ECO-250 HEATER

User manual and installation instructions

Dear user, it is mandatory to observe and implement the provisions of this manual.

Please read and follow it carefully.

Otherwise, KOOLAK GOSTAR YAZD Company will not be responsible for potential accidents.

We appreciate your purchase

We are confident that you will be satisfied with your acquisition from **KGY**.

ECO-250

With the confirmation certificate of the European Union and four international standards, we affirm that the design and modeling of this equipment have been completed in our company. It possesses the quality and safety features authorized by the European Union.

	**To ensure the proper, effective and permanent performance of the heater, as well as your safety, we sincerely ask you to read this installation pamphlet carefully and completely. Pay attention to warnings and safety instructions before installation and for the repair and maintenance of the heater.** **The consequences of not reading the latest version of the manual are the responsibility of the customer.** **You can always download the latest version of the user manual at www.kgy.ir**

1 Introduction

This instruction has been compiled to guide you, dear consumer, not only in learning how to turn on the ECO250 heater but also in understanding the general details of its electrical panel and gaining the ability to troubleshoot your system. Always keep a copy of this manual next to the heater so that the operator can comprehend the safety tips, especially if they are not familiar with the ECO250 heater. Share the following tips with anyone working with the heater to prevent problems and potential injuries:

- **How to turn on and adjust the heater**
- **How to turn on and off the heater and operate the thermostat**
- **How to control the heating system, flue, and channel installation**

Ensure the heater is serviced by a technician once a year to guarantee its correct performance. Consult an expert to address any issues with the electric motor or burner.

1-1 Target groups

1-1-1 These instructions are intended for:

- Installers tasked with the assembly (if applicable) and/or mechanical installation of this heater.
- Electricians tasked with the electrical installation of this heater.
- Operators tasked with the operation of this heater.
- Maintenance technicians tasked with maintenance and troubleshooting of this heater.

1-1-2 Target group requirements:

- Installers must have sufficient relevant experience or training in the installation of this type of Heaters.
- Electricians must be qualified electricians.
- Operators must have sufficient relevant experience or training in operating this type of heaters.
- Maintenance technicians must have sufficient relevant experience or training in maintaining and troubleshooting this type of heaters.

1-2 General information

1-2-1 Signs

While reading this manual you'll face these signs:

	**General Hazard Warning**
	**Electrical Hazard Warning**
	**Protective Glove Use**

1-3 Special Safety Instructions

	**Caution**	**This sign indicates a possible hazard or unsafe practice that could injure you or damage the heater.**
	**Attention**	**Next to this sign, you will find information on how to use the heater properly and efficiently and how to create an ideal ambient condition.**

1-4 General Safety Instructions

This heater is designed for use in industrial halls, poultry farms, and greenhouses. Its use in other locations is only acceptable if approved by the company's consultants and technical experts. The producer is not liable for the consequences resulting from improper use, and the user bears full responsibility for potential incidents and damages.

- The presence of a factory-authorized serviceman is mandatory for the initiation, maintenance, and installation of the heater.
- Compliance with obligatory regulations for incident prevention, along with adherence to all other formal regulations such as occupational medicine and safety, is required.

Caution: This manual does not address the general hazards of fire. Call your local fire department for guidance and information.

1-5 Electrical Equipment

	**In livestock and poultry farms, the accumulation of compost can lead to the formation of hazardous and poisonous gases, such as hydrogen sulfide (sewer gas) and methane. The presence of these gases can pose a serious risk, especially during activities like moving and washing the compost, potentially causing a significant explosion in the presence of fire.** **To prevent dangerous incidents, it is crucial to turn off the heaters before moving and washing the compost. Additionally, adhere to the following safety measures:** - **Close the doors during compost accumulation outdoors.** - **Ensure constant air conditioning and ventilation**

- All the matters related to the maintenance and repair of the heater must be handled by experts.
- Before initiating maintenance and repair procedures ensure the heater is unplugged.
- Prior to starting the heater, inspect all electrical wiring and make sure they are undamaged.
- Before activating the heater, have electricians identify and replace any damaged wires and components within the system.
- Covering the electro-motors may elevate the temperature and potentially leading to damage the heater and, in extreme cases, causing a fire.

1-6 Maintenance

	**Before performing maintenance and repairs ensure that the heater is unplugged.**

Caution: For maintenance procedures on the heater, refer to the manual. Any repairs must be carried out exclusively by the authorized servicemen of the company, and they should be entrusted with the task.

Caution: Maintenance, repairs, and cleanliness of the heater should be conducted when the heater is turned off, and the electro-motor has been stopped. This aspect should be taken into consideration even when addressing partial deficiencies during repairs

	**If there is a possibility of hand injury, use the protective gloves.**

After the repair process, the customer should be satisfied with the results. Do not restart equipment before implementing all safety considerations.

The exact technical features of spare parts must be provided, ensuring they possess the necessary quality features. This requirement ensures the originality of the parts.

1-7 Spare Parts Ordering

when ordering the spare parts, consider the following points:

- Intended piece code with its description
- Bill's code of initial purchase
- Electrical features, such as 380Volt,3phase, 50 hertz

1-8 Responsibility

Any change applied to the heater without the supervision of company representatives absolve our responsibility for potential damages.

The consequences of unstandardized adjustment of the flame formation system rest on the customer; hence, it is recommended that all matters related to installation, initiation, service, repair and adjustment of the injection system and flame formation should be handled by factory-authorized servicemen or individual trained and confirmed by KOOLAK GOSTAR YAZD.

1-9 Warranty

Always keep the warranty card with you to avail yourself of the warranty and after-sales service for KOOLAK GOSTAR YAZD products. The product specification plate, located on the heater, must not be removed under any circumstances. This plate contains crucial electrical, mechanical, and identification information.

Each Heater is assigned a unique serial number, which is indicated on its respective plate. Retain the serial number for future reference.

1-10 Power outage

It is recommended to install warning systems on your equipment to protect your assets, animals and plants.

In the event of power outage, an emergency power system with a voltage stabilizer regulator must be immediately activated. Contact your insurance company for more information.

1-11 First Aid

First Aid box should always be available in the workplace for immediate aid provision in case of incidents. Replace any material and instrument used as soon as possible. When seeking help, provide the following information:

- Where did the incident happen?
- What happened?
- How many people are injured?
- What kind of injuries happened?
- Who is reporting the incident?

1-12 Wastage

After installation or repair, dispose of packing and other waste materials in appropriate places (like retrieval)

1-13 Call Information

Factory Address: Iman Street – Hossein Abad Rismani – Yazd – Iran

Telephone number: 035-38369990-9 / 035-38369560-1

Website: www.kgy.ir

Fax: 035-38369505

Email: info@kgy.ir

The contents of this manual may change without prior notice.
If you encounter any errors or incorrect information, we would appreciate being informed.

2 Technical Features

2-1 ECO-250 heater introduction

The ECO-250 heaters have secured a distinguished position in the country's heating industry by employing the latest global technology. These heaters feature a multi-layer pressed boiler and exhaust, ensuring that the expelled air remains free from toxic pollutants generated during the combustion process. The product's reasonable price and high efficiency have garnered the attention of costumers. ECO-250 heaters are manufactured with a capacity of 250,000 kilocalories.

The utilization of an axial fan with a specially designed structure, capable of withstanding 1400 revolutions per minute, generates an air flow with an impressive rate of 70,000 cubic meters per hour. This airflow facilitates rapid heating of the environment in the shortest possible time.

Another notable characteristic of this product is the placement of the burner in the lower part of the heater and the fan in the upper section of the machine. This arrangement transforms the heat exchanger inside the furnace into a non-uniform air flow exchanger, achieving an efficiency higher than 92%. The use of a steel boiler and a fan with polymer blades exhibiting high heat tolerance contributes to an extended machine lifespan.

The elevated design of the device enables the suction of hot air gathered at the heights of greenhouses and halls with high roofs, leading to a significant reduction in fuel consumption. This design also ensures the swift creation of warm and uniform air within the hall.

The ECO-250 Heater is equipped with four industrial handles, allowing it to be moved by four people without the need for a crane. The ECO-250 series efficiently manages the distribution of hot air in the hall or greenhouse, featuring three rotatable air outlets with 360-degree coverage. The powerful and high-speed fan can create airflow, reaching up to 30 meters from each vent (a circle with a diameter of 60 meters), effectively covering colder spots in the hall. Additionally, the air outlets can be adjusted to a height of 3 meters from the floor, a positive feature for greenhouses, facilitating the flow of hot air from plant roots to the upper plant space.

A standout feature of the ECO-250 heaters is their minimal space occupation (one square meter). This characteristic ensures efficient use of cultivated space in greenhouses and makes them well-suited for application in sports halls and production facilities.

2-2 Technical specifications

Technical Specifications	1400 rounds	900 rounds
Power Supply (Ph-V-Hz)	3-380-50	3-380-50
Weight (Kg)	195	195
Capacity (Kcal/h)	250000	250000
Electric Power (kW)	3.3	1.8
Gasoil Consumption (L/h)	16-28	16-28
Gas Consumption (m^3/h)	18-29	18-29
Dimensions without Base (cm) (diameter×height)	100×270	100×268
Flue Diameter (cm)	25	25
Heat Transfer Surface Area (m^2)	6.26	6.26
Electric Motor (kW)	3	1.5
Fan Diameter (cm)	88	88
Fan Speed (rpm)	1400	900
Outlet's Number and Diameter (cm)	3×35	3×35
Burner Inlet Pipe Diameter (cm)	14	14

Table No.1: Technical Specifications

3 Structure

The ECO-250 heater boasts a solid body housing a 4HP (3KW) motor. This heater is equipped with a fireproof polymer fan, featuring a capacity of 1400 rpm. Within the furnace structure, a combustion chamber and a heat exchanger are strategically positioned. The combustion chamber is crafted entirely from steel. The incorporation of an axial fan to enhance the air intake flow has generated high-speed hot air, particularly crucial for large halls.

The intake of air from above ensures that hot air trapped at the hall's height re-enters the airflow, significantly preventing energy loss. This design choice leads to a substantial reduction in fuel consumption.

The machine's design facilitates easy access to all burner equipment and electrical panels. These heaters utilize a burner control unit (BCU), simplifying operation with the machine.

The ECO-250 heater can seamlessly operate in automatic mode in conjunction with the thermostat and other functionalities of the control unit. This includes a warning system for error detection with a manual reset feature.

3-1 Machine Dimensions

3-1-1 ECO-250 Model:

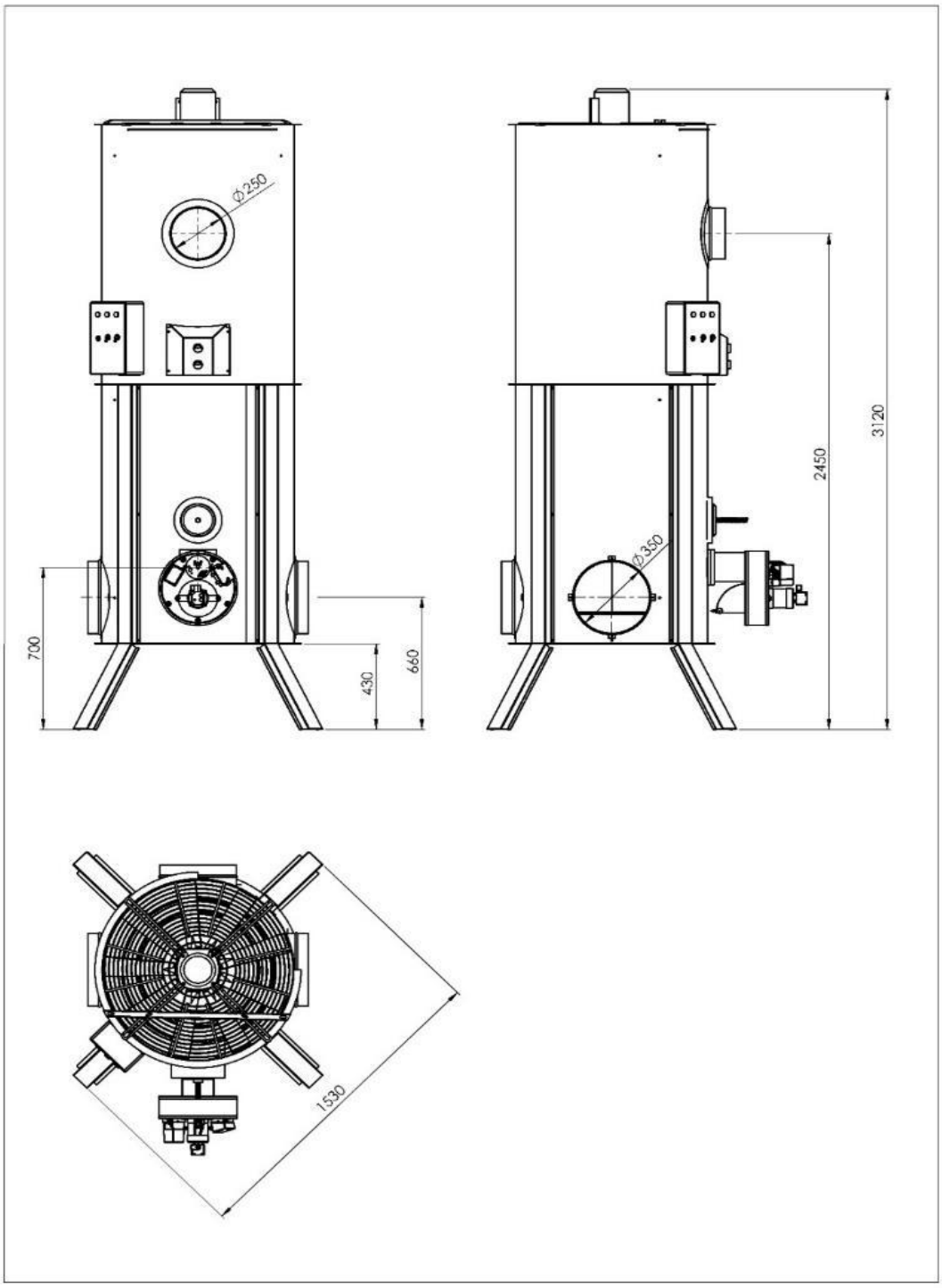
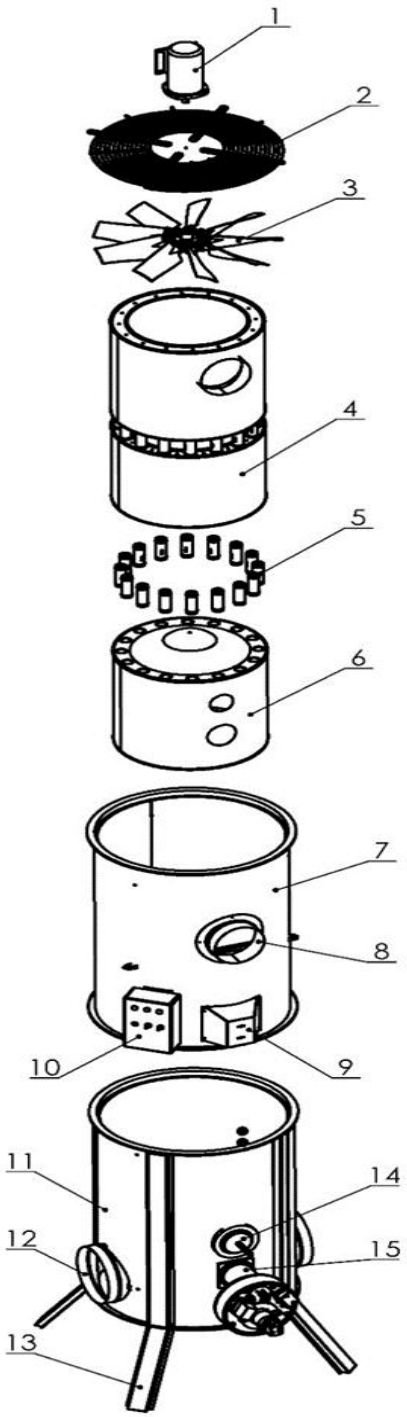


Figure 1: Overview of the machine

3-2 Internal view of the machine



1	**Electromotor**
2	**Protective net and electric motor holder**
3	**Axial fan**
4	**Heat Exchanger**
5	**Heat pass pipes**
6	**Combustion chamber**
7	**External body**
8	**Exhaust installation spot**
9	**Furnace and fan thermostat**
10	**Electrical panel**
11	**External bod**
12	**Warm air exhaust**
13	**Heater holding bases**
14	**Safety valve**
15	**Burner**

4 System

The use of a control system assembled with safety equipment, ensures the secure operation of the heater. Safety features are integrated into the heater to prevent dangerous accidents and damage. The comprehensive list of safety, control, electrical and mechanical equipment used in this heater is provided in the table below.

Furnace Analogue Thermostat	The task of the analogue thermostat is to control the operation of the burner based on the furnace temperature. The thermostat prevents the heater from operating uncontrollably, ensuring optimal performance and reducing fuel consumption	
Fan Analogue Thermostat	Controlling the fan's operation based on the furnace temperature and maintaining the outlet air temperature within the appropriate limit.	
Phase Load Control	Phase-load control is implemented to regulate the voltage level and phase order of the input power. Its primary functions are to protect the electric motor and prevent the mixing of thermal current and electrical overload.	
The Miniature Fuse	Appropriate miniature fuses are employed to safeguard the machine from electric short circuits and current increases.	
Manual Fan Selection Key	The use of zero and one keys enables the independent start of the fan when ventilation is required without heating.	
Automatic Selection Key	This key is used to switch the machine to automatic mode, enabling the automatic startup of the burner and fan.	

Contactor 25A	Contactors are employed to control various loads, including electric motors, circuits, and other electrical equipment.	
LED Signal Lights	Indicator lamps demonstrate the presence of three-phase electricity in the electrical panel.	
Electrical Panel	The electrical panel is crafted from best ABS materials, providing insulation against water and dust and safeguarding the electrical equipment from external factors	
Propeller	The propeller, featuring an exclusive design by KGY, is crafted from high-quality polymer materials with high-temperature tolerance. Its specialized dynamic balance ensures the movement of air with minimal noise and maximum pressure.	
Body	The very robust, fully galvanized body is manufactured using CNC laser cutting, punching, and bending machines, ensuring the highest precision and minimal vibration and noise.	
Electromotor	The three-phase alternating current electromotor provides the required torque to turn the propeller. The placement of the electromotor within the machine is designed to avoid increasing the width of the machine.	

5 Installation

5-1 Installation obligations

Note: The number of heaters required depends on the size and shape of the desired space, the desired temperature and the weather conditions in your area. For advice and guidance, please contact the company's experts.

5-2 Installation guide

Prior to installation, consider the following:

- Ensure the main gas or gasoil valve is closed.
- Disconnect the power connection to the heater.
- Provide a route for the flue to exit.
- Supply the required combustion air from outside the hall through a channel with a diameter equal to burner air inlet diameter.

Install the heater in a way that:

- Secure the heater in place on a fixed platform.
- Establish a connection for a reliable earth wire.
- Maintain a minimum distance of 100 cm between the heater and the wall.
- Place the heater on the ground or a concrete platform, using the special bases provided for on-site installation
- Ensure the bottom surface of the heater is entirely flat and level.
- Verify that no flammable materials are in the vicinity of the heater. The air outlet should not face such materials. If the channel is not connected, observe the permitted distance in the air outlet path to prevent damage from the hot air emitted.
- Keep the entrance and exhaust of the heater unobstructed.
- You can connect the heater to the channel, and the length of the channel can be up to 3 meters.
- Connect the fuel inlet of to the source, ensuring there are no leaks along the way. Utilize a special gasoil filter at the gasoil inlet.
- If gasoil flows by gravity in the pipe, ensure the height of the bottom of the gasoil tank is higher than the burner's height.
- If using an ambient or automation thermostat, connect it to the input terminal of the device as per Table No. 3.
- Connect the input power cable, alarm and burner power cable to the designated terminals of the device according to Table No. 3

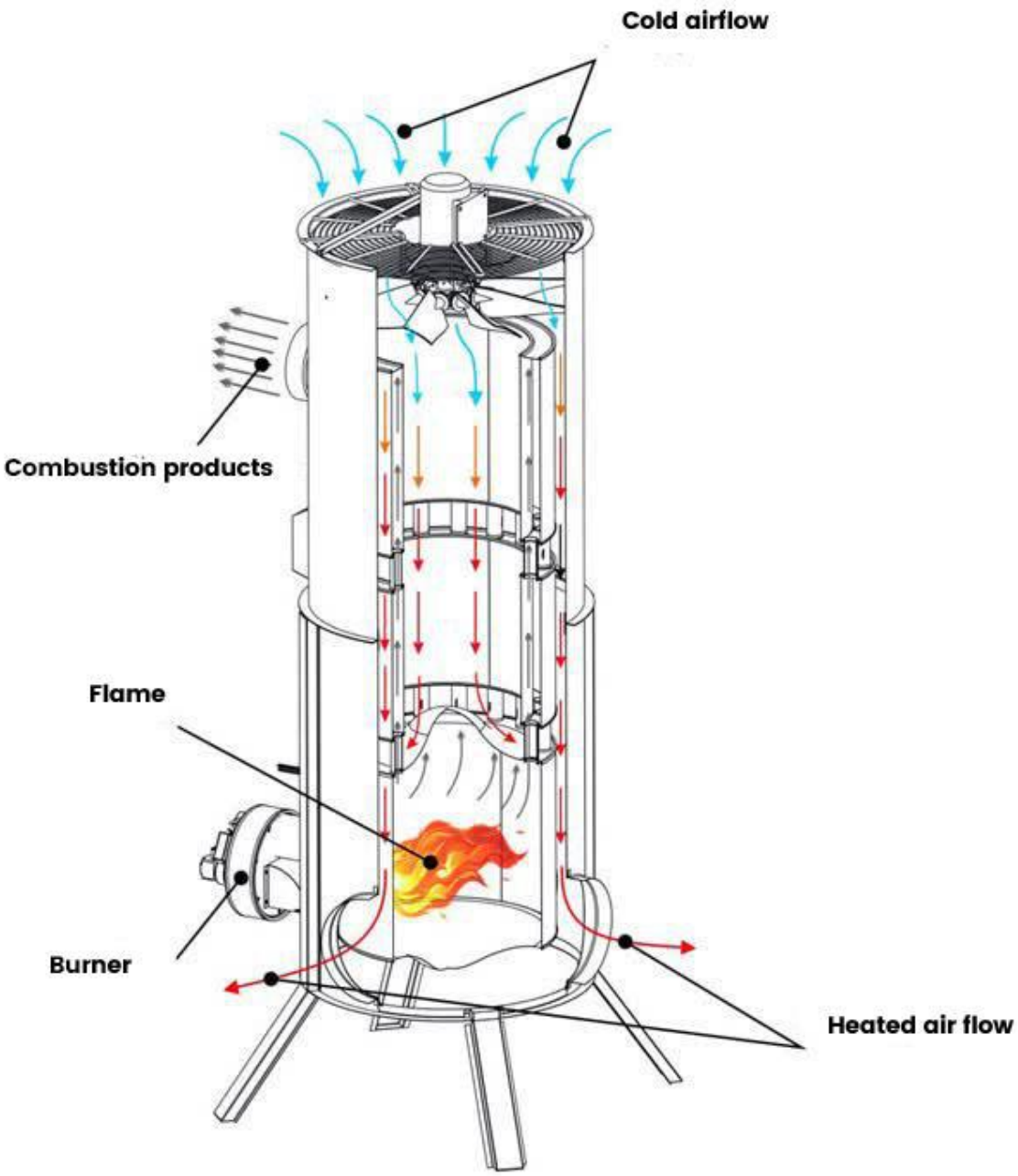


Figure 2: How the machine works

6 Connections

☞	**Any task related to the heater, including installation, repair and adjustment of the gas input conversion as well as connection to the natural electricity and gas system, should be carried out by the company's experienced servicemen using high-quality and standard connections.** **During installation, strict adherence to the rules of the electricity and gas companies in your area is essential.**

☞	**Before installation, ensure to coordinate with the regional gas company to verify that the distribution conditions of natural gas and the type and pressure of gas align with the settings of the heater.**

6-1 Burner Air Pipe Connection

In the figure below, you can observe the air inlet box connected to the burner. The rectangular section is linked to the burner's air inlet, and a pipe is connected to the side with a circular hole. The other end of the pipe exits the hall. This configuration ensures that the burner receives air directly from the outside. It eliminates issues such as insufficient air reaching the burner due to the suction of the heater's fan, allowing the burner to operate in ideal conditions.

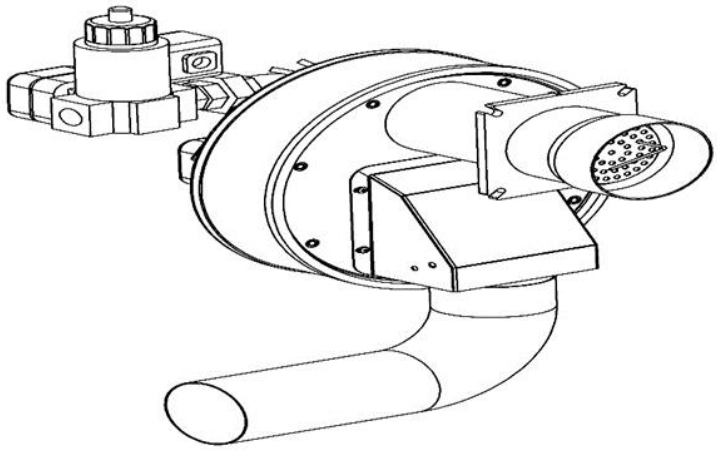
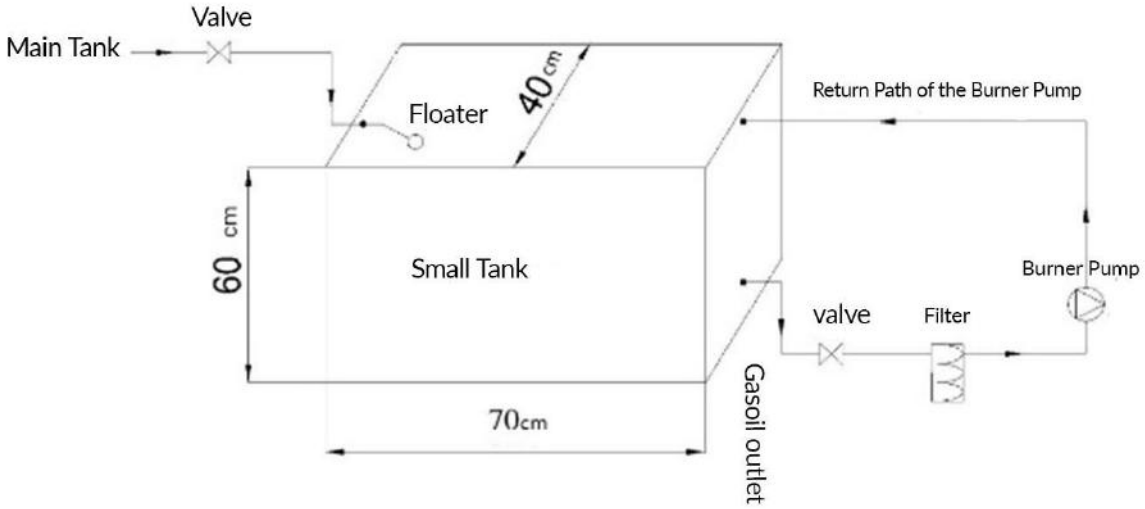


Figure 3: Burner Air Pipe Connection

6-2 Gasoil connection

- For gasoil-burning devices, it is crucial to note that the level of the gasoil tank must be higher than the level of the device's gasoil pump. Failure to do so may result in incomplete fuel supply, potentially damaging the gasoil pump and the electric motor of the burner.
- In all instances, the connections for the input fuel, whether gas or gasoil, must be standard and carried out by an expert using fully standard equipment.
- If using gasoil, ensure the use of a gasoil filter and plumb the gasoil as follows.

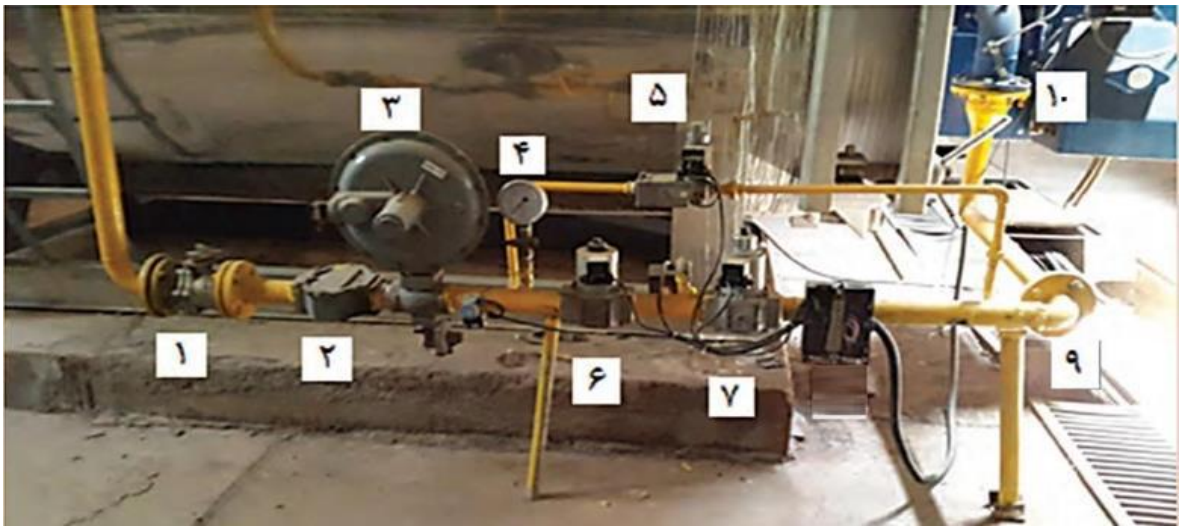
  - **Refer to the figure bellow for the movement path of gasoil within the device**

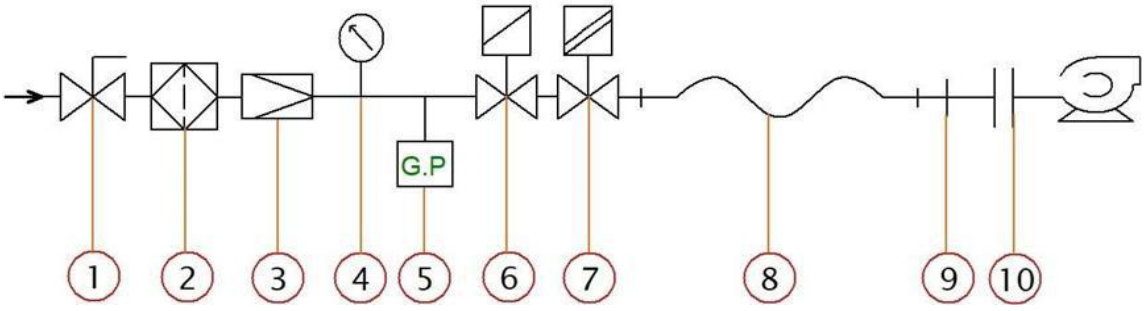


	**Do not use any pump in the process of transferring gasoil from the source to the Heater. Using a pump in the process can lead to the failure of the heater's pump and result in improper operation. The buyer is responsible for any consequences**

6-3 Gas Pipeline

In the gas pipeline from the main line from the National Gas Company to the entrance of the heater, the integrity of the following items should be considered:





1-Gas valve

2-Filter

3-Regulator

4-Barometer

5- Gas pressure control switch

6- Gas safety valve

7- Two-step gas valve

8- Gas tube

9- Tube diameter exchanger

10- Flange connection

The buyer is responsible for the preparation and installation of the mentioned items.

	**Before installation, be sure to check in coordination with the regional gas company that the distribution conditions of natural gas and the type and pressure of gas match the settings of the heater.**

6-4 Flue Connection

	**For the installation of the flue, priority is given to the tips and rules provided by National Gas Company.**

1) Ensure a positive upward slope for horizontal pipes, with the vertical part's height being at least three times the length of the horizontal section. Consider wing items in the installation

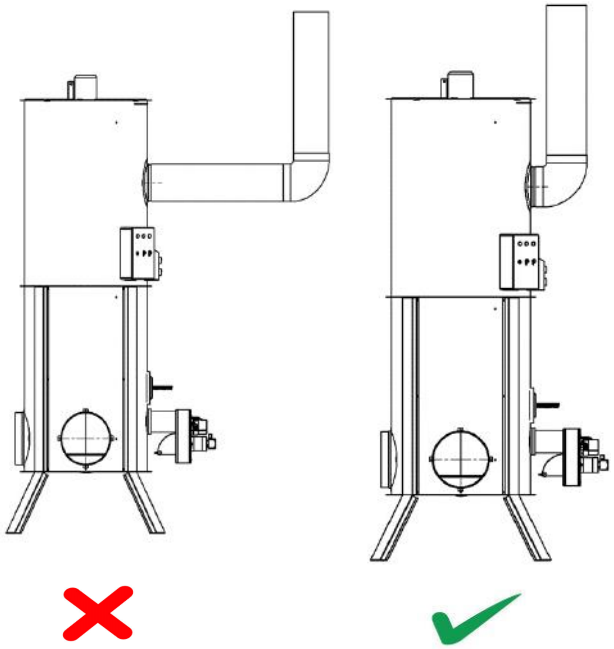


Figure 4: Flue Installation

2) The flue pipe diameter should be equal to or greater than exhaust heater diameter

Figure 5: flue pipe diameter

3) Secure the flue using a suitable holder to prevent vibration during operation and to ensure that connections remain intact.
4) Minimize unnecessary twisting and turning during installation.
5) Install an H-cap at the flue outlet

	**Failure to connect the H-cap is considered inappropriate use and will result the exclusion of the heater from the warranty.**

The H cap must be installed vertically, and it should be avoided to install on horizontally placed pipes, as this condition can lead to the accumulation of smoke and pollutants in the flue pipes, causes the smoke to be pushed back into the flue system.

An essential point in installing the H cap is to position it at least 60 cm above the roof level.

6-5 Electricity

The Heater's electrical panel is according to the following table

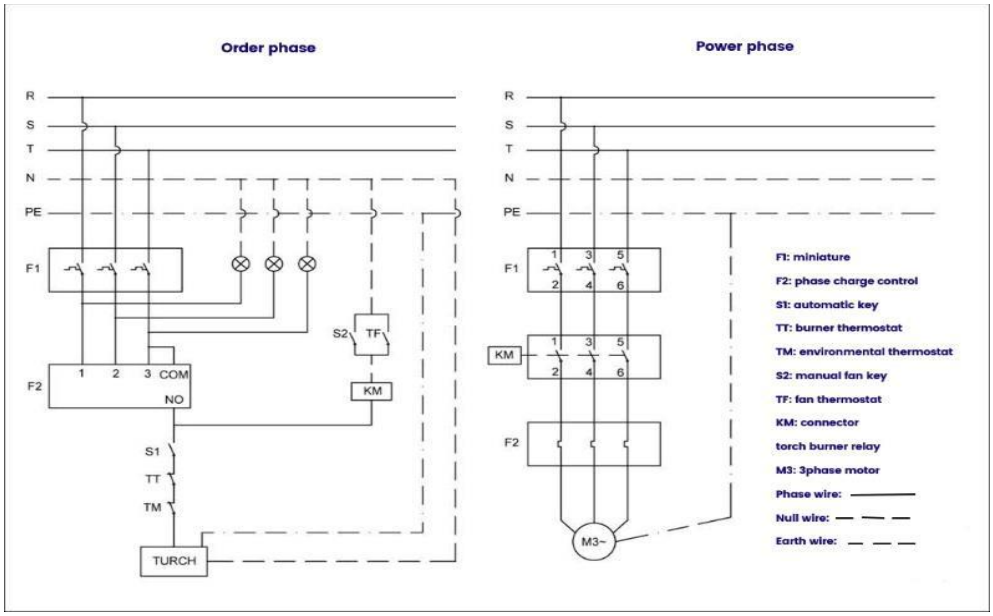


Figure 7: Power Map

	Incoming earth
R	Phase 1 /R
S	Phase 2 /S
T	Phase 3 /T
N	Null/N
7	Ambient thermostat
6	Ambient thermostat
8	Alarm
N	Alarm
	Burner earth
8	Burner alarm
7	Burner phase
N	Burner null
6	Furnace thermostat
5	Furnace thermostat
9	Fan thermostat
N	Fan thermostat
U	U
V	V
W	W
	Earth fan

Table 2: Power Map

	**In the event of a power outage during operation, there is a possibility of damaging the furnace. To mitigate potential danger, it is essential to have an emergency power source.**

7 Running

After correctly completing steps 1-6:

1) Connect the burner input power. placing the burner cable according to the number into the corresponding place inside the panel.

2) Connect the burner fueling system to the burner using standard connections.

3) If a manual thermostat is used inside the hall, connect its wire to the ambient thermostat inside the panel.

4) Set the switch on the electrical panel to automatic mode and wait for the burner to turn on.

5) To optimize burner performance, prevent direct sunlight from entering the heater chamber.

6) Gasoil enters the burner pump by gravity, so the location of the gasoil tank must be at least one meter above the burner level.

7) Ensure the thermostat settings for the fan and the burner are correct (fan at 40 degrees and burner at 110 degrees)

8) After turning on the burner, the heater will work automatically.

	**It is crucial to note that the emergency turn-off key is reserved for critical conditions, and should not be used under normal conditions.**

	**Always allow the Heater fan to continue working until the boiler reaches the set temperature, do not turn off the heater before stopping the fan.**

8 Adjustment

Adjustments of gas and gasoil pressure, as well as the amount of air mixing, should be performed by the technical expert of the factory. Incorrect adjustment may lead to decreased combustion quality, suboptimal fuel consumption, and even a potential of dangers.

	**Contact the factory or authorized servicemen for any needed adjustment, repairs, or part replacement.**

9 Repair and Maintenance

Note: Before conducting any repairs, isolate the electrical and fuel supply system and make the necessary repairs. After completing the required repairs, check the fuel supply system for leaks.

1) Regularly check the operation of the burner and electromotor every two months with the help of an expert.
2) inspect all sensors, sensitive parts and thermocouples every 2 months, replacing them in case of failure.

If the heater malfunctions for any reason, check the following:

1) Ensure the heater's earth wire is connected.

2) confirm proper ventilation of the gas or gas pipe connected to the heater.

3) during fan power supply installation, verify that the fan propeller rotates counterclockwise; otherwise, adjust the two phases of the output of the electromotor.

4) If the burner does not turn on, check items such as light shining on the glass behind the burner (in gasoil burners), fuel reaching the nozzle causing the burner relay light to turn on (in gasoil burners), and earth connection, gas pressure, and burner electromotor operation (in gas burners).

If the burner is malfunctioning:

- Changing the temperature of the fan or burner thermostat can cause system malfunction.

- The fan thermostat should be fixed at 40 degrees, and the burner thermostat should be set to 110 degrees.

- Improve the exhaust path in case of backfire; the flue path should be as straight as possible without angles and twists (Figure 4)

If smoke is observed at the exhaust outlet due to insufficient air reaching the burner and the problem persists even after increasing the intake air, use a pipe to supply the burner with intake air from outside the hall.

10 Service

	**Do not use water to clean the heater.** **Improper cleaning can damage the heater.**

This device should be checked and adjusted by a specialist at least annually. In proper intervals, the heater's service and dust removal should conducted thoroughly. Avoid using water in this process. Clean the heater using an air compressor.

	**Turn off the main power.** **All service and maintenance procedures must be performed by trained and factory-approved personnel.**

- Check the operation of the burner and electric motor once every two months.
- Examine the burner nozzle every six months and replace it if it is clogged.
- Periodically clean the gasoil filter to ensure its health and replace it after one year.
- Regularly inspect the electrical connections of wires and terminals, as well as thermo-switch, ensuring they are tight.
- Tighten the electrical panel annually and ensure that the screws and connections are secure.

10-1 Burner troubleshooting instructions:

The burner does not work	-The electric current fails to reach the burner control unit -The thermostat or mano-stat is malfunctioning -The water level control switch is nonfunctional due to a drop in water level -The fuse in the power supply circuit to the control unit is disconnected -The gas pressure control switch is not operating correctly -The main gas solenoid valve is defective, with the coil burned out -The burner control unit is damaged
After a short period of operation, the burner turns off without forming a flame	-The ignition circuit is defective -The distance between spark electrodes is not properly adjusted -The porcelain electrode has cracks or the top of the electrode is dirty -Spark trans cable or spark electrode is damaged -The ignition transformer is faulty -The ion rod is connected to the body or there is a connection issue with the cable related to the ion electrode -The air pressure control switch is not functioning correctly -The air pressure is low or the fan is loose -Control switch settings are not configured correctly
Incomplete combustion	-The air vent is not properly adjusted; it is too closed -The amount of gas is not suitable for combustion air. -The connection contacts in the burner control unit are damaged or dirty -The amount of carbon dioxide in the exhaust gases from the flue is low, indicating insufficient gas flow or unsuitable combustion air. In such cases, the gas flow should be reduced, or the amount of air entering the combustion chamber should be increased.
The burner turns on, but it turns on and off in short intervals	-The burner is too large for the selected boiler -The thermostat setting is inappropriate -The relay is not correctly placed on the relay base -The gas pressure control switch is not properly set
The burner turns on but continues to work without turning off	-The power of the burner control circuit has not been cut off either due to incorrect settings or the failure of the control device
The flame returns when the burner is working	-The supply gas pressure is low -The gas filter is dirty

10-2 Probable Errors List:

Error	Error Symptoms	Error Reason	Troubleshooting
Voltage Error	The red F phase control light turns on	Interruption or inappropriate voltage level of at least one of the input phases	Inspect the voltage level of the power line, the health of wires and fuses
	The red P phase control light turns on	Change the order of the input phase	Change the place of the input phases
Thermostat Adjustment	Changing the temperature of turning off and turning on the fan and the burner	Technical errors of the thermostat done by non-specialists	Reset, replace or repair the thermostat
Thermocouple Fault	Displaying four red dashes on the thermostat display	Component failure, loose connections, thermocouple wire break	Check the connections Change the thermocouple
Overload	The thermal switch of the electrical panel is cut off	Faults in electric motor, failure of bearings and mechanical system	check and service the electric motor, power transmission system and bearings
Burner Air Adjustment	Observing soot in the exhaust of gasoil heaters	Insufficient air intake of the burner	burner air adjustment by a specialist

In all the above cases, it is necessary to diagnose and fix the fault with the help of authorized servicemen.

11 Spare parts

11-1 Ambient Thermostat

To regulate the temperature of an environment, an ambient thermostat can be used. It maintains environment's temperature at a desired value by controlling the cooling and heating equipment. Beyond automatic device operation, this function significantly contributes to reducing energy consumption. Ambient thermostats can be analog, or digital and utilize an automation system.

Figure 8: Ambient Thermostat

11-2 Flue Pipe and H Cap

The maximum length of the flue pipe should be 0.45 meters for every 2.5 cm diameter of the flue pipe. Ensure the use of an H cap at the flue outlet. This cap comprises a base and two fins connected by a connector on the base. According to the engineering system principles, the H cap adheres to all necessary standards to be positioned at the highest point of the flue pipes.

Figure 9: Flue Pipe and H Cap

11-3 Air Transfer Duct

A duct pipe, characterized by a trunk-like body, offers high flexibility. This type of duct is employed to supply incoming air to the burner. It is crucial to use this equipment since the high suction of the fan can disturb the air around the device, affecting proper flame formation. Confirm that the diameter of the air duct matches the diameter of the air inlet of the burner when selecting the duct.

Figure 10: Duct Pipe

11-4 Burner

KGY Company stands as a pioneer in the production of cooling, heating, and ventilation systems. The company has initiated the production of burners under the name KG burners. The key feature distinguishing these burners from current examples is the addition of a spiral to the fan. The existence of a spiral not only optimally directs the air to the combustion path but also aids the fan in maintaining balanced pressure, minimizing axial forces on the shaft as much as possible**.**

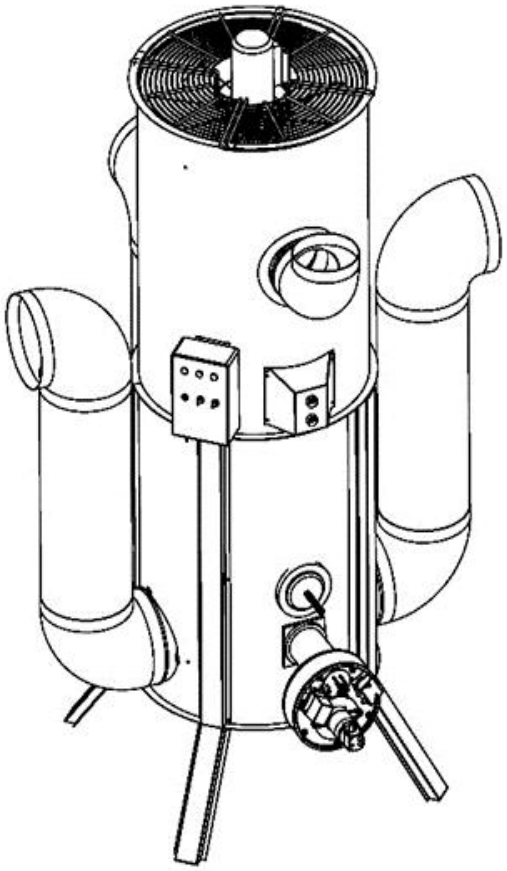
Figure 11: Yazd Burner

Koolak Gostar Yazd

USER MANUAL

AND

INSTALLATION INSTRUCTIONS



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