2. Power supply	230V AC, 50 Hz (6 A)			
3. Average power consumption	24 W	24 W	24 W	25 W
4. Igniter power	150 W			
5. Combustion efficiency	> 99 %			
6. Efficiency of the boiler	> 96 %			
7. Power regulation	Power modulation in the full range of burner operation			
8. Pellet feeder	Ø60 x 1850 mm working (for sloping feeder)			
9. Spiro pipe	YES (Ø60 x 750 mm)			
10. Required chimney draft	22 Pa	22 Pa	22 Pa	25 Pa

Tab. no.19 Burner parameters 10-26 kW.

Parameter	Models	
	36 kW	50 kW
1. Power	8-36 kW*	10-50 W*
2. Power supply	230V AC, 50 Hz (6 A)	
3. Average power consumption	28 W	40 W
4. Igniter power	150 W	
5. Combustion efficiency	> 99 %	
6. Efficiency of the boiler	> 96 %	
7. Power regulation	Power modulation in the full range of burner operation	
8. Pellet feeder	Ø60 x 1850 mm working (for sloping feeder)	
9. Spiro pipe	YES (Ø60 x 750 mm)	
10. Required chimney draft	30 Pa	35 Pa

Tab. no.20 Burner parameters 36-50 kW.



Nominal power is specified for pellets manufactured according to DIN or DIN plus standards.

9.4 Emissions.

9.5 EC Declaration of Conformity



Manufacturer:

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

declares that:

the product Pellet Burner, type: ROTARY, model: 10 kW, 16 kW, 20 kW, 26 kW, 36 kW, 50 kW meets the requirements and complies with the directives:

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

and meets the requirements of the following European 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.

The person authorized to prepare the technical documentation is: Maciej Gumkowski.

Poznań, 10-04-2015

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

10. Warranty.

10.1 Warranty conditions.

Installation of the burner must be done by an Authorized KIPi Installer.

1. Warranty period.

- ☐ The manufacturer provides a warranty for the burner for a period of 2 years counted from the date of the first start-up, but no later than 1 month from the date of purchase from the manufacturer by the distributor.
- ☐ Depending on which comes first, the manufacturer provides a warranty for a period of 12 months for the igniter or 3,000 firing cycles.
- ☐ The combustion chamber, blowing chamber and burner screen are considered to be operating parts and are warranted for a period of 12 months.
- ☐ The spiro pipe is not subject to warranty in case of melting, as its damage is the result of improper use/connection of the fuel feeding system and lack of proper ventilation of the boiler room. The sole exception to this rule is if a KIPi Authorized Installer finds that malfunctioning burner parts are to blame for the pipe damage.
- ☐ The manufacturer provides a warranty on the condition that the burner installation and the First start-up was performed by an Authorized KIPi Installer.
- ☐ The manufacturer provides the warranty after properly filling out *the Warranty Card* and returning it and a copy of *the First Start-up* to the Manufacturer, together with *the consent to the processing of personal data* within 14 days after the First Start-up is performed.

NOTE: The manufacturer may conditionally extend the warranty period to 3 years upon fulfilment of the following conditions:

1.1 Burner installation and *the first start-up* was performed by an Authorized KIPi Installer,

1.2 Correctly fill out the *Warranty Card* and send it back with *a copy of the First Start-up* to the Manufacturer and send back a copy (photo, scan or photocopy) of *the subsequent protocols* of the burner inspections performed (annual and biennial inspection) within 14 days from the date of inspection.

1.3. Perform subsequent periodic inspections by a KIPi Authorized Installer after 12 and after 24 months of operation.

2. First start-up

The manufacturer requires that the installation of the burner and the *First Start-up* be performed by a KIPi Authorized Installer at the request of the User.

The scope of the first commissioning includes:

- ☐ checking the correct installation and operation of the equipment,
- ☐ checking the ventilation and safety condition of the boiler room,
- ☐ adjustment of the burner,
- ☐ checking the correct operation of the unit's safety components,
- ☐ correct completion of the *Warranty Card*.

The scope of the first commissioning does not include:

- ☐ troubleshooting of installation faults and defects.

NOTE: If the user does not have the option of installation and Initial Commissioning by a KIPi Authorized Installer, the user must contact the KIPi Burner Manufacturer Service.

3. Inspections.

- ☐ It is required to perform annual inspections, starting from the date of the First Start-up.

- ☐ Regardless of inspections, it is recommended that the burner system be systematically cleaned by the User in order to extend its service life.
4. Warranty terms and conditions:
- ☐ having a properly completed *Warranty Card* (All boxes must be completed. The exception is "*Flue gas temperature*", "*CO*" and "*O2*" under "*Flue gas analysis*" which are additional parameters).
 - ☐ Having proof of purchase of the burner.
 - ☐ Having installation and *the First Startup* performed by a KIPi Authorized Installer.
 - ☐ Performing annual warranty inspections by a KIPi Authorized Installer, payable by the User.
 - ☐ Mandatory and regular cleaning of the combustion chamber and verification of feeder performance when the User changes pellet manufacturer or supplies new pellet stock. See "*Feeder Test*."
 - ☐ It is mandatory for the Authorized KIPi Installer or User to return a copy of *the First Startup protocol* to the Manufacturer by mail or electronically.
 - ☐ It is mandatory for the Authorized KIPi Installer or User to return the RODO personal data processing consent to the Manufacturer by mail or electronically.
5. The warranty does not cover:
- ☐ Repairs of damage resulting from improper storage or transportation of the equipment.
 - ☐ Repairs of damage resulting from faulty installation by the User and First Start-up.
 - ☐ Repairs of defects resulting from improper operation of the unit and use of improper fuels.
 - ☐ Repairs of defects resulting from improperly installed heating, chimney, ventilation system.
 - ☐ Repairs of defects caused by factors beyond the control of the Manufacturer (including but not limited to: flood, fire, electrical surges, etc.).
 - ☐ Replacements of consumable operating parts.
 - ☐ Repairs of resulting deformations, burnouts and cracks in the elements of the combustion and blowing chamber.
6. The warranty shall be forfeited as a result of:
- ☐ Tearing off nameplates identifying the device.
 - ☐ Making repairs by persons unauthorized by the manufacturer.
 - ☐ Modifying the components of the device - making modifications on your own, including the assembly and disassembly of burner components without the permission of KIPi Service.
 - ☐ Failure to provide a properly completed *Warranty Card* signed by a KIPi Authorized Installer.
 - ☐ Failure to send a copy of the *Warranty Card* to the manufacturer electronically or by mail.
 - ☐ Loss or destruction of the *Warranty Card*.
 - ☐ Only purchases made from *an Authorized Distributor* operating in the country are eligible for the warranty in international markets. If not, the guarantee is invalidated.
 - ☐ Purchasing a burner from unknown sources instead of from *the Authorized Distributor* specified by the manufacturer.
 - ☐ Damage to the combustion chamber caused by cleaning it too infrequently.
7. Electronic completion of *the Warranty Card* on the manufacturer's website is performed by the individual customer, where the KIPi burner was installed. It is necessary to copy all the data from the paper *Warranty Card* and provide your personal information. This will allow immediate registration of the user in the database and warranty protection.



10.2 First Startup Card.

User/place of installation of the device	
Name	
Street	
Town/code	
Phone/ e-mail	

I certify that I have read the warranty terms and conditions and accept them without objection. I have received the User's Manual and have been trained in the operation of the device.

.....
Date and legible signature of the User

Devices		
Boiler type	Heat output [kW]	Serial number and year of production
Burner type	Power [kW]	Serial number and year of production
The first startup conducted:		
Name		
Company name		
Phone/e-mail		

I certify that the equipment was installed in accordance with current standards and laws. The appliance and the installation have been checked and are operating flawlessly. The device is working properly.

.....
Date, stamp, legible signature of Installer and authorization number

FIRST STARTUP					
SETTING PARAMETERS					
FEEDER TEST		CLEANING		FIRING UP	
Feeder capacity [kg/h]	Cleaning intensity [%].	Rotary cleaning [s].	Fuel dosage [g].	Ignition airflow [%]	Warm-up time [s]
BOILER POWER MODULATION					
Min. boiler power [kW].	Min. blowing power [%]	Average blowing power [%]	Average blowing power [%].	Max. boiler output [kW]	Max. blowing power [%]
MONITORING					
YES			NO		
Monitoring time [s]	Boiler power in monitoring [kW]		Cycle time [s]	Blowing power [%]	
MODE OF REGULATION			BURNER IN THERMOSTAT MODE		
STANDARD	FUZZY LOGIC		YES	NO	
EXHAUST GAS ANALYSIS (AT MAX. POWER)					
CO [ppm]	O ₂ [%]	Chimney draught [Pa].		Flue gas temperature [°C].	
BOILER ROOM VENTILATION					
GOOD		MID-QUALITY		BAD*	

* Poor evaluation of the boiler room ventilation needs to be noted in the Warranty Card. The warranty is provided conditionally; however, the user must bring the installation into compliance with the standards as soon as possible.

Consent statement for processing of personal data in accordance with RODO

1. I, the undersigned agree to the processing of my personal data, including: name, address, telephone, e-mail by the data administrator BTI GUMKOWSKI Sp. z o. o. Sp. k. based in Suchy Las ul. Obornicka 71, KRS 0000520520, for marketing and information purposes.
2. I provide personal information voluntarily and declare it to be true.
3. I have read the content of the information clause including information about the purpose and means of processing personal data, the right to access the content of my data, and the right to correct it.

.....
Date and legible signature of the person whose data is being processed

Information clause when collecting data from a data subject.

We would like to inform you that:

- 1) The Administrator of your personal data is BTI Gumkowski Sp. z o. o. Sp. k. hereinafter referred to as the Administrator; the Administrator carries out the operations of processing your personal data,
- 2) Your personal data will be processed for information and marketing purposes and will not be shared with other recipients. The basis for the processing of your personal data is Article 6 of Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27, 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) Provision of data is necessary for the performance of legal obligations incumbent on the administrator, in case of failure to provide data, it is impossible to perform them effectively,
- 4) You have the right to:
 - Demand from the Administrator access to your personal data, the right to rectify, erase or restrict the processing of your personal data,
 - To object to such processing,
 - Data transfer,
 - File a complaint with the supervisory authority,
 - Withdrawal of consent to process personal data.
- 5) Your personal data is not subject to automated decision-making, including profiling

I declare that I have read the above content, understand and accept its terms and conditions.

Please send the completed warranty card by mail to the manufacturer's address with the note

„SERWIS”

or

Send a scan/photo by email to gwarancje@kipi.pl

10.3 Warranty card - customer copy.

User/place of installation of the device	
Name	
Street	
Town/code	
Phone/ e-mail	

I certify that I have read the warranty terms and conditions and accept them without objection. I have received the User's Manual and have been trained in the operation of the device.

.....
Date and legible signature of the User

Devices		
Boiler type	Heat output [kW]	Serial number and year of production
Burner type	Power [kW]	Serial number and year of production
The first startup conducted:		
Name		
Company name		
Phone/e-mail		

I certify that the equipment was installed in accordance with current standards and laws. The appliance and the installation have been checked and are operating flawlessly. The device is working properly.

.....
Date, stamp, legible signature of Installer and authorization number.

THE FIRST STARTUP					
SETTING PARAMETERS					
FEEDER TEST		CLEANING		FIRING UP	
Feeder capacity [kg/h]	Cleaning intensity [%].	Rotary cleaning [s].	Feeder capacity [kg/h]	Cleaning intensity [%].	Rotary cleaning [s].
BOILER POWER MODULATION					
Min. boiler power [kW].	Min. blowing power [%]	Min. blowing power [%]	Average blowing power [%].	Max. boiler output	Min. boiler power [kW].
MONITORING					
YES			NO		
Monitoring time [s]	Boiler power in monitoring [kW]		Cycle time [s]	Blowing power [%]	
REGULATORY MODE			BURNER IN THERMOSTAT MODE		
STANDARD	FUZZY LOGIC		YES	NO	
EXHAUST GAS ANALYSIS (AT MAX. POWER)					
CO [ppm]	O ₂ [%]		Chimney draught [Pa]	Flue gas temperature [°C]	
BOILER ROOM VENTILATION					
GOOD		MID-QUALITY		BAD*	

*Poor evaluation of the boiler room ventilation needs to be noted in the Warranty Card. The warranty is provided conditionally; however, the user must bring the installation into compliance with the standards as soon as possible.

10.4 Annual review card.

List of activities:

- ☐ Control of automation
- ☐ Inspection of safety devices
- ☐ Inspection of the fixing mechanism and condition of the furnace
- ☐ Calibration of the lambda probe

SETTING PARAMETERS					
FEEDER TEST		CLEANING		FIRING UP	
Feeder capacity [kg/h]	Cleaning intensity [%]	Rotary cleaning [s]	Fuel dose [g]	Firing airflow [%]	Warm-up time [s]
BOILER POWER MODULATION					
Min. boiler power [kW].	Min. blowing power [%]	Average boiler power [kW]	Average blowing power [%].	Max. boiler output [kW]	Max. blowing power [%]
MONITORING					
YES			NO		
Monitoring time [s]	Boiler power in supervision [kW]		Cycle time [s]	Blowing power [%]	
REGULATORY MODE			BURNER IN THERMOSTAT MODE		
STANDARD	FUZZY LOGIC		YES	NO	
EXHAUST GAS ANALYSIS (AT MAX. POWER)					
CO [ppm]	O ₂ [%]		Chimney draught [Pa]	Flue gas temperature [°C]	
BOILER ROOM VENTILATION					
GOOD		MID-QUALITY		BAD*	

*Poor evaluation of the boiler room ventilation needs to be noted in the Warranty Card. The warranty is provided conditionally; however, the user must bring the installation into compliance with the standards as soon as possible.

.....
Date, stamp, legible signature of Installer and authorization number

10.5 Biennial Review Sheet.

List of activities:

- ☐ Control of automation
- ☐ Inspection of safety devices
- ☐ Inspection of the fixing mechanism and condition of the furnace
- ☐ Calibration of the lambda probe

SETTING PARAMETERS					
FEEDER TEST		CLEANING		FIRING UP	
Feeder capacity [kg/h]	Cleaning intensity [%]	Rotary cleaning [s]	Fuel dose [g]	Firing airflow [%]	Warm-up time [s]
BOILER POWER MODULATION					
Min. boiler power [kW].	Min. blowing power [%]	Average boiler power [kW]	Average blowing power [%].	Max. boiler output [kW]	Max. blowing power [%]
MONITORING					
YES			NO		
Monitoring time [s]	Boiler power in supervision [kW]		Cycle time [s]	Blowing power [%]	
REGULATORY MODE			BURNER IN THERMOSTAT MODE		
STANDARD		FUZZY LOGIC	YES		NO
EXHAUST GAS ANALYSIS (AT MAX. POWER)					
CO [ppm]	O ₂ [%]		Chimney draught [Pa]	Flue gas temperature [°C]	
BOILER ROOM VENTILATION					
GOOD		MID-QUALITY		BAD*	

*Poor evaluation of the boiler room ventilation needs to be noted in the Warranty Card. The warranty is provided conditionally; however, the user must bring the installation into compliance with the standards as soon as possible.

.....
Date, stamp, legible signature of Installer and authorization number

10.6 Repairs.

REPAIRS	
DATE OF FAULT REPORT	DATE OF FAULT REMOVAL
PROBLEM DESCRIPTION	
A SUMMARY OF THE COMPONENTS REPLACED	
Signature, stamp, and authorization number:	

REPAIRS	
DATE OF FAULT REPORT	DATE OF FAULT REMOVAL
PROBLEM DESCRIPTION	
A SUMMARY OF THE COMPONENTS REPLACED	
Signature, stamp, and authorization number:	

REPAIRS	
DATE OF FAULT REPORT	DATE OF FAULT REMOVAL
PROBLEM DESCRIPTION	
A SUMMARY OF THE COMPONENTS REPLACED	
Signature, stamp, and authorization number:	

The background features a complex geometric pattern of overlapping hexagons and lines. Some hexagons are solid outlines, while others are dashed. Small black dots are placed at various vertices and intersections of the lines. The overall style is technical and modern.

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