ÜNMAK

ecopel

Compact Pellet Boiler
Installation and User Manual

ÜNLÜSOY

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This booklet is covers below models:

ECOPEL	24-36-48

For Initial Start-up, Warranty Start-up and Failure Notices, please contact your local Authorized Service Centre
or
Call +90 444 35 32 Contact our Call Centre.

ÜNMAK After Sale Service

INTRODUCTION

Thank you for choosing Ecopel wood pellet fueled boiler.

Please read the user manual carefully before installing and operating your product and retain the user manual for the duration of the product. Do not touch or mix any part of the product other than those permitted in this manual.

The installation, maintenance and service of the boiler requires expert technical team.

These operating instructions and regulations must be observed for the installation of the boiler, the selection of the appropriate location for the installation, the installation of the boiler water installation and the design of the chimney.

ÜNMAK Pellet boilers are high efficiency, steel welded hot water boilers designed for burning wood pellets only. 6 - 8 - 10 mm diameter wood pellets are suitable for burning. These boilers are only used for heating the heating system, they are not suitable for direct domestic water heating. However, it can produce domestic hot water with the help of a boiler or heat exchanger. The energy required for the domestic water will be taken from the boiler energy.

ÜNMAK Pellet boilers convert the chemical energy of the fuel in the fuel loading chamber into heat energy by combustion and load it on the water which is the heating fluid.

Powdered fuels will fly through the combustion chamber with the system fan so there will be no efficient combustion. As the powder fuel will collect more moisture, it will even lead to auger blockage within the feed screw. Depending on the calorific values of the fuels, the heat from the boiler to the water may go outside of the declared values.

ATTENTION
Your user manual must be read carefully and stored with the enclosed warranty for the lifetime of the boiler.

SAFETY

Hazard Warning Levels

DANGER
The hazardous situation is imminent and could cause serious injury or death if precautions are not taken. You must follow the instructions.

WARNING
Dangerous situations may occur and serious injury or death could result if precautions are not taken. Work very carefully.

ATTENTION
A hazardous situation may occur and failure to follow the precautions could result in minor personal injury or property damage.

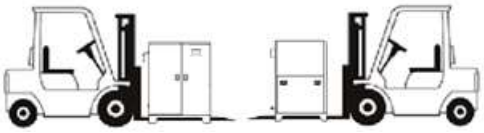
WARNING
Trapping of hands and feet should be avoided during transportation, installation and assembly.

WARNING
Risk of personal injury and damage to property during installation and installation by untrained personnel. During assembly and installation: • Observe the instructions and information in the manuals • • Only trained personnel should be allowed to install and install.

ATTENTION
Appropriate footwear, appropriate gloves and appropriate work clothing should be used.

SHIPMENT AND TRANSPORTATION

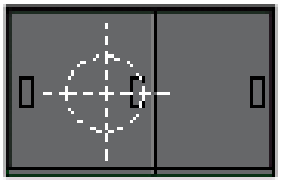
ÜNMAK Pellet boilers are manufactured from thick sheet welded. Boilers are packaged in one piece. Accessories such as circulation pump, fan, closed expansion tank, safety valve are supplied to the boiler with the boilers.



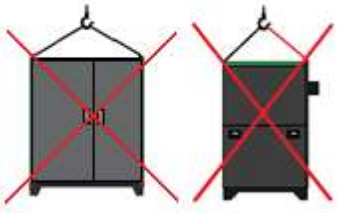
Safe Transport of Product

Solid fuel boilers are heavy products, so care must be taken when transporting the boiler to the place where it will be installed. The equipment to be used to lift and transport the product must be of sufficient capacity.

In order to prevent damage to boiler outer plates and boiler during transportation; help from the transport equipment such as forklift or pallet truck.



The center of gravity of the Ecopel series of boilers is not in the middle, but is close to the left when viewed from the front. Care must be taken in transport.



Lifting with a rope from the boiler frame will be a problem for the center of balance and the ropes will damage the bodywork sheets.

WARNING

When removing the packaging around the boiler, hard and sharp objects should not be used to prevent damage to the painted boiler sheets under the package.

WARNING

Trapping of hands and feet should be avoided during transportation, installation and assembly.

INSTALLATION LOCATION SELECTION

Installation

The space in which the boiler is installed must have sufficient space for the installation, combustion and maintenance of the boiler. For service requirements, the gear unit and the burner group to which the shaft is connected should be at a sufficient distance from the wall. For this purpose, the dimensions in the paragraph entitled “Mounting place dimensions” must be applied.

In addition, there must be sufficient fresh air circulation for efficient combustion, the chimney design must meet the required traction values for the model used and comply with the construction criteria and relevant regulations given in the manual. The boiler should never be installed in open spaces, balconies, living areas (kitchen, living room, bathroom, bedroom), or in areas with explosive and easily flammable materials.

The boiler room door must not be opened directly to the escape staircase or general use staircase and must be opened to a safety hall.

Doors opening from the boiler room into the building should have a threshold of at least 10 cm in height. If it is possible to illuminate the boiler room naturally, it should be ensured that the lighting openings do not coincide with the other windows of the building. If artificial lighting is provided, a system should be installed that does not dazzle but illuminates the apartment thoroughly. The main switch and panels of the boiler room shall be placed around the entrance door and shall be sealed type. Fire tube should be available in boiler rooms.

There must be at least one 6 kg multi-purpose dry chemical powder fire extinguishing device in the boiler room. If natural gas or liquid fuel boilers are used in the same boiler room, tear surface must be designed.

The space must be directly connected to the outdoor environment and must have vents that allow the entry of fresh air. One of the grills should be at most 40 cm below the ceiling of the boiler room and the other 50 cm above the floor. These grilles should be open at all times. The lower orifice should be at least 40 x 40 cm and the upper orifice should be at least 30 x 30 cm. Pets should not be fed in the central heating area (boiler room), and smoke and food and beverages that may be affected should not be stored.

All electrical and water installations must be installed by authorized installers approved by the relevant legal authorities and in accordance with all applicable legal and technical rules.

Fuels to be burned in the boiler should be kept at a distance of at least 800 mm from the boiler. It is recommended to store fuels in a separate room.

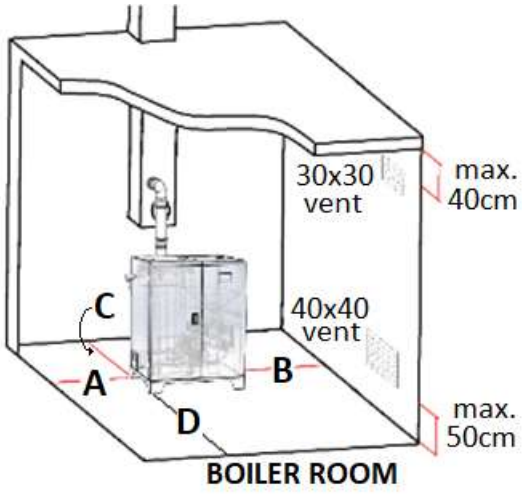
Boilers should be installed on a concrete base at a height of 10 cm from the base to protect the water from moisture and fuel from ash dust. The concrete base prevents the fan from absorbing fuel or ash dust on the ground.

Installation of the tile with tile and tile makes it easier to clean.

DANGER
It is dangerous to keep combustible, flammable and easily flammable substances in the boiler room.

Mounting Place Dimensions

The boiler room must be sized to provide the minimum dimensions around the boiler as shown in the following illustration. When the boiler is placed, it is necessary to allow sufficient distance to be added to the fuel tank (bunker), to be able to easily remove the burner under the bunker and to work comfortably.



A: At least 80 cm to allow convenient use of the boiler cleaning arm and service intervention;
B: The burner assembly is at least 100 cm;
C: At least 80 cm in order to make flue connection and to facilitate service intervention;
D: It should be selected according to the boiler type according to its dimensions in order to open the front cover and use it easily.

If the above measurements are complied with, a minimum volume requirement of 8 m^3 is provided.

	A (cm)	B (cm)	C (cm)	D (cm)
Ecopel 24	80	100	80	100
Ecopel 36	80	100	80	100
Ecopel 48	80	100	80	100

DANGER
There should not be any faulty and suspicious electrical line in the boiler room. The 230 V electrical connection from the control panel must be connected to the mains via an automatic fuse (W automat).

SAFETY WARNINGS

The boiler must be connected to a chimney in accordance with the specifications specified in the operating instructions and the relevant regulations. The flue must provide the required traction value of the connected boiler. Your boiler should not be operated without chimney connection and there should be sufficient traction for combustion. In chimneys with insufficient traction, the boiler should never be operated. Any improper electrical installation in the place where the boiler is installed should be removed.

In case of a boiler change in boiler rooms, the old boiler should be removed or the connection to the chimney should be cut and the cut-off place should be sealed and insulated. In no case should more than one boiler be connected to the same chimney.

Smoke chimneys should not be placed on the exterior wall of the building unless it is a technical requirement. The wall thickness of the chimney walls should not be less than the thickness of a brick. Perforated bricks and briquettes should never be used in chimney construction. It must be plastered from inside and outside and the cylindrical pipe is inserted into the rectangular chimney.

Fresh air must be provided to the area where the boiler is installed. The dimensions specified in this manual should be referenced. The boiler should in no way be installed in a place directly connected to the living spaces or to such a place. To reduce the risk of calcification and corrosion in old and new installations, the instructions given in the relevant section of this manual must be followed by the installer of the boiler. In particular, if the boiler is connected to an old installation, the installation must be flushed several times to completely remove any waste from the installation before installation.
Avoid overloading the boiler, never open the cover and do not feed manually into the burner. The operating and stopping times of the gear unit are entered into the boiler as a program. These settings are related to the chimney characteristics of the boiler (traction difference, etc.), ambient conditions, thermal comfort requirement of the space, insulation of the space, etc. it depends on many parameters.

WARNING
This product must be connected to the mains by grounding!

WARNING
The electrical installation of this product must be carried out by authorized personnel in accordance with the descriptions given in this manual and the applicable local or national regulations.

Burning and flying fuel particles in the boiler, fuel ash from the open door to the outside environment will easily open the boiler door while operating the fan should never be opened. While the boiler is burning, the doors should not be opened and hand loading should not be done on the hob or inside the boiler.

ATTENTION
Never disconnect the power supply while the boiler is operating.

For any reason, no direct cold water should be added to the overheated boiler for cooling. In this installation, it can cause noise, excessive high thermal stresses in the boiler and therefore permanent damage. Water should not be drained in the installation unless it is for maintenance or risk of freezing. The system design should ensure that the ratio between the installation water flow rate and the boiler capacity and that the 20ºC difference between the boiler inlet and outlet water temperatures is not exceeded. To minimize the loss of water in the installation, the water level should be checked regularly and leaks from the system must be removed. Because over water additions to the system will cause lime to accumulate on the water side of the boiler, which will cause regional overheating and this will damage the boiler.

ATTENTION
The fuel tank must be added before the fuel runs out.

ATTENTION
The fuel tank cap must be kept closed.

WARNING
For any reason, no direct cold water should be added to the overheated boiler for cooling.

ELECTRICAL INSTALLATION INSTRUCTIONS

ÜNMAK Ecopel type boiler requires a 230 V ~50 Hz electrical supply. The regulator should be used where the mains voltage is less than 10 percent or greater than 10 percent. All the wiring and supplementary earth bonding external to the boiler must be in accordance with the local wiring regulations.

Any heating system controls, e.g. room thermostat, frost thermostat, etc. connected to this boiler must be suitable for use on mains voltage.

The control cabinet must be connected to a wall panel with suitable grounding equipment. All electrical connections must be made by authorized personnel in accordance with local regulations.

For each boiler room, separate grounding installation should be made from the column installation. Grounding installation:

a) 0.5 m 2, 2 mm. thick copper plate,

b) 0.5 m 2, 3 mm. thick galvanized sheet (hot dipped) or

c) Solid copper rod electrodes.

The copper rod electrodes shall be at least 1.5 m in diameter Ø16 mm or at least 1.25 m in diameter at Ø20 mm and the ground resistance of the rod electrodes shall be below the limits of 20 Q. (Neutral-Ground voltage ≤3V)

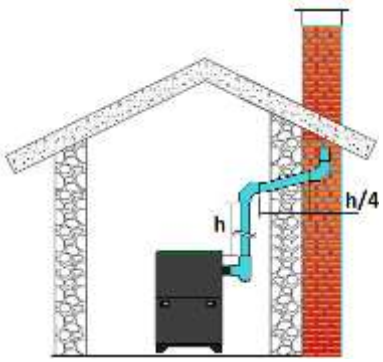
DANGER
This product must be connected to the mains via the earth line!

ATTENTION
The boiler should not be installed in closed and living spaces.

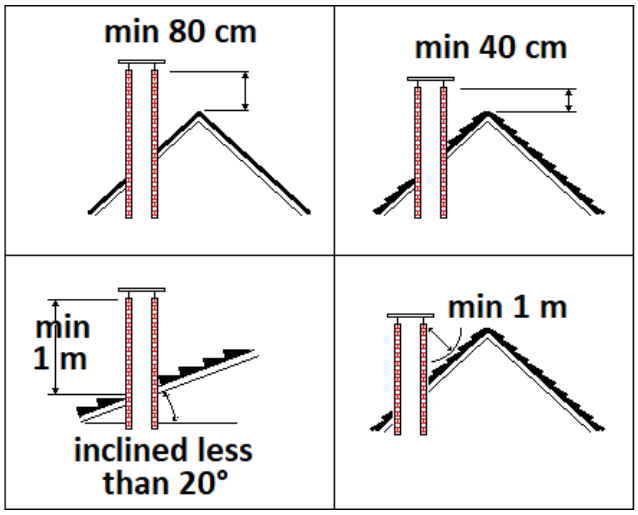
INFORMATION ON COMBUSTION

If the flue gas temperature is above the acceptable values, more energy will be exhausted from the flue into the atmosphere. The material, construction and connection of the chimneys are important in terms of high combustion efficiency, low heating costs and environmental protection.

The chimney must also be good for good combustion. High temperature resistant fire bricks and stainless steel chimneys are recommended as materials. Horizontal smoke ducts should be connected to the chimney with a slope of at least 5% and the length should not exceed 1/4 of the chimney height. The height of the chimney should be determined well and the chimney rising from inside the building should rise up to 80 cm from the ridge. Chimney sections should be circular unless required. Never use perforated bricks in the chimney walls. Ideally, it is built with fire bricks.



ÜNMAK Ecopel type boilers should be connected to an independent chimney which can provide minimum desired minimum draft. It should be measured in 20 Pa with a manometer. The part of the waste gas line between the boiler and the chimney should be insulated with glass wool. The flue gas pipe and the flue must be made of sheet steel or of at least 300 °C resistant material. For better combustion and efficiency, all connections on the flue gas pipe must be sealed. The flue gas pipe must be connected to the flue as soon as possible within the dimensions given in the above diagram. Horizontal connections and equipment such as the elbow that reduces traction should be avoided.

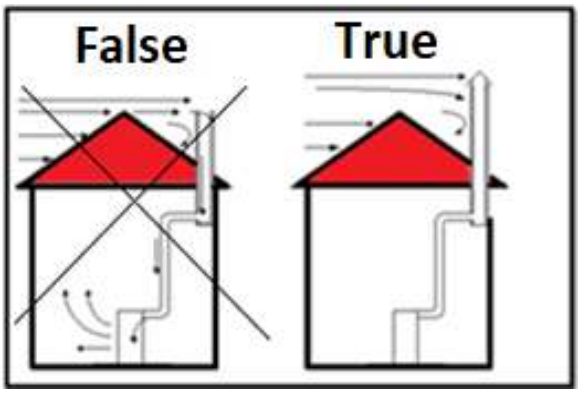


A vertical single steel pipe should not be used as a chimney, the chimney must have an inner and an outer surface. The outer surface may be steel or brick braided. Corrosion resistant stainless steel may be preferred for the inner surface of the chimney. In order to prevent condensation, thermal insulation should be applied to the gap between the inner and outer surface of the chimney.

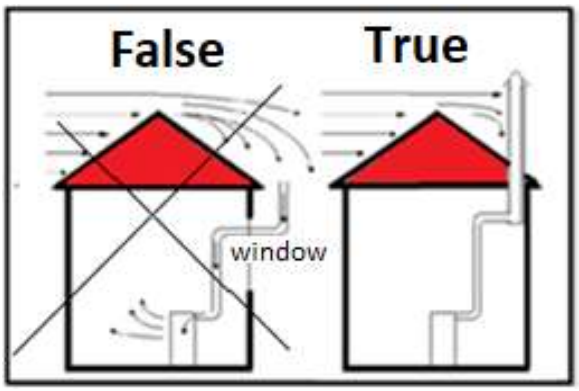
At the lowest level of the chimney, there shall be a cleaning cap of any sealed steel.

The length of the flue gas pipe between the flue and the boiler must not exceed one quarter of the flue height.

The size of the flue gas pipe and the flue must be greater than the flue gas outlet (smoke) dimensions of the boiler. The installed boiler chimney should be at least 1 meter above the highest point of the roof of the space and at least 0.4 meter above the tiled roofs.



Chimney without chimney hood and chimney hood

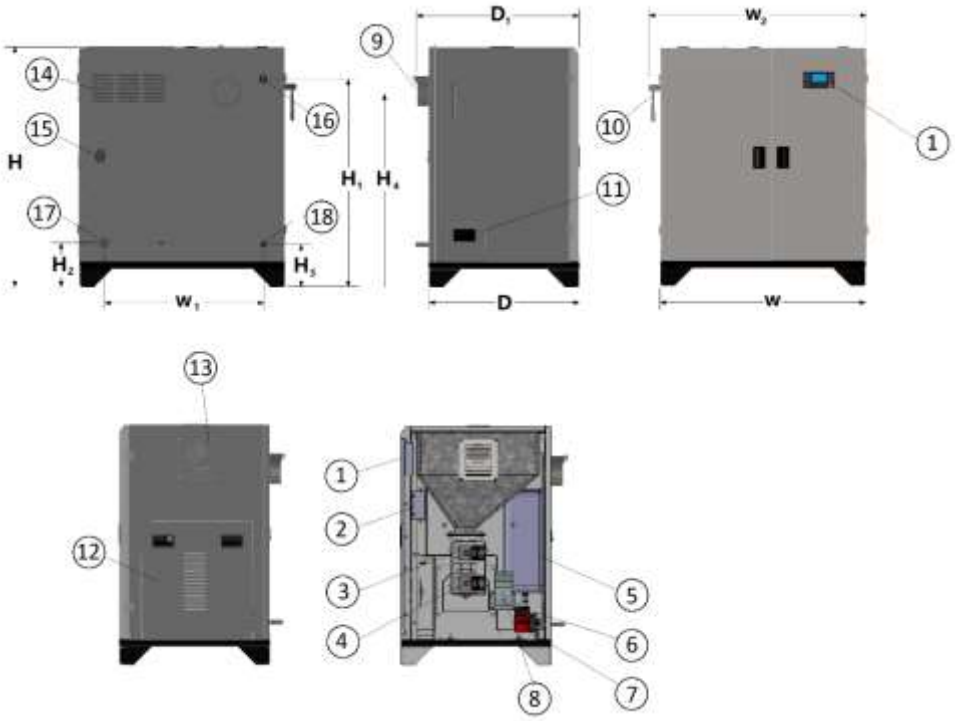


Incorrectly installed chimney and correctly installed chimney and chimney head

DANGER
Inadequate flue gas system can cause serious injuries and damage. Problems in the flue gas system, such as poor cleaning of the flue pipe or insufficient flue extraction, can cause serious failures in combustion (such as the spontaneous combustion of carbonization gases or sudden flames).

ATTENTION
Optimum boiler performance can only be guaranteed if the flue gas system is operating correctly.

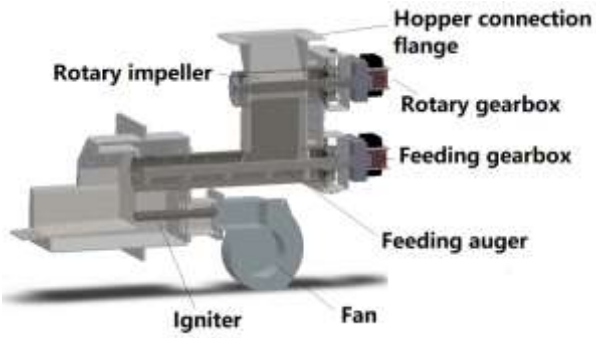
BOILER SPECIFICATIONS



TECHNICAL SPECIFICATIONS					
ÜNMAK - ECOPEL			**Ecopel 24**	**Ecopel 36**	**Ecopel 48**
Fuel Specifications				Wood Pellet	
Maximum Power		kW	24	36	48
Minimum Power		kW	7,2	10,8	14,4
Efficiency at Max. Power		%	94,12	94,38	94,33
Hopper Volume		lt			
Water Volume		lt		130	
Boiler Weight		kg		450	
Necessary		Pa		10	
Draft		°C		132	
Minimum Return Temperature		°C		40	
Maximum Operating Pressure		bar		3	
Test Pressure		bar		4.3	
Temperature Control Range		°C		40-80	
Maximum Operating Temperature		°C		80	
Heating Line Flow/Return		inch		1"	1 ¼"
Filling/Discharging Line		inch		½"	
Electricty		V AC/Hz		230/50	
Dimensions	Width (W)	mm	960	960	1020
	Depth (D)	mm	700	700	700
	Height (H)	mm	1115	1230	1415
	Height of Flow Line (H_1)	mm	960	1085	1270
	Height of Return Line (H_2)	mm	195	195	195
	Height of Filling/Dischargin Line (H_3)	mm	190	190	190
	Distance between Flow/Return Line (W_1)	mm	745	745	807
	Height of Flue (H_4)	mm	960	1020	1130
	Width Including Cleaning Arm (W_2)	mm	1015	1015	1080
	Depth Including Flue (D_2)	mm	755	755	755
	Flue Diameter	mm	128	128	150

We reserve the right to make changes in dimensions.

1. Control panel	7. Circulation pump	13. Lid for additional feeding
2. Control card box	8. Fan	14. Ventilation
3. Rotary gearbox	9. Flue	15. On/Off switch
4. Feeding gearbox	10. Cleaning arm	16. Flow line
5. Closed expansion tank	11. Ash removal cover	17. Return line
6. Safety valve	12. Servicing cover	18. Filling/discharging

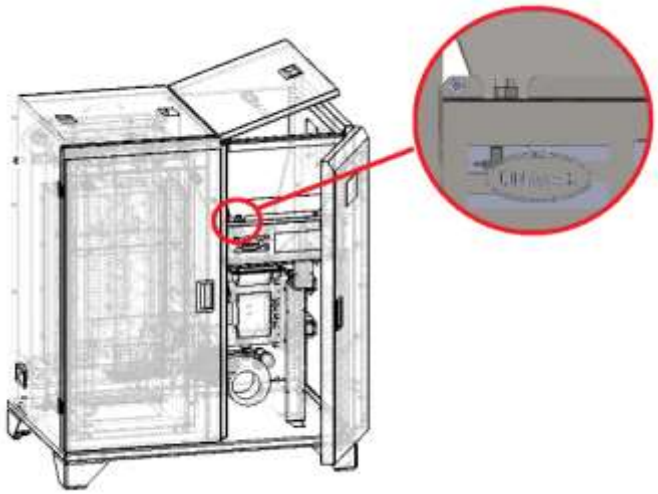


Gearboxes, fan, rotary impeller, auger and ignitor group is called burner group. This group can be reached by opening the boiler service door. Children and unauthorized personnel should not be allowed to reach this group.

Manometer can be seen when the left front door of the boiler is opened. Water pressure can be observed from the manometer while adding water.

When the left front door of the boiler is opened, a safety thermostat slot can be seen on the card box with the title Ünmak.

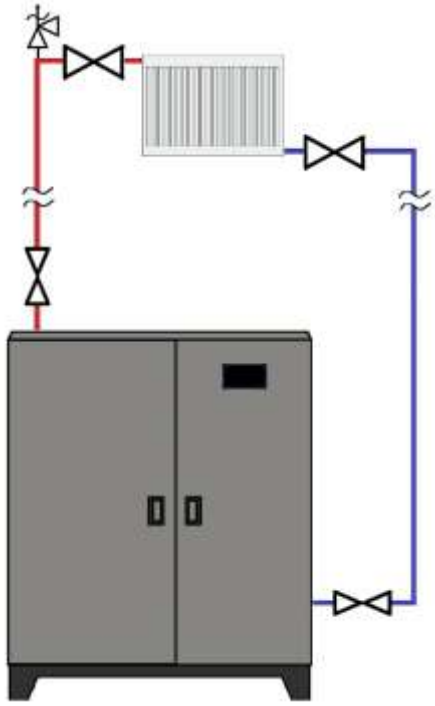
When the boiler goes to high temperature, it gives an excessive heat error, stops the fuel supply and fan blow. When the temperature in the boiler decreases, the plastic cover on the safety thermostat is removed and the boiler is reactivated by pressing the red pin inside. It will not let you press if the water temperature in the boiler is not low enough.



ATTENTION

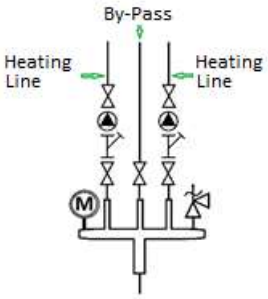
You do not need to open the card box to press the pin of the safety thermostat. You can loosen the plastic bolt of the thermostat by removing it.

RULES FOR HEATING INSTALLATION

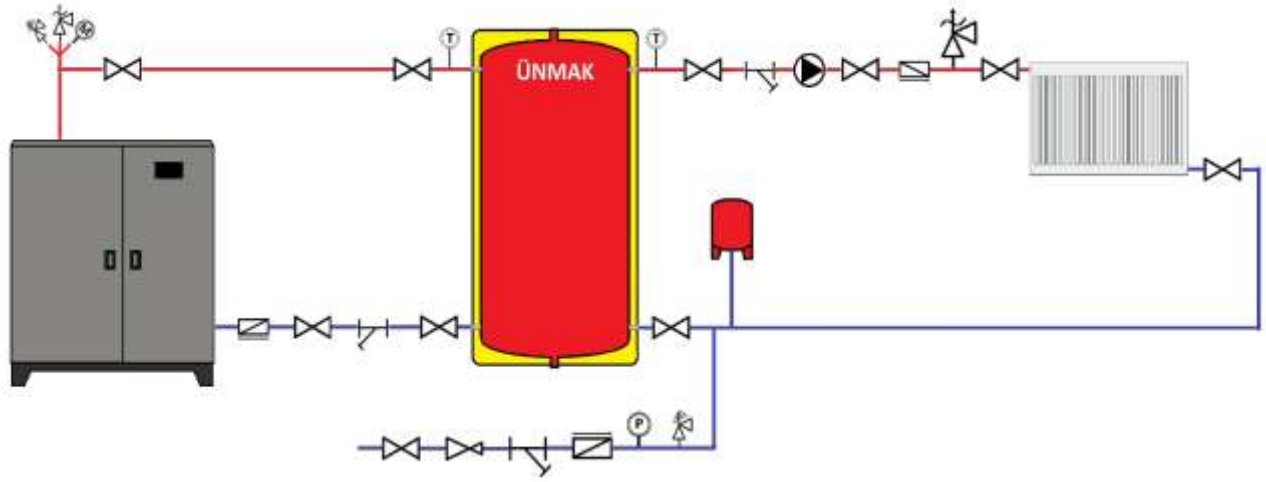


When the hydronic connection of the boiler is made, the equipment such as circulation pump, expansion tank, safety valve is included with the boiler and you do not need to add to the installation separately. The wiring diagram can be simply installed as shown.

For installations with collectors (usually large installations), it is recommended to install an additional pump structure. The collector must also have a backup pump and by-pass line.

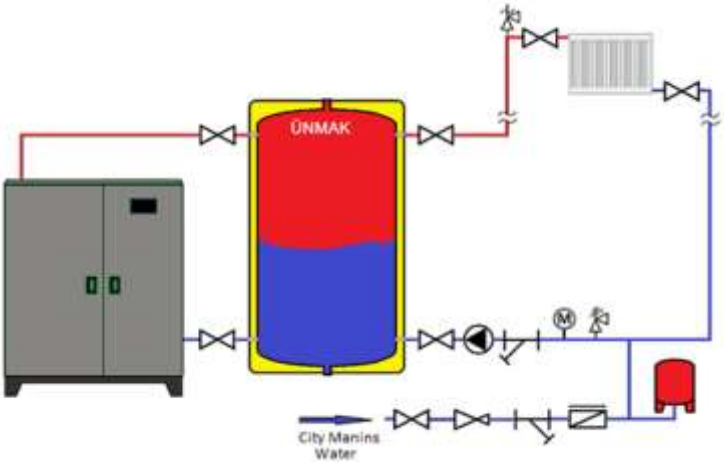


Systems to be Installed with Accumulation Tank:



Safety Valve		Valve		Thermometer	
Air Relief Valve		Pressure Reducer		Manometer	
Circulation Pump		Filter			
Closed Expansion Tank		Checkvalve			

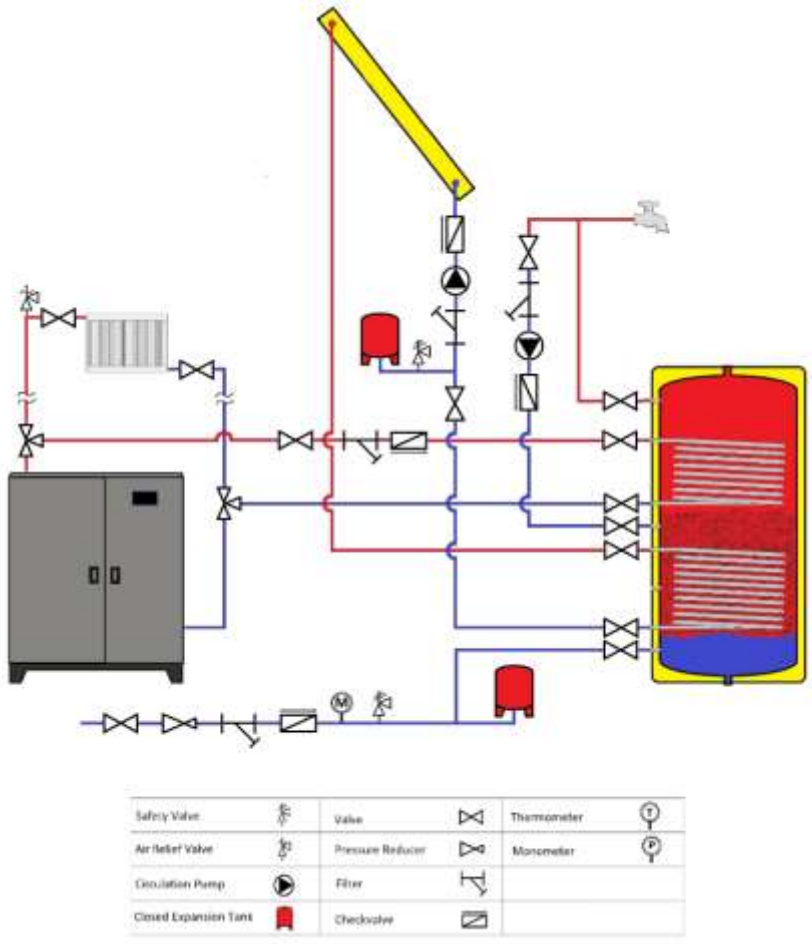
Systems to be installed with Single Serpentine Hot Water Storage Tank:



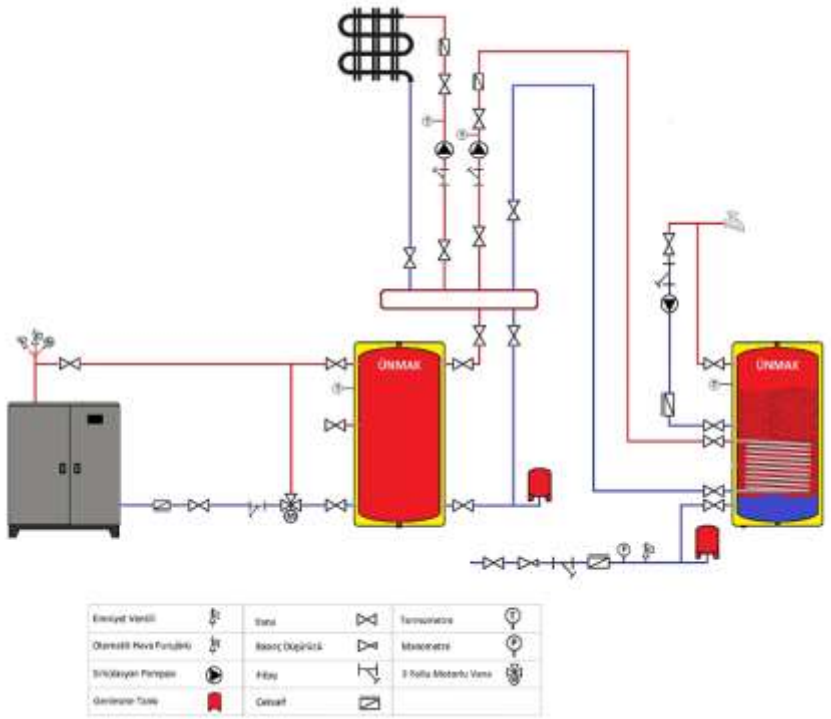
In systems to be installed with a single-serpentine boiler, the hot water coming out of the tank should be connected to the upper connection point of the boiler coil and warm water which has returned to the boiler should be connected to the lower connection point. Pressure reducer, safety valve and expansion tank must be installed in the city water line entering the boiler.

Systems to be installed with Double Serpentine Hot Water Storage Tank:

In the systems to be installed with double serpentine boiler, there are two different serpentine groups in the tank. The energy source (usually solar energy, geothermal, etc.) that will work continuously on the lower serpentine can be connected to the upper serpentine and the boiler can be connected. Pressure reducer, safety valve and expansion tank must be installed in the city water line entering the boiler.



Systems to be installed with Hot Water Storage Tank and Accumulation Tank:



For underfloor heating systems, accumulation tank must be available in the installation. Accumulation tank provides the possibility of return to the boiler at low temperature.

When hot water is required in underfloor heating systems, the scheme may be as shown below. Pressure reducer, safety valve and expansion tank must be installed in the city water line entering the boiler.

Warning against corrosion in the installation:

ÜNMAK boilers are highly resistant to corrosion. However, all iron-based components in the heating installation (including installation pipes and radiators) must be protected against corrosion. Oxygen in the installation water causes rust and consequently material loss as a result of oxidation on iron surfaces.

During the initial filling of the installation, the accumulated air must be evacuated. Generally, if the necessary precautions are taken after the initial filling, there will be no damage from oxygen in the water. Oxidation occurs mainly due to the oxygen which enters the heating water during operation. Leaks in the system cause oxygen to be added to the heating water. Therefore, the minimum water pressure in the closed expansion tank system should be higher than atmospheric pressure and periodic control of the operating pressure is required.

ATTENTION
Each boiler chimney must be detached. Never more than one boiler should be connected to the same flue system.

Warning against frost protection:

The heating system must be completely insulated. The outdoor parts of the installation should be more isolated than the inner parts.

Considerations for new installations:

System design and sizing should be done correctly to minimize the addition of fresh water. None of the materials used in the installation should be gas permeable. A maximum of 50 micron filter with synthetic or metal mesh should be placed on the fresh water addition line. In systems with closed expansion tanks, the pressure throughout the installation must be above atmospheric pressure.

WARNING
Fresh water should be added to the installation only when the installation is cold.

Considerations for central heating connected to old installations:

In a heating system that is used for a long time, a protective layer (black magnetite) is formed on metal surfaces in contact with water. When a new boiler is installed in the old system, the clean surfaces of the boiler will be where corrosion starts first. Therefore, when a new boiler is connected to the old heating system, in addition to the precautions to be taken for the new systems, the following issues must also be observed:

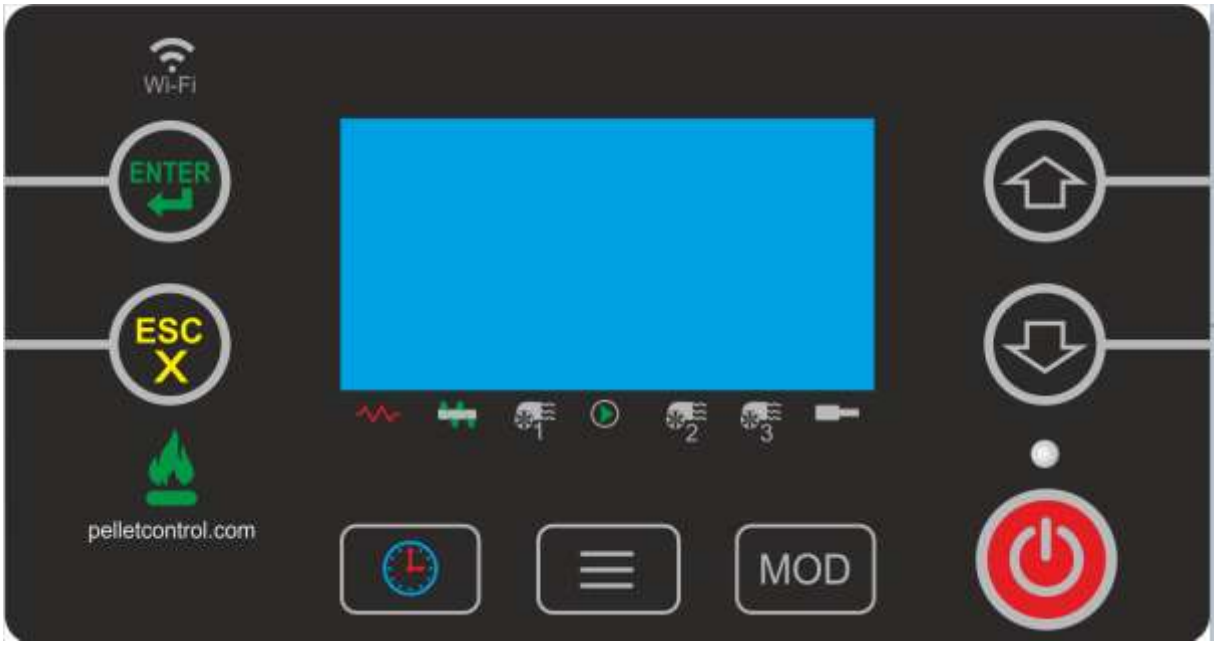
1. Before connecting the boiler, the old system should be thoroughly washed to remove any dirt and sediment.

2. A manual air separator should be installed at the top of the system.

ATTENTION
Before installing the new boiler in the old heating installation, the installation must be flushed with water several times.

ATTENTION
The chimney must be cleaned before the installation on the old chimney installations.

CONTROL PANEL AND USER INTERFACE



	On/Off Button	The system is opened by pressing the on/off button for 5 seconds. It is enough to press once to turn it off. After completing the shutdown procedure, the system will shut down.
	Enter Button	When the enter button is pressed, the boiler water goes to the set temperature. When the enter button is pressed in the menu, it accepts the value written on the screen or enters into the menu displayed on the screen.
	Escape Button	Escape button is used to cancel without saving the value or to exit the menu while inside the menu.
	Arrow Buttons	Arrows button is used to increase or decrease the numerical expression on the screen or to navigate in the menu.
	Timer Button	It is used to start and close the boiler with time setting. It is made according to opening and closing procedures.
	Menu Button	Used to navigate within menus.
	Mode Switch Button	Used to switch between manual and automatic modes.

USER MENU DESCRIPTION

	Prepurge
I0.1	Gearbox feeding time (0.0-40.0 sec)
I0.2	Gearbox standby time 0.0-2000 sec)
I0.3	Fan speed (600-3000 rpm)
I0.4	Starting time (0-600 sec)
I0.5	Ash gearbox feeding time (0-40 sec)
I0.6	Ash gearbox standby time (0-40 sec)

	Starting
I1.1	Gearbox feeding time (0.0-40.0 sec)
I1.2	Gearbox standby time 0.0-2000 sec)
I1.3	Fan speed (600-3000 rpm)
I1.4	Starting time (0-600 sec)
I1.5	Ash gearbox feeding time (0-40 sec)
I1.6	Ash gearbox standby time (0-40 sec)

	Ignition 1
I2.1	Gearbox feeding time (0.0-40.0 sec)
I2.2	Gearbox standby time (0.0-2000 sec)
I2.3	Fan speed (600-3000 rpm)
I2.4	Flue temperature (0-100°C)
I2.5	Ignition 1 timing (0-600 sec)
I2.6	Ash gearbox feeding time (0-40 sec)
I2.7	Ash gearbox standby time (0-40 sec)
I2.8	Igniter shutdown temperature (0-100°C)

	Ignition 2
I3.1	Gearbox feeding time (1.0-40.0 sec)
I3.2	Gearbox standby time (0.0-2000 sec)
I3.3	Fan speed (600-3000 rpm)
I3.4	Ignition 2 timing (0-600 sec)
I3.5	Ash gearbox feeding time (0-40 sec)
I3.6	Ash gearbox standby time (0-40 sec)
I3.7	(0) Igniter on (1) Igniter off

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	Power 1
P1.1	Gearbox feeding time (1.0-40.0 sec)
P1.2	Gearbox standby time (0.0-2000 sec)
P1.3	Fan speed (600-3000 rpm)
P1.4	Transition time (0-600 sec)

	Power 2
P2.1	Gearbox feeding time (1.0-40.0 sec)
P2.2	Gearbox standby time (0.0-2000 sec)
P2.3	Fan speed (600-3000 rpm)
P2.4	Transition time (0-600 sec)

	Power 3
P3.1	Gearbox feeding time (1.0-40.0 sec)
P3.2	Gearbox standby time (0.0-2000 sec)
P3.3	Fan speed (600-3000 rpm)
P3.4	Transition time (0-600 sec)

	Power 4
P4.1	Gearbox feeding time (1.0-40.0 sec)
P4.2	Gearbox standby time (0.0-2000 sec)
P4.3	Fan speed (600-3000 rpm)
P4.4	Transition time (0-600 sec)

	Power 5
P5.1	Gearbox feeding time (1.0-40.0 sec)
P5.2	Gearbox standby time (0.0-2000 sec)
P5.3	Fan speed (600-3000 rpm)
P5.4	Transition time (0-600 sec)

	Power 6
P6.1	Gearbox feeding time (1.0-40.0 sec)
P6.2	Gearbox standby time (0.0-2000 sec)
P6.3	Fan speed (600-3000 rpm)
P6.4	Transition time (0-600 sec)

	Common parameters
P7.1	Ash blowing time (0-250 sec)
P7.2	Ash blowing standby time (0-1000 sec)
P7.3	Fan speed (0-3000 rpm)
P7.4	Ash gearbox feeding time (0-40 sec)
P7.5	Ash gearbox standby time (0-40 sec)
P7.6	Transition temperature between powers (0.5-10.0)

	Power 0 (Sleep Mode)
P8.1	Gearbox feeding time (1.0-40.0 sec)
P8.2	Gearbox standby time (0.0-2000 sec)
P8.3	Fan speed (600-3000 rpm)

	Closing
S1.1	Fan speed (0-3000 rpm)
S1.2	Closing time (0-20000 sec)
S1.3	(0) Ash gearbox off (1) Ash gearbox on
S1.4	Time to start feeding at closing (0-20000 sec)
S1.5	Time to feeding at closing (0-50 sec)

	Cooling
S2.1	Fan speed (0-3000 rpm)
S2.2	Cooling time 2 (0-20000 sec)
S2.3	Cooling temperature (0-100 °C)
S2.4	Approach to cooling temperature (0-10 °C)
S2.5	(0) Ash gearbox off (1) Ash gearbox on

	Closing and Cooling Common Parameters
S3.1	Ash gearbox feeding time (0-40 sec)
S3.2	Ash gearbox standby time (0-40 sec)

	Boiler Type
V1.1	Difference temperature to cut heating (0-5 °C)
V1.2	Fan type (0) With capacitor (1) Shaded pole

	Fan Operating Values
V2.7	Fan encoder selection (0) With encoder (1) Without encoder

	Cleaning Gearbox Times
V3.1	Cleaning operating time 1 (0-23 hour)
V3.2	Cleaning gearbox feeding time (0-250 sec)
V3.3	Cleaning operating time 2 (0-23 hour)
V3.4	Cleaning gearbox feeding time (0-250 sec)
V3.5	Number of work cleaning gearbox (0-5)

	Circulation Pump Operating Values
V4.1	Pump operating temperature (0-100 °C)
V4.2	Pump shutdown temperature (0-100 °C)
V4.3	Pump run time at temperature rise (0-255 sec)
V4.4	Pump standby time at temperature rise (0-255 sec)
V4.7	Shut down time at power 0 (sleep mode) (0-20 min) – (0: cancel)

	Various Settings 1
V5.1	Direct closing temperature with stop button (0-99°C)
V5.2	Adjustable minimum boiler temperature (40-50 °C)
V5.3	Maximum flue temperature (0-400 °C)
V5.4	Controlling start temperature of No Fuel (0-100 °C)
V5.5	Temperature of No Fuel (0-100 °C)
V5.7	Resume time (0-20 min)
V5.8	Flue temperature at extinguishing detection in power step (40-150) – (150: cancel)

	Various Settings 2
V6.1	Fuel level sensor error value (0-50)
V6.2	Fuel level sensor error time (0-250 sec)
V6.3	Hopper protection fuel feeding time (0-250 sec)
V6.4	Hopper protection fuel standby time (0-50 min)
V6.5	Hopper protection temperature (50-90 °C)

The values F1, F2, F3, F4 and F5 displayed on the control panel refer to the wood pellet type. In the table below, wood pellet types are given according to their lower heat values. Select the type of thermal wood pellet that matches your fuel and press the Enter button.

F1	F2	F3	F4	F5
4,07 kW	4,42 kW	4,94 kW	5,23 kW	5,58 kW

START UP

Operate the boiler by pressing 5 seconds to 

ENTER button.

Press the 

ENTER button again to set the desired boiler water temperature using the  ARROW buttons then press the 

ENTER button to save the value.

The boiler will start working and pre-purge for the set time. Then it will enter Starting, Ignition 1, Ignition2 modes respectively.

On the first burn, ignition may not occur after these modes are over. Since the fuel supply pipe is empty, there may not be an ignition at first. After the error message appears on the screen, reset it by pressing the 

ESC button for 5 seconds.

After the firing phases have passed, the boiler goes to power3 and power goes to 4, 5 and 6, respectively. It works until it reaches the set temperature. It decreases and increases the power phases when it approaches the set temperature. When it reaches the set temperature, it goes to sleep (power 0).

After pressing the 

mode button, manual or automatic mode can be selected with the help of  arrows. When manual mode is selected, desired power level can also be selected with the help of  arrows. The levels according to powers are as follows:

Power 6	Power 5	Power 4	Power 3	Power 2	Power 1
100%	80%	60%	50%	40%	30%

MAINTENANCE and BOILER CLEANING

	**DANGER** Regular maintenance by specialist teams is required for the efficient operation of your system according to the

	**DANGER** Care must be taken when cleaning or servicing the feed gears. Risk of injury to hands or fingers.

Regular checks:

• Always check the water level. It must be marked after the first filling of the system on the manometer (water pressure gauge). The water pressure level marked on the manometer when the water is cold should be checked when the water is cold, as the pressure increases as the water heats up. If the water pressure has dropped below the static pressure or system setting, water must be added to the system (when the boiler is cold). To protect the system and the boiler from corrosion, the water to be fed into the system must be softened according to local settings.

• Check that the front door is closed properly and replace the door seals if necessary.

• Check for gas leaks from the flue connection. If there is a leak, it must be repaired and sealed.

• Check the fan for proper operation. An improperly balanced, balanced fan makes periodic noises. If there is fuel dust or ashes collected between the vanes of the fan, it is necessary to clean it by blowing or holding a dryer without disturbing the vane structure of the fan.

Cleaning the boiler:

It should be done when the boiler is cold. The electrical connection must be disconnected without cleaning the boiler. To clean the boiler:

• It is useful to clean the boiler front cover at the end of each combustion period or if necessary, by using the cleaning apparatus provided with the boiler.

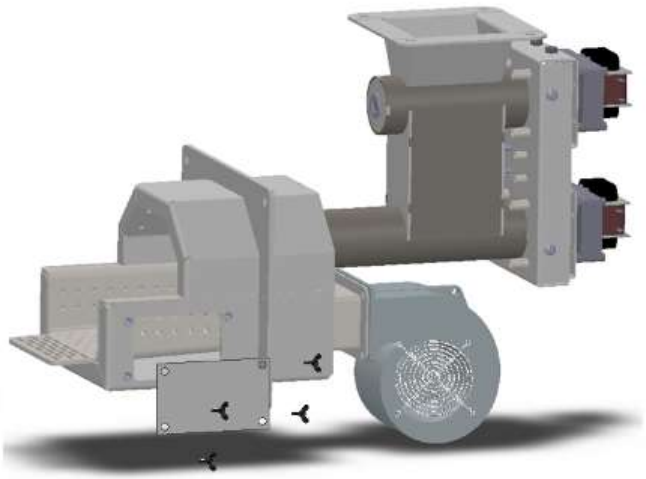
• The control panel must be protected from dust, moisture and water. The control panel board should be protected from dust and air should be kept as far as possible.

• Boiler outer body sheets can be cleaned as needed.

Cleaning the burner:

It is useful to clean the burner at certain time intervals. Within the area under the burning surface of the pellet, there may be particles of ash or dust falling down through the holes. These have an effect on air quality.

Check that the boiler is cold and the control panel is closed before cleaning. Remove the ash cap by removing the butterfly bolts shown in the picture. Clean the ashes by inserting the thin end of the vacuum cleaner or paintbrush inside.



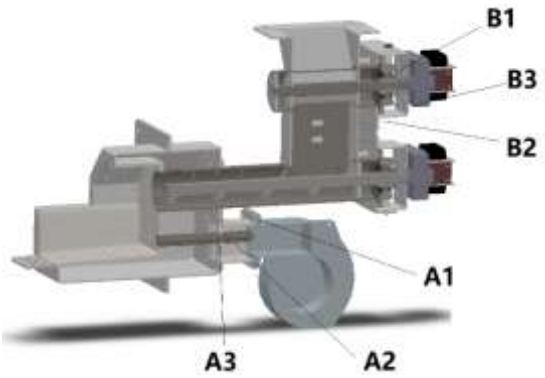
Maintenance:
Contracted service of the system before each working season; boiler, plumbing, electrical connections, chimney, we strongly recommend that you call our authorized service. Never carry out maintenance work without the assistance of an expert.

WARNING
When you want to replace any parts on the boiler, make sure that the electricity coming to the boiler is cut off.

There are not many parts to be repaired on the boiler. You can follow the instructions below to change parts when necessary.

For fan replacement:
By checking that there is no electricity; you can get the fan by removing the A1 bolts.

For igniter replacement:
By checking that there is no electricity; first take the A1 bolts and remove the fan. Then, taking the A2 bolts, gently remove the fan throat so that it does not hit the igniter. You can remove the igniter by loosening the small setscrew bolt in the round igniter bed in A3.



For gearbox replacement:
By checking that there is no electricity; loosen the B1 setscrew bolt. You can remove the B2 bolts and get the gearbox stand. You can also get the gearbox by taking the B3 bolts.
You can do the same for the other gearbox.

	**ATTENTION** Turn off the main switch.		**ATTENTION** Wear protective gloves.
	**ATTENTION** Work under the supervision of a second person.		**ATTENTION** Use a dust mask.

	**WARNING** Risk of injury to fingers or hands from automatic fan
	**WARNING** Risk of injury to your fingers or hands from the automatic feed motor

	**WARNING** Risk of injury to your fingers or hands from the chain and sprocket in the automatic feed system
	**WARNING** Risk of injury to fingers or hands from sharp sheet edges
	**WARNING** Risk of injury by pulling into rotating parts

INFORMATION ON USE ERRORS

PROBLEM	CAUSE	SOLUTION
Insufficient heating	• Boiler heat transfer surfaces can be coated with soot and soot • Fuel used may be of poor quality • Pump may not start • Inadequate space insulation • The mode on the panel may be stuck.	• Clean the boiler surfaces. (the boiler should not burn) • Change your fuel and take some quantity before refuelling and try to make it fit. • Call for service, make sure the plug of the control panel is connected to the mains. • Increase the thermal insulation of the place where the boiler is installed. • Call service
Burning is not satisfactory	• Low combustion air • Chimney draft may be low	• Make sure that the fan is running, make sure that its flap is not closed. • Check that there are no holes or cracks in any part of the chimney. If it is not enough, consult your chimney. • Isolate the chimney.
Smoke from the hopper	• The roving on the bunker may not touch or wear well on the surface • Chimney draft may be low	• Make sure that the cover is fully pressed against the surface of the wick, if necessary renew it. • Check that there are no holes or cracks in any part of the chimney. If it is not enough, consult your chimney. Have your chimney isolated.
Excessive fuel consumption	• Poor quality fuel usage • High flue traction • Room insulation may be insufficient	• Change your fuel • Check that there are no holes or cracks in any part of the chimney. If it is not enough, consult your chimney. • Increase the thermal insulation of the place where the boiler is installed
Smoke gas leakage from boiler covers	• Cover wicks may be worn • Covers may be deformed	• Replace the wicks. • Make sure that the combustion does not stand on the covers. For deformed covers, seek assistance from a specialist garage.
Failure of the boiler to reach the set temperature	• The temperature sensor tip may have come out of its housing	• Replace the temperature sensor end of the control panel board by lifting the boiler top cover. Pour heat transfer oil into the housing.
Partial heating of radiators	• Air in the radiator	• Remove air from the radiator air vents. • Make sure that the automatic air vent plug is not tightened.
Failure to ignite	• The amount of fuel in the first feed or the amount of dust with the fuel may be too high • Ignition resistance may be defective • The fan may not be running	• Eliminate pellet dust • Reset and restart from the control panel • Call service • Call service
Noisy sound from the boiler	• There may be air remaining in the boiler when the first water is filled	• Fill the boiler with water from the lowest position.
If the boiler water temperature drops too high but the boiler still does not work	• Limit thermostat may be tripped	• After opening the front cover, turn the black plastic cover on the boiler and turn it over. Activate the limit thermostat by pressing the red pin. 
No power in control panel	• The power plug may not be plugged in. • Electricity may be cut off • The fuse in the control board may be blown.	• Plug in the power plug • Try again when the electricity comes • Replace the glass fuse on the control board in the control panel.

ATTENTION

In case of power failure, do not open the front cover and the bunker cover, do not add water to the boiler.

ÜNLÜSOY YAPI MALZEMELERİ SANAYİ ve TİCARET LİMİTED ŞİRKETİ

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