شوکت
SHOKAT

Installation Manual for Energy Efficient
Heaters with Energy Classes A

H E R M E T I C

INSTALLATION MANUAL

SH13-SH27-SH37

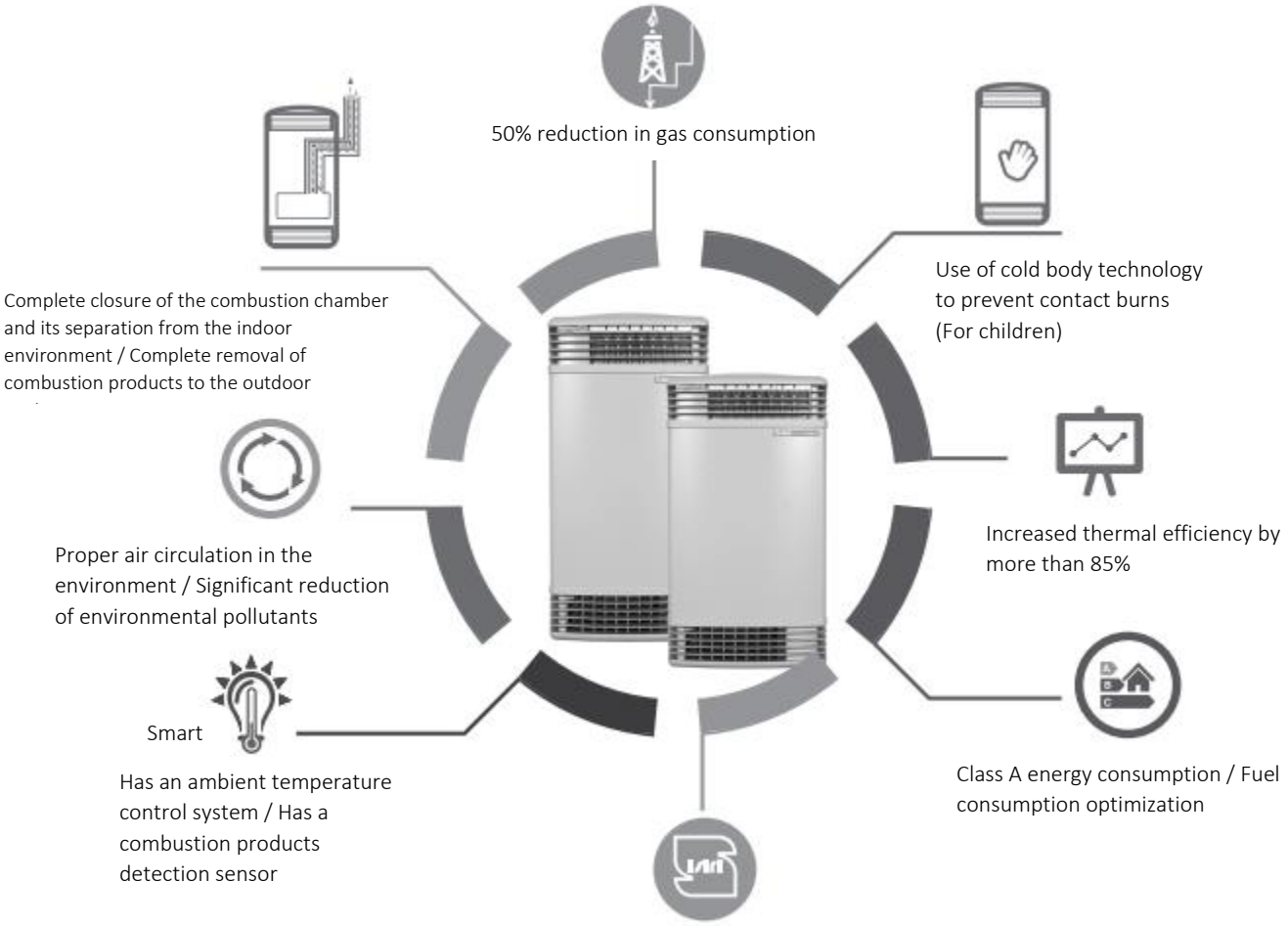
All
MODELS

Dear Customer:

While thanking you for your purchase and choosing SHOKAT Smart Heater, we sincerely extend our congratulations to you on entering the consumers of this product. SHOKAT Smart Heater is an environmentally friendly product and with its modern technology in the combustion system, it increases efficiency and reduces combustion pollutants significantly. The performance of the heater accompanying its technology lead to a 50% reduction in gas consumption. The combustion operation takes place more completely and as a result, while reducing gas consumption, less pollutants are produced.

Some benefits of using this heater are as follows:

1- 50% reduction in gas consumption;
2- Increased thermal efficiency by more than 85%;
3- A Energy Class;
4- Proper air circulation in the environment;
5- Has an ambient temperature control system;
6- It has a sensor that controls the incoming air flow and the exhaust combustion products;
7- Using cold body technology to prevent contact burns (especially for children);
8- Complete closure of the combustion chamber and its separation from the indoor environment;
9- Complete release of combustion products out of the building;



Safety warnings

Do not use the heater before reading the manual.
Do not use or store flammable materials near the heater.
Avoid placing objects in front of or on the heater.
Do not use the heater when the front cover it is not covered.

SHOKAT Energy Efficient Smart Heater should be installed and used in accordance with this instruction, standard regulations for gas appliances, municipal building bylaws, electrical wiring regulations, standard installation of gas appliances and any other relevant rules and regulations.
Make sure that the heater is installed in such a way that it has the minimum distance from the Flue terminal according to the standard. Measurements are made from the edge of the Flue terminal.

Gas type: Refer to the heater plate.
Gas consumption: Refer to the heater plate.

Use only coaxial flue provided by the company or authorized dealers to install SHOKAT Heaters
This heater must be installed by authorized service personnel.

Responsibilities of Employers and Employees:

Installation and maintenance of heating systems, especially in high places, may cause problems for the safety and health of the workplace for people. Installers and technicians must be familiar with relevant local and national regulations, guidelines, and standards, as these guidelines include practical guidelines on safety and health issues. Compliance with these laws requires appropriate working methods, equipment, training and technical skills of workers, contractors and installers. SHOKAT Company has provided this manual as a guide for contractors and installers to act for reducing risks.

Risk Assessment:

A risk assessment must be carried out based on the law for all hazardous activities. Risk assessment is an essential element that should be performed before starting work to eliminate the risk of fall and other risks or to minimize them by taking control precautions. To assess the risk, there is no need to perform a complex process and the subject is to check that the work is conducted in such a way that the person doing the work is not injured.

This should be considered under the following conditions:

- What is the probability of an accident?
- What could be the outcome of the accident?
- What can be performed to reduce or eliminate the risk of an accident?

This heater must be installed according to the current laws and regulations of the country and used only in a well-ventilated space. Relevant instructions should be studied before installing and using the

heater. Before installing, check the type of gas and pressure of the gas used with the type of gas and pressure required by the heater.

Some Tips to Consider When Working on the Roof:

- What is the safest way to access the roof and other work environments?
- What is the position of the roof? Is it necessary to control the structure and its level?
- Does the worker have the right shoes?
- Have all power cables and outlets passed safely?
- Are all tools, equipment and ladders in sound condition?
- Where ladder use is required, is the location of the ladder base firm and stable? Is it possible to restrain or close the top of the ladder?
- Is there a restraint on the roof to connect the hook and strap? In this case, instructions for using a certified belt should be published or only trained people should be used.
- Have all the tools and materials used on people slipped and fallen on the ground? Are people properly prevented from entering the space below the work area?
- Does the weather plan allow work to be closed in the event of strong winds, storms, lightning, and other weather conditions that cause the surfaces to get wet or slippery?
- Is there a continuous control system to control hooks, belts, ropes, ladders and lifting equipment?
- Is there a system that prevents workers from working on the roof when they are ill, under the influence of drugs or lacking consciousness?
- Are there special conditions for excessive roof slope, limited ground space, weak and fragile roof or power transmission lines?

SH37	SH27	SH13	Heater type / setting	technical specification
7800	5400	4300	Input power (hr/Kcal)	
0.68-0.98	0.40-0.60	0.29-0.43	Maximum - Minimum	Nominal gas consumption (h / M3)
8.0	5.0	3.9	External heating output (KW)	
5 - 10	5 - 10	5 - 10	Natural gas: high - low	Required gas pressure (mbar)
10 - 20	10 - 20	8.5 - 17	Liquid gas: high - low	
1.05 - 1.60	1.05 - 1.60	0.95 - 1.40	Natural gas - liquefied gas	Orifice diameter (mm)
0.003 – 0.1 – 0.14			Maximum - Minimum - Standby	electricity consumption (KW)

Ampere	Frequency	Voltage
0.63A	50Hz	220 V

Heater type C32, C12 - gas class P / II2H3B

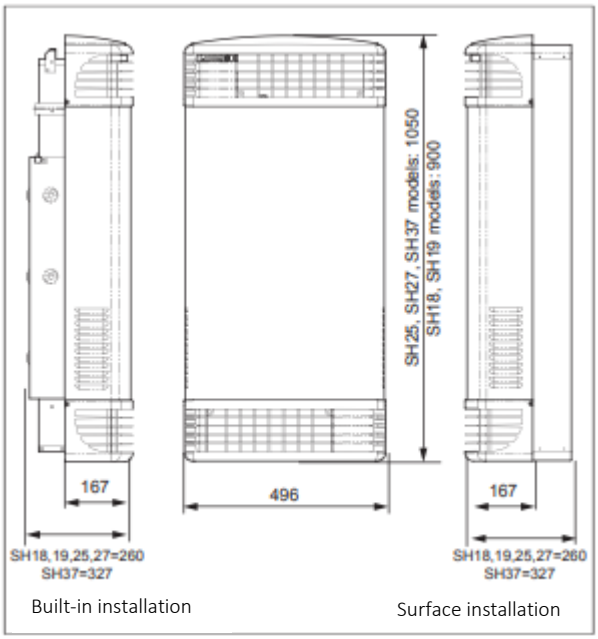
Product NOX category: 5

⚠ Changing the use of the heater from natural gas to liquefied gas is possible only via authorized service personnel.

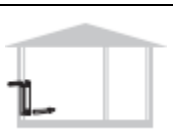
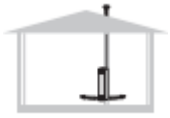
The above information is based on the continuous operation of the heater. While the Hermetic Smart Heater of SHOKAT, as its name indicates, intermittently switches on and off the gas flow as well as the electricity of electrical and electronic components according to the working conditions.

The heaters can be installed in both built-in and surface modes. To install the surface, the relevant installation kit is required.

Dimensions of the heater



Different modes of heater installation

					
Installation location	Exterior wall	Exterior wall	Exterior wall	Inner wall	Inner wall
Installation type	Built-in	Built-in	Surface	Built-in	Built-in
Flue type	Horizontal	Vertical	Horizontal	Vertical	Vertical
Rear air vent	N/A	N/A	N/A	No	Yes

Opening the Heater

Place the heater box on a flat, horizontal surface and then open it. Open the front cover of the heater. (The screws are inside the plastic of the heater flue.) Make sure that the heater model and the type of gas consumed match. Model specifications are inserted on the heater. Do not install the heater if it is damaged or the type of gas used is not suitable.

Installing the Flue System

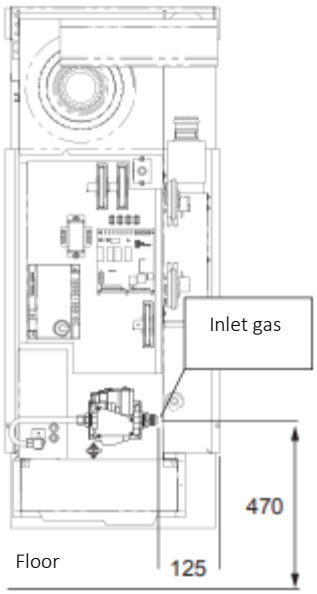
The method of installing the flue system is mentioned in the instructions section of the appropriate flue kit.

Preparing the Heater

To install the heater surface, connect the surface installation panels at the specified points. Refer to the surface kit instructions.

If you need to install a rear air vent (if you have this feature), connect the appropriate parts to the marked points of the heater. (Refer to the instructions on the rear air valve kit)

Gas Connection



Gas piping must be done according to the standard and by an authorized plumber.
All gas connections used in the heater are male type of 1.2 inches (male flare 1.2).
While the heater and any other gas appliances are operating at maximum gas consumption, the size of the gas pipes at the heater inlet should be such that it can provide a minimum pressure of 11.3 mbar for natural gas appliances or 27.5 mbar for liquefied gas appliances.
Details and specifications of pipe size are given in the gas equipment standard.
The maximum amount of gas allowed is indicated on the product label.
In residential environments, it is recommended that gas pipes be equipped with a standard gas cut-off lever to facilitate maintenance and repair of the heater. The standard approved gas cut-off lever must be installed in commercial, industrial, and high-rise buildings.
Make sure the gas pipe is completely clean and empty.
Make sure there are no gas leaks.
Special gas hoses or copper pipes must be used for connecting the heater to the gas. (The use of water hoses is strictly prohibited)
In case of using a gas hose, make sure to use a special metal clamp.
Gas supply pressure: 20 millibars.

Power [Electricity] Connection

Electrical wiring should be carried out by an expert.
Wiring must be performed in accordance with standards and regulations.
Input power must be 220 V. 50Hz 0.63 A
The grounded electrical outlet must be installed 1100 mm to the left of the heater or 700 mm to the right of the heater.
Make sure the electrical outlet is in sound conditions.

Inspect the flue cap periodically to make sure it is in place. SHOKAT Smart Heater has an air and combustion product flow sensor and stops the heater in case of clogged flue.

Flue

SHOKAT Heaters use a coaxial flue system. So that the air required for combustion is drawn in from the outer wall of the flue and the combustion gases are discharged from the inner wall of the flue.

Use only a standard heater flue kit for installation.

Use only flue kits provided by the company or authorized dealers to install SHOKAT Heaters.

The following tips should be considered in choosing a place to install the heater to ensure the optimal performance of the heater:

Corners are not suitable for installation because the heated air cannot be properly distributed in the space.

Locate the columns inside the wall. For built-in installation, the distance between the columns (which is measured from the inside to the inside) should be between 405 and 430 mm. If the distance between the columns is more than 430 mm, an additional column should be installed in place. If the distance between the columns is less than 405 mm, the installation place must be relocated.

Make sure that the roof beams do not block the flue.

Make sure that the built-in pipes and wires inside the wall do not block the installation site.

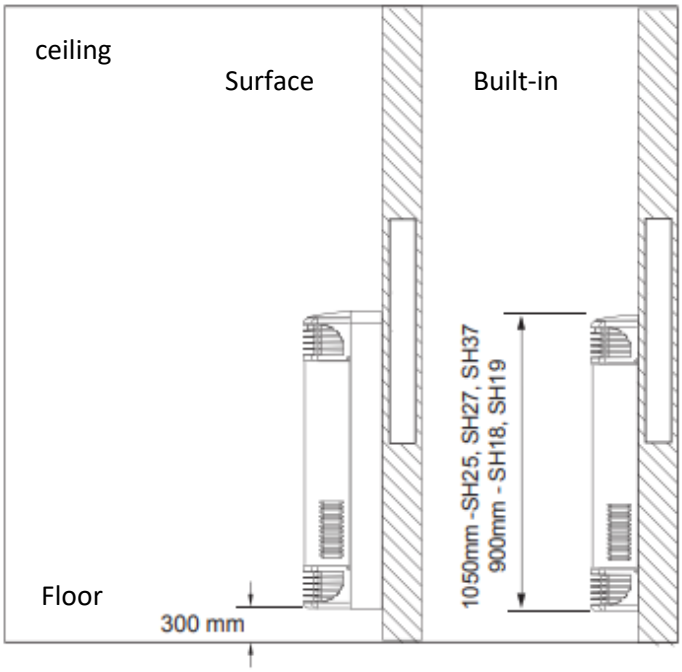
If the air vent is installed from behind (if this is the case), select a location where the columns inside the wall do not block the air vent from behind.

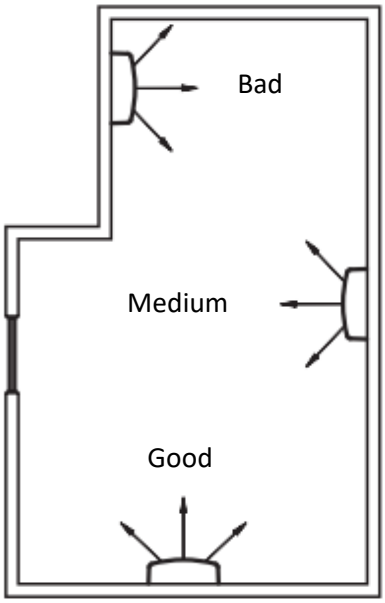
Do not block the exhaust duct or air vent from the back with furniture, chairs, etc. as it will lead to poor distribution of air heated by the heater and incomplete cycle of heater operation.

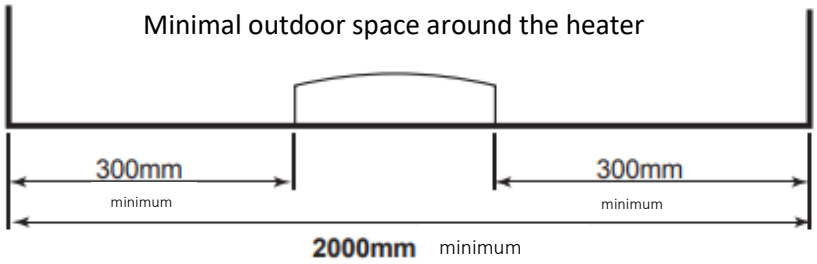
Do not place the heater so that it faces the width of the room. It is better for the heater to be along the length of the room.

Observe the open space around the heater as shown below. (300 mm on each side)

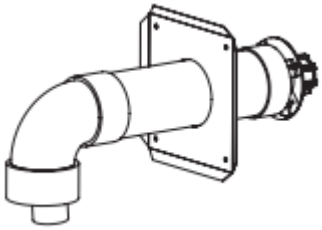
The distance from the ground should be at least 300 mm.







Installation of Horizontal Coaxial Flue

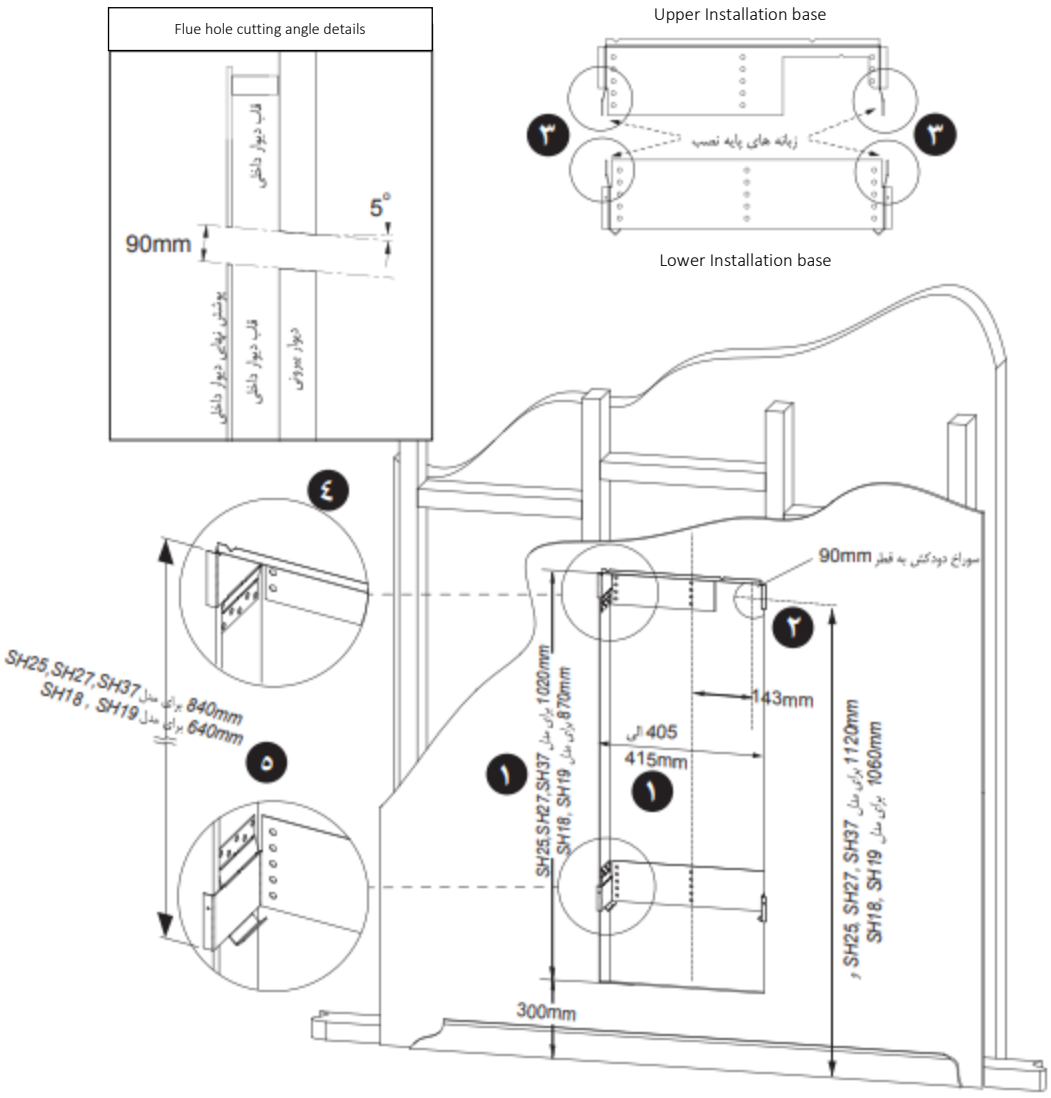


Flue kit coaxial of the outer wall
(Equipped with a flue with a length of 500mm)

Coaxial flue extension kit
(Increase in length 750mm)

The maximum allowable length of the horizontal flue is 3 meters (horizontal + vertical). If necessary, a length increase kit can be added to the coaxial flue kit.
Use only flue kits provided by the company or authorized dealers to install SHOKAT Heaters.
1- Create the necessary surface for placing the heater in the wall between the columns.

2- Make a flue hole in the wall, according to the selected installation model, at the appropriate height. The hole should be made with a slope of about 5 degrees downwards to drain the condensate created by the heater flue system. (5 degrees equals a change in height of 1 unit per 10 units of length - for example, a decrease of 10 mm per 100 mm of length)
3- Bend the upper and lower tabs of the mounting bases (4 clamps) to match the distance between the wall columns.
4- Place the top installation base on top of the space created between the columns and connect it to the columns with the screws in the installation kit.
5- Install the lower installation base in the same way at the bottom of the space created between the columns. The distance marked between the bases in the figure is between the upper edge of the upper base (when viewed from the side) to the lower edge of the lower base.



In partitions or walls with internal frames, the upper part of the installation base should be installed at least on one side or in the center on one of the wall columns and the lower part of the installation base should be attached at least on one of the wall columns.

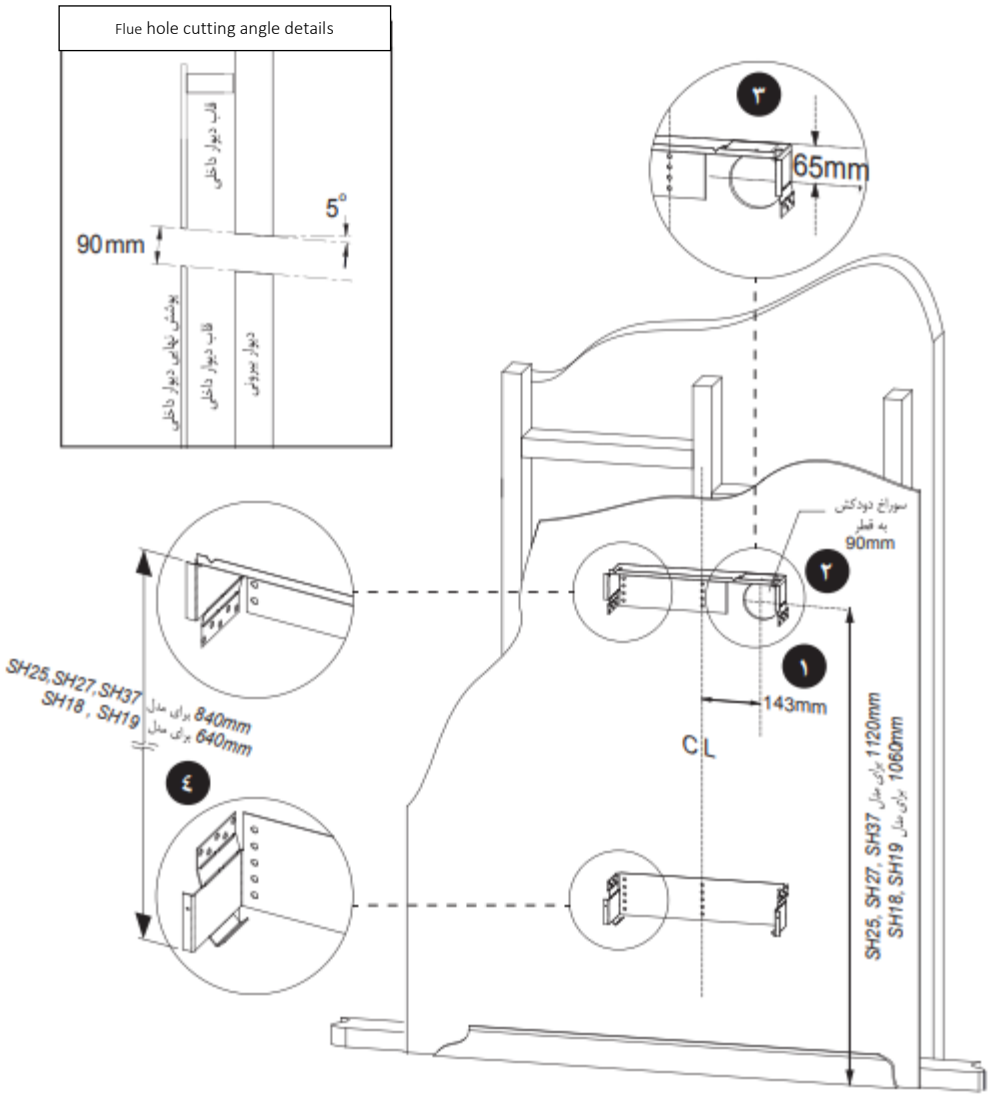
1- Specify the middle line of the heater.

2- Make a flue hole in the wall at the appropriate height according to the selected installation model. The hole should be made with a slope of about 5 degrees downwards to drain the condensate created by the heater flue system. (5 degrees

equals a change in height of 1 unit per 10 units of length - for example, a decrease of 10 mm per 100 mm of length)

3- Place the top mounting base on the wall as shown below. The dimensions shown are measured from the center of the flue opening to the top of the mounting base.

4- Connect the lower mounting base with the screws in the mounting kit as shown below



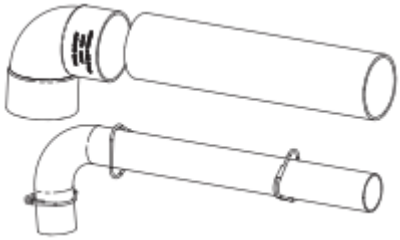
1- Check flue connections.

• The separating clips must be firmly attached to the inner aluminum tube.

• The elbow part of the air tube (outer tube) must be firmly attached to the flat part of the air tube.

The clips are positioned so that the inner aluminum tube is not in contact with the air tube (outer tube). (Clips are designed so that the inner tube can move slightly inside the air tube)

Flue components



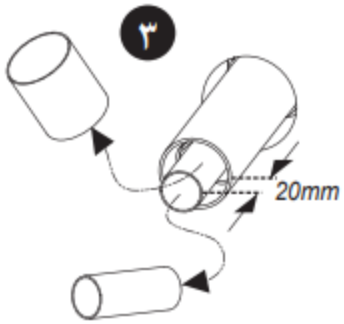
Assembled flue

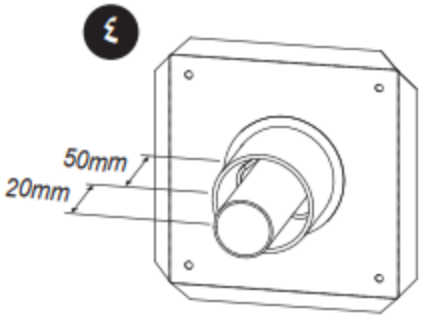
2- Install the flue pipe from inside the flue hole in the wall.

Note: The heater can now be installed and the location of the flue can be precisely adjusted before cutting.

3- Cut the inner and outer flue pipe so that the aluminum inner flue pipe is at least 20 mm out of the outer flue pipe. (As shown in Figure 3)

Note: If the flue shield is installed, the inner pipe should not protrude less than 70 mm from the wall surface. (As shown in Figure 4)





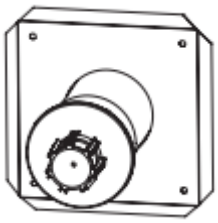
Sealant plate

4- Place the metal sealing plate on the wall (if necessary). The hole in the metal plate is designed to cover the area around the flue outlet well. Its diameter is approximately 75 mm. If necessary, the hole in the outer tube can be repaired

5- Apply a layer of silicone on the inner tube and connect the cap to both inner and outer tubes.

The flue installation process is complete. At the end of the work, the flue cap is installed according to the figure below.

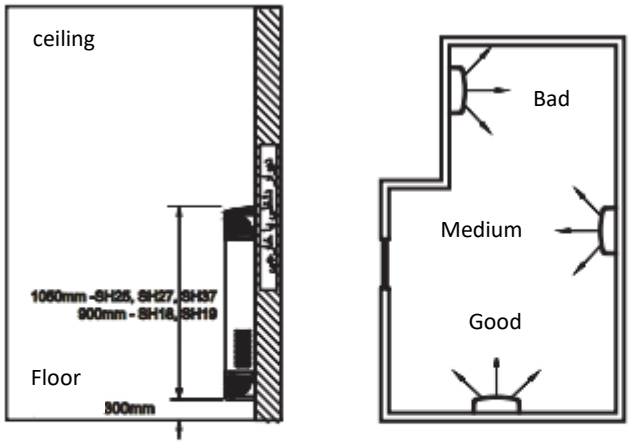
If the flue outlet is located at the crossing point, its height from the passage surface should be at least 3000 mm.



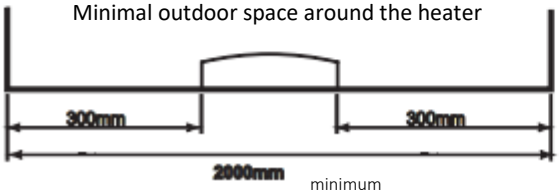
Use only flue kits provided by the company or authorized dealers to install SHOKAT Heaters.

Coaxial Flue extension kit (750mm extension)

The maximum allowable length of vertical flue is 6 meters, consisting of:
One outlet wall kit with cap and three flue extension kits or



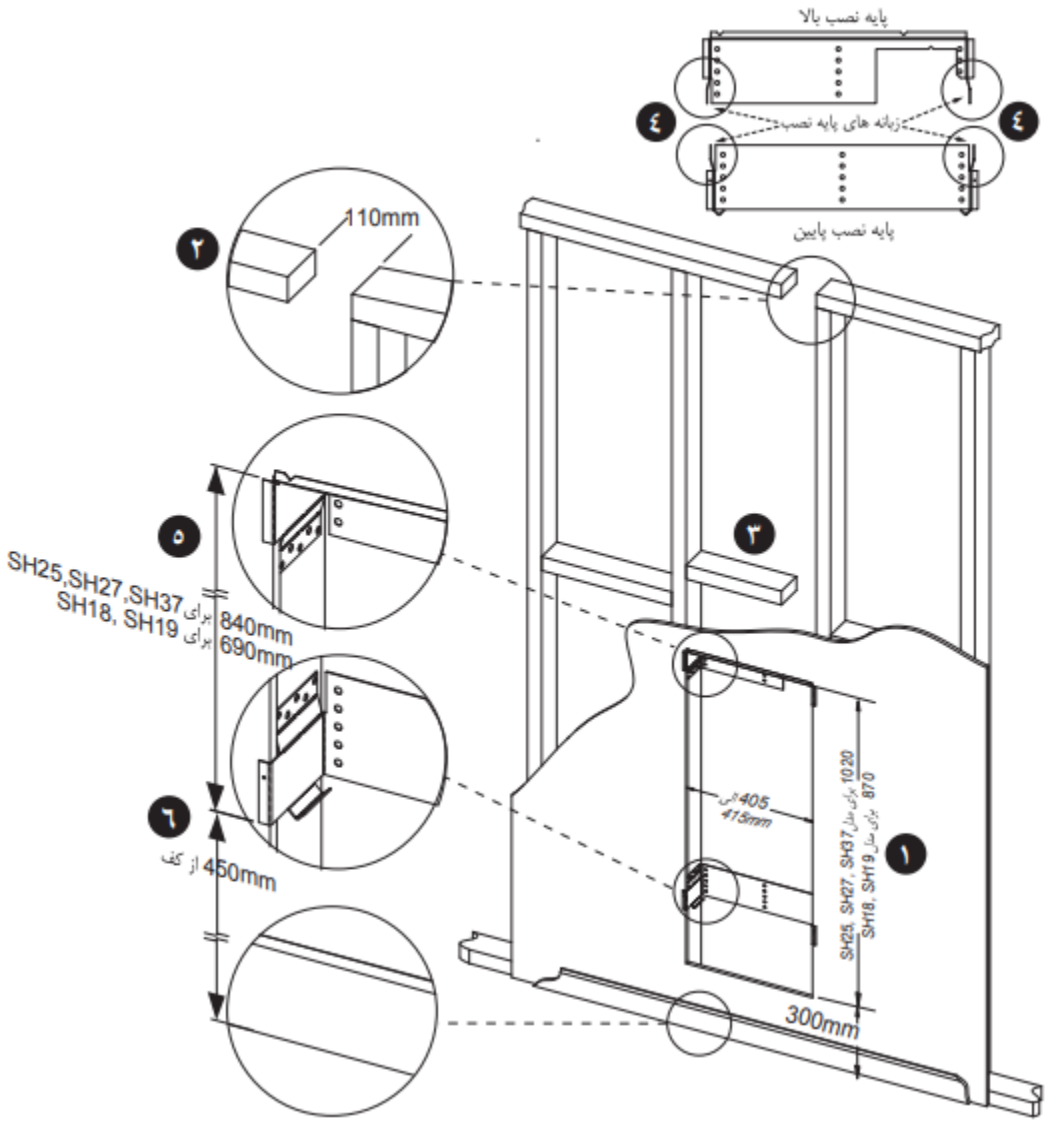
Minimal outdoor space around the heater



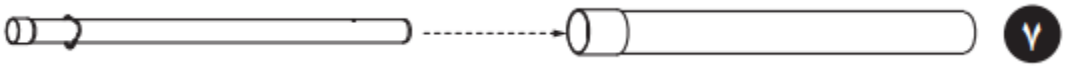
When choosing a place to install a heater, the following items should be considered to ensure the optimal performance of the heater:
Corners are not suitable for installation because the heated air cannot be properly distributed in the space.

Locate the columns inside the wall. For built-in installation, the distance between the columns (which is measured from the inside to the inside) should be between 405 and 430 mm. If the distance between the columns is more than 430 mm, an additional column should be installed in place. If the distance between the columns is less than 405 mm, the installation location must be changed.
Make sure that the flue beams are not blocked.
Make sure that the built-in pipes and wires inside the wall do not block the installation site.
If you install an air vent from behind, choose a location where the columns inside the wall do not block the air vent from behind.
Do not block the exhaust air duct or air vent from the back (if this feature is available) with furniture, chairs, etc. as it will lead to poor distribution of heated air by the heater and incomplete cycle of heater operation.
Do not place the heater so that it faces the width of the room. It is better for the heater to be along the length of the room.
Observe the open space around the heater as shown above. (300 mm on each side)
The distance from the ground should be at least 300 mm.

Make a hole in the wall between the columns.
Make a flue hole in the top mounting sheet.
3. Drill a hole in the flue (or remove the brick completely)
4. Bend the top and bottom tabs of the mounting brackets (4 clamps) to match the distance between the wall columns.
5. Place the top mounting bracket on top of the space created between the columns and connect it to the columns with the screws in the mounting kit.
6. Install the lower mounting bracket in the same way at the bottom of the space created between the columns. The distance marked between the bases in the figure, between
The top edge is the top base (when viewed from the side) to the bottom edge of the bottom base.



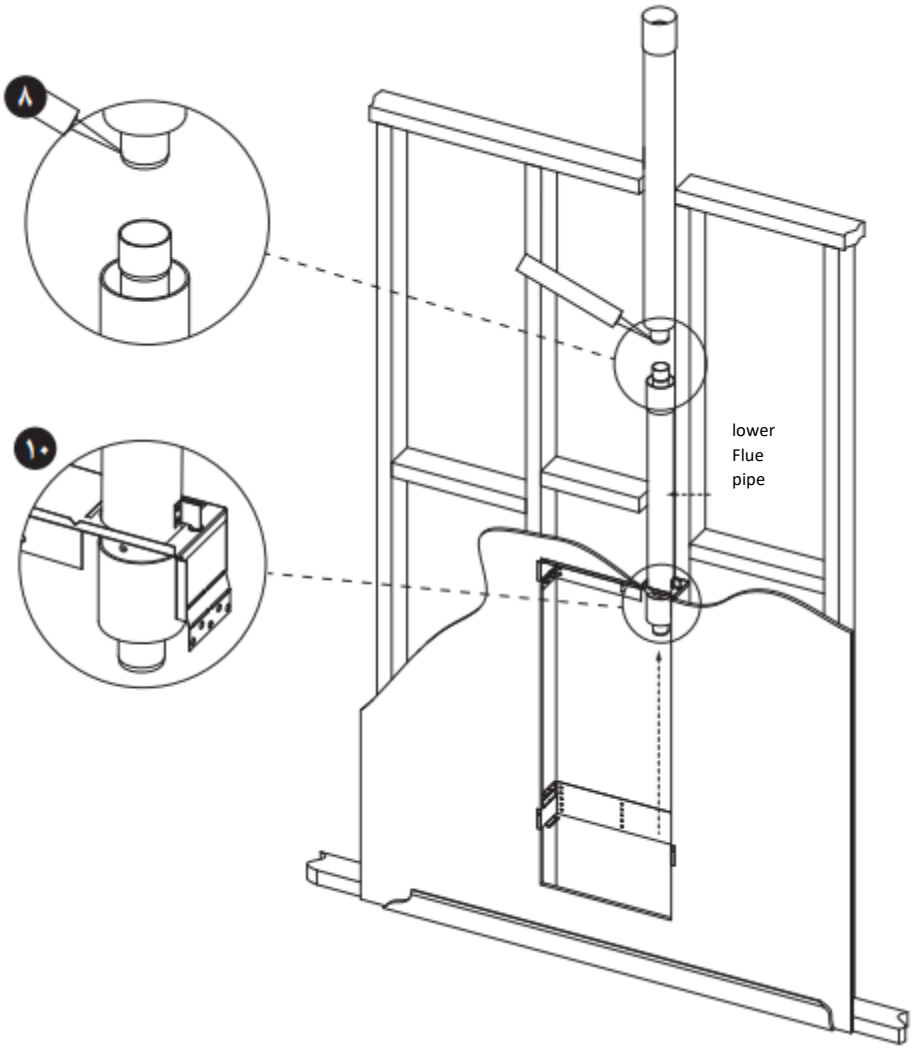
7-Push the clipped aluminum tube into the outer PVC pipe. Repeat this process to provide the required length to pass through the top metal plate and reach the roof hole.



8- Place the PVC and aluminum tube assembled in the previous step into the space inside the wall and connect the aluminum tube with silicone at the connection point.

9- Connect the coaxial flue installed in the wall to the bottom fixed pipe with silicone. (The flue-mounted end pipe is a fixed aluminum tube assembled with a PVC pipe shown in the figure below.)

10- Connect the lower flue pipe and place the assembled pipe in the upward direction into the flue hole and use the clamps to fasten the end pipe of the flue to the upper base of the installation.



The wide part of the aluminum tube should be facing upwards and all joints should be sealed with a layer of silicone.

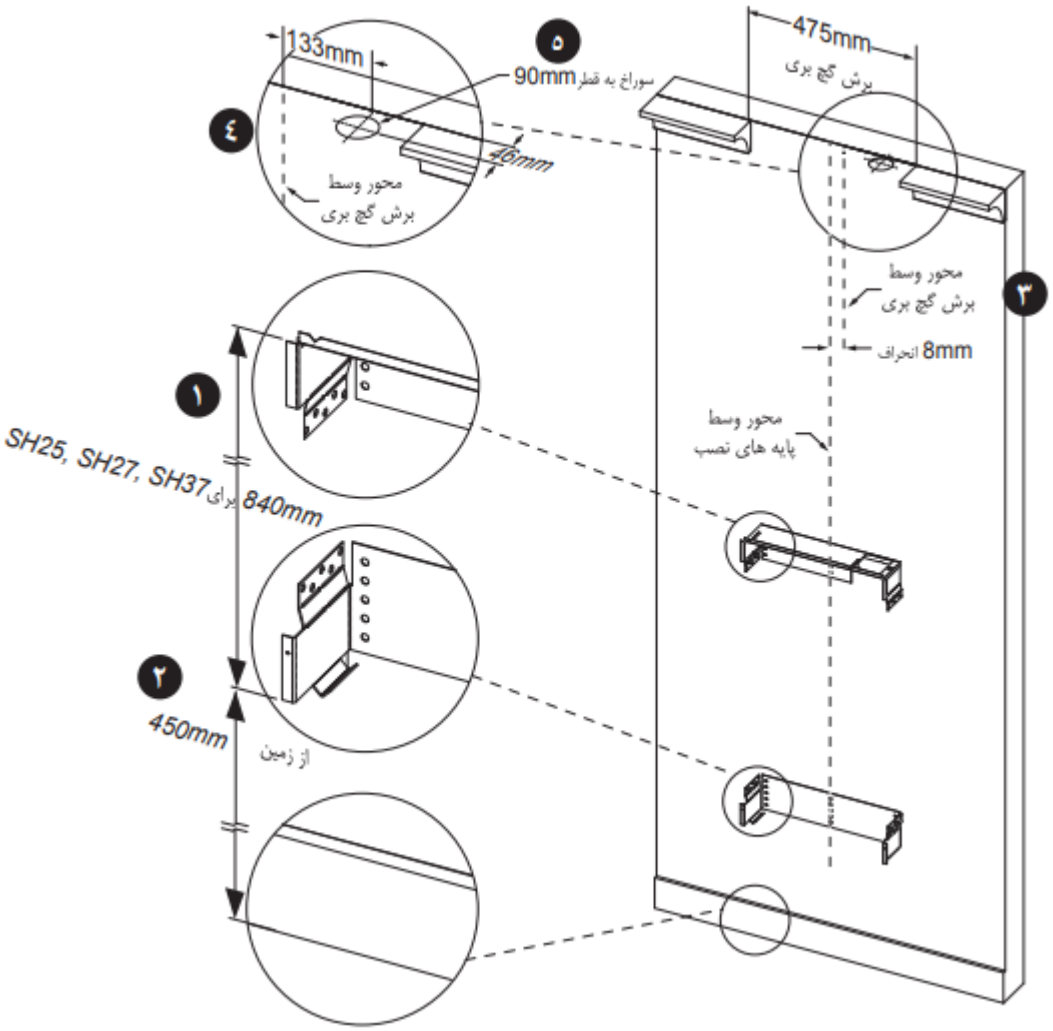
Installation of the Surface Vertical Coaxial Flue

In partitions or walls with internal frames, the upper part of the installation base should be installed at least on one side or in the center on one of the wall columns and the lower part of the installation base should be attached to at least one of the wall columns.

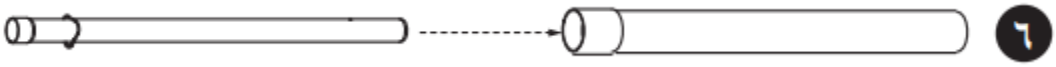
1- Install the top mounting base on the wall with the screws in the kit so that its center or one side is on the column.
2- Install the lower mounting base with the available screws as shown in the figure. The distance marked between the bases in the figure is between the upper edge of the upper base (when viewed from the side) to the lower edge of the lower base.
3- Mark the middle axis of plastering and cut it.

The middle axis of the plastering is 8 mm from the center of the upper installation base to the right while standing in front of the heater.

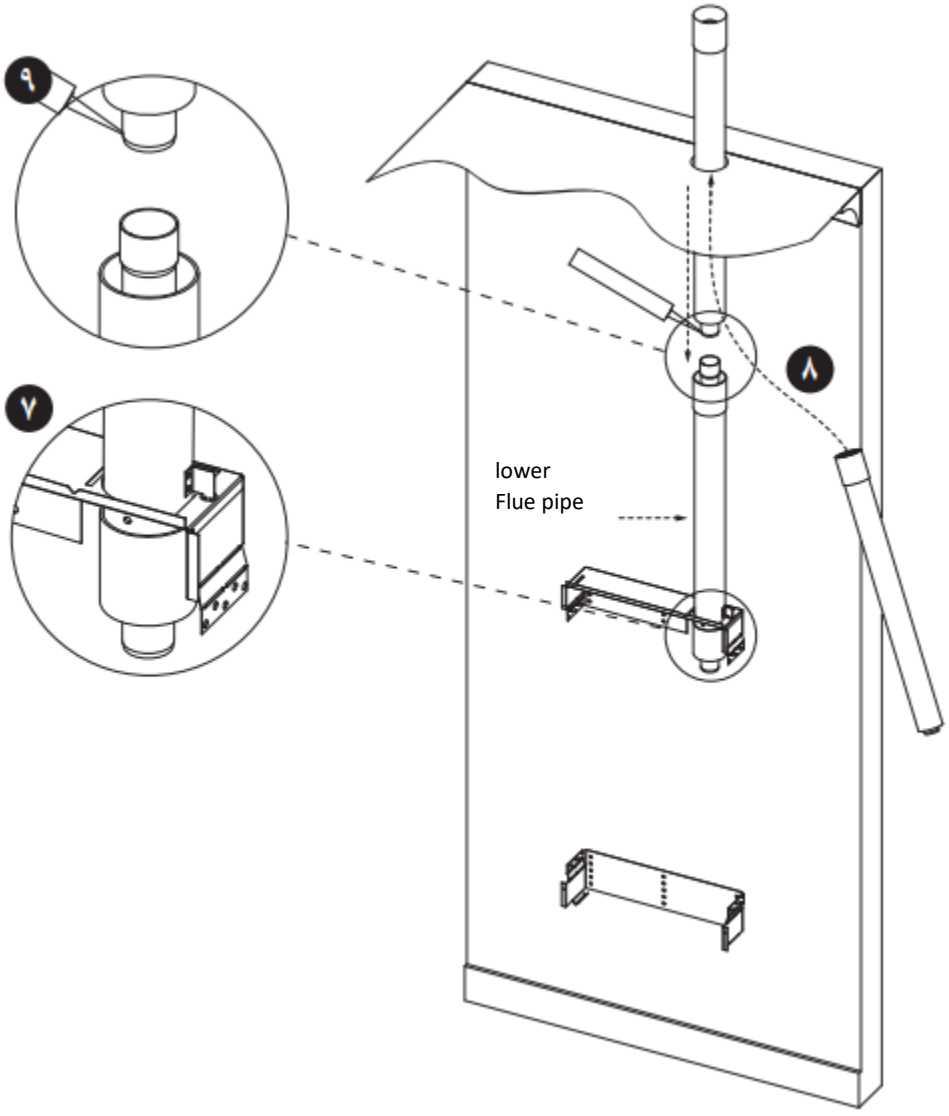
4- At a distance of 133 mm to the right of the plastering axis and 46 mm in front of the wall, mark the location of the flue hole on the roof.
5- Cut the flue hole with a diameter of 90 mm in the ceiling with the center of the place marked in the previous part.



6- Press the clipped aluminum tube into the outer PVC pipe. Repeat this process to provide the required length to pass through the roof hole.



7- Install the bottom flue pipe according to the figure.
8- Next, install PVC and aluminum coaxial flue to pass through the hole created in the roof.
9- Put a layer of silicone on the connection part of the aluminum tube and connect the inner and outer pipes.



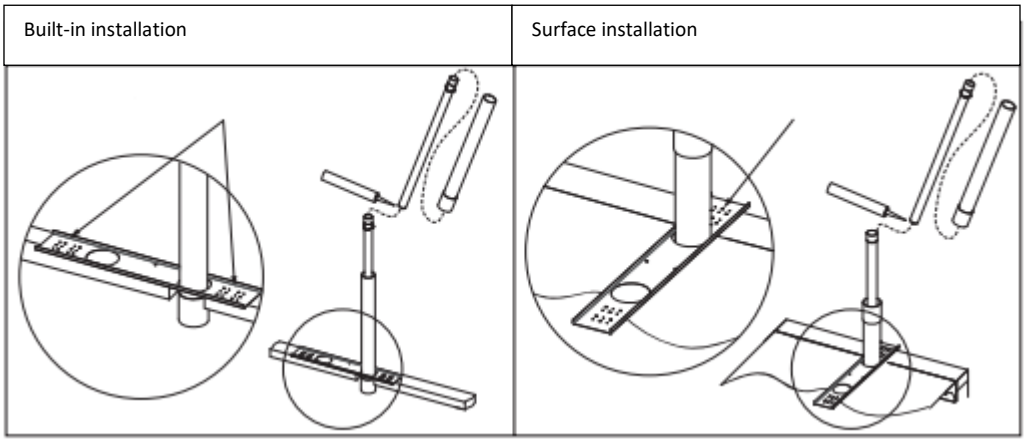
Extension of the Surface Vertical Coaxial Flue to the Ceiling and Installation of the Cap

1- Attach the upper installation panel to the dropped ceiling or attic.
Pass the upper installation panel through the flue. In the built-in mode, close both sides and in the surface mode, close one side of it on the dropped ceiling.

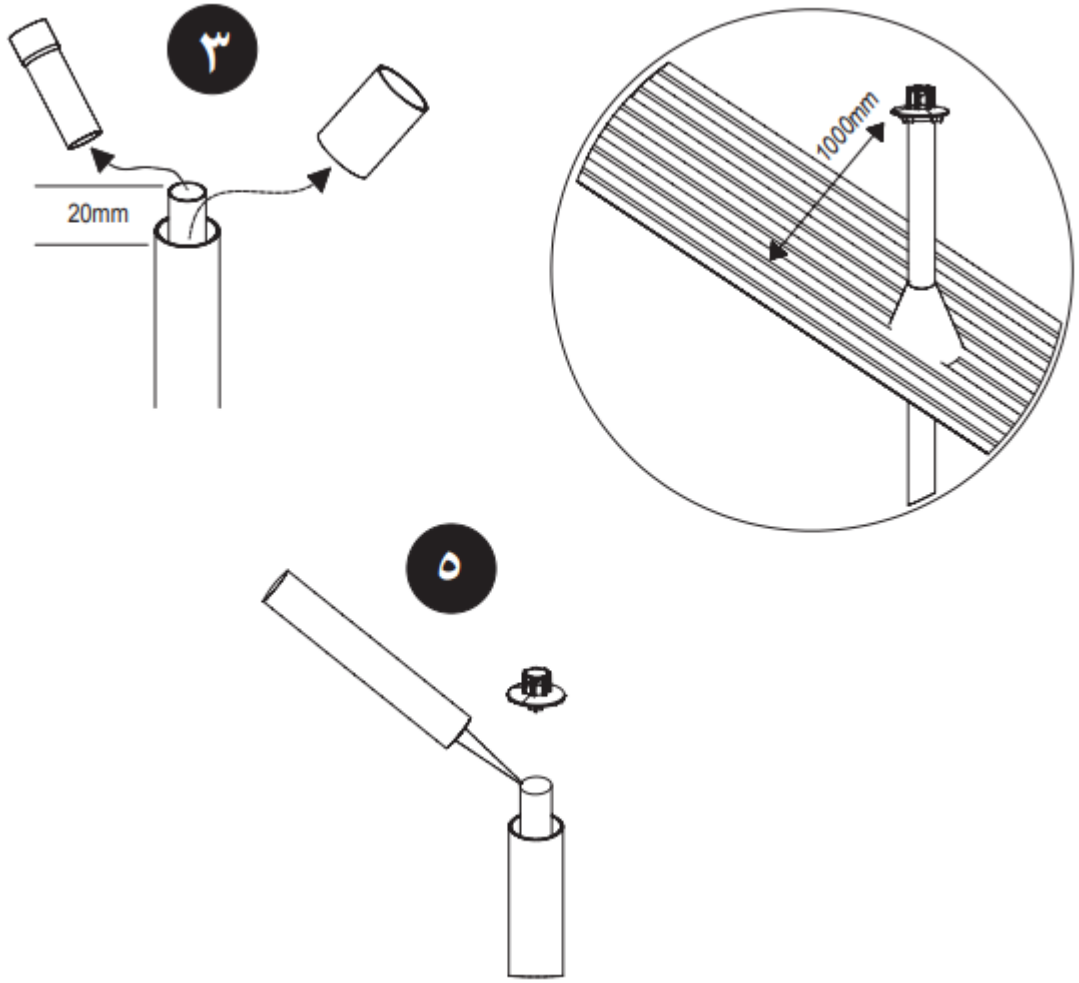
2- Install a coaxial flue to increase the length so that the flue comes out of the ceiling.

Both sides of the upper mounting panel are screwed

Only one side of the upper mounting panel is screwed

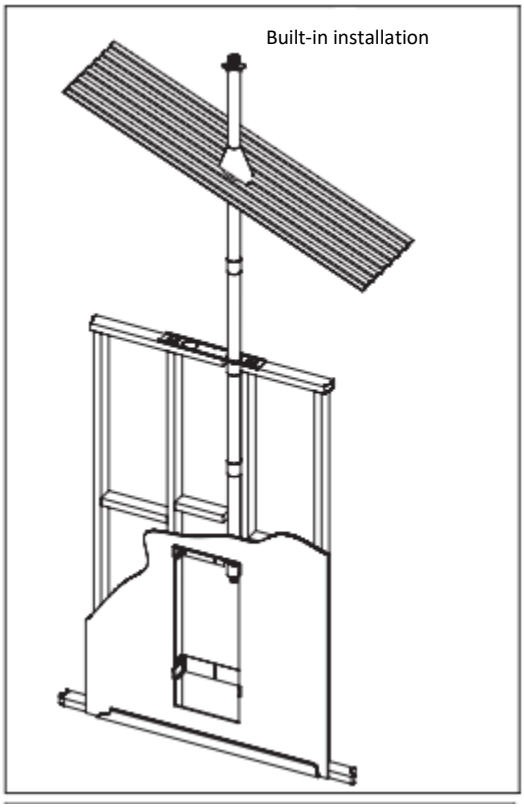


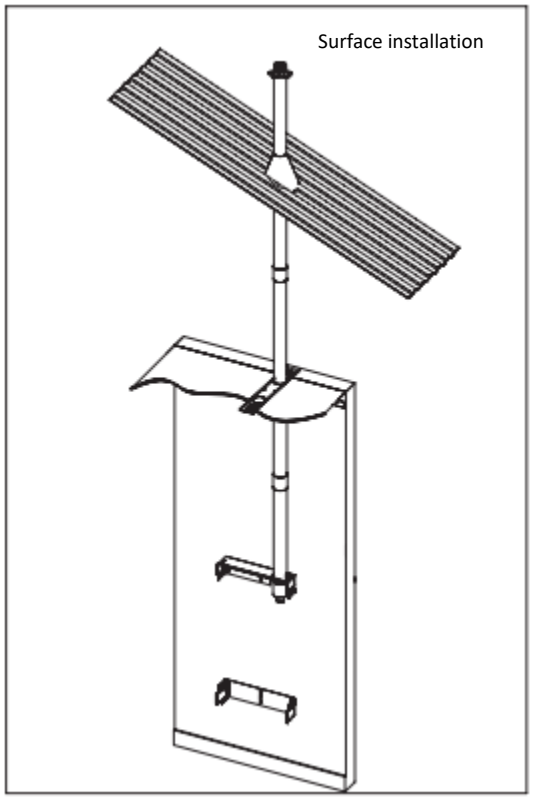
3- Cut the inner (aluminum) flue pipe in a way that complies with the instructions and regulations. The distance from the flue to the ceiling must be at least 1000 mm. Cut the outer tube (PVC) so that the inner aluminum tube is 20 mm out.
4- Seal the roof hole with a suitable lid.
5- Apply a sealing layer on the inner pipe (aluminum) so that its connection with the flue cap is sealed.



The end of installing the vertical coaxial flue

Vertical flue installation completed. Its different modes are as the following figure.


Built-in installation


Surface installation

Installing the heater in built-in mode

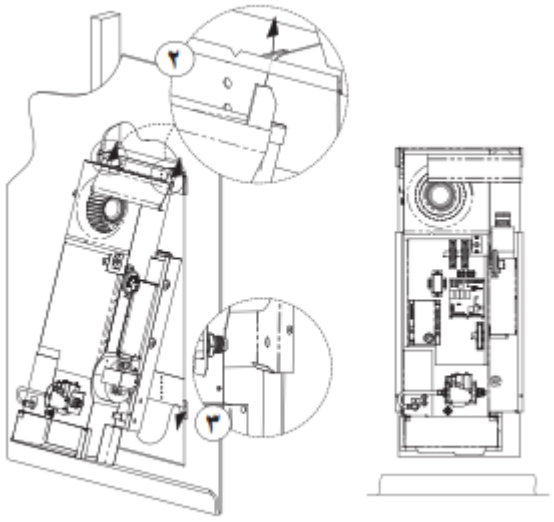
Installation Steps

1- Place the heater on the installation bases (refer to the installation instructions of the flue kit).

2- Lift the heater so that the two holding hooks are placed in the upper part of the heater inside the upper slot of the installation base. Make sure the hooks on both sides are paired.

3- Push the bottom of the heater down so that the bottom holes are inside the lower spike of the mounting base. Make sure that the main panel of the heater body is well matched at the bottom of the mounting base on the buttons.

The minimum distance between the heater and each of the side, upper and lower walls and the around shelves is 30 cm.
Depth required to install the heater panel in built-in mode is 16 cm for model SH37 and 10 cm for other models.



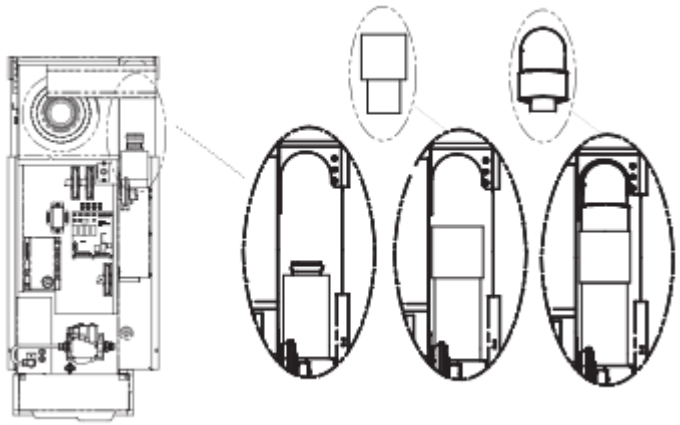
Connection to the Flue System

1- Place the connector of increasing the length of the air tube on the coax.

2- Pass the combustion products outlet hose pipe through the plastic air inlet hose pipe and connect it to the coax combustion products outlet.

3- Connect the plastic air inlet elbow to the connector of increasing the length of the air tube.

Make sure the O-rings are impregnated with silicone grease and are properly seated in the grooves.



Installing the heater in Surface mode

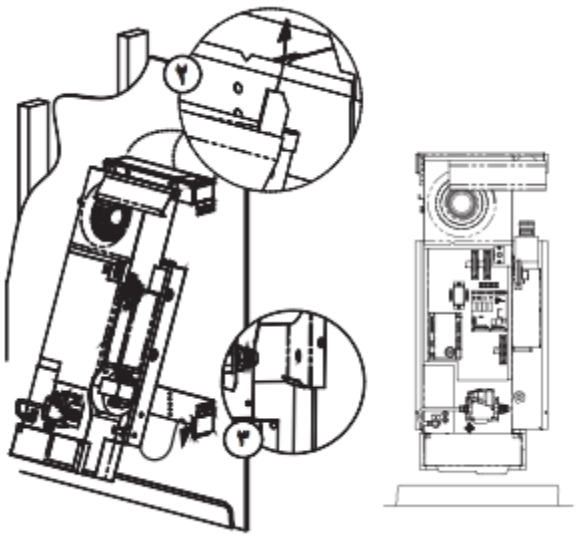
Installation Steps

1- Place the heater on the installation bases (refer to the installation instructions of the flue kit).

2- Lift the heater so that the two holding hooks are placed in the upper part of the heater inside the upper slot of the installation base. Make sure the hooks on both sides are paired.

3- Push the bottom of the heater down so that the bottom holes are inside the lower spike of the mounting base. Make sure that the main panel of the heater body is well matched at the bottom of the mounting base on the buttons.

The minimum distance between the heater and each of the side walls is up and down and the shelves are around 30 cm.



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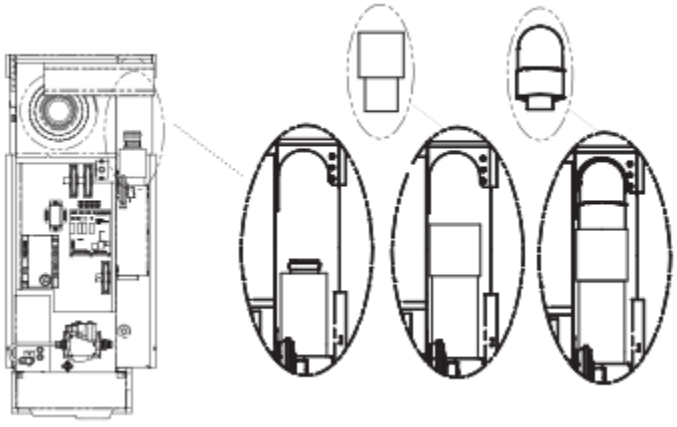


Implementation Method

1- Open the gas valve and establish the power supply. Check the type of gas and make sure that the gas flow path in the pipes is not clogged.
2- Control the flue system. Check that the inside and outside of the flue are properly seated and connected to the heater.
3- Make sure there is no gas leak. Fix any gas leaks.
4- Check the flue terminal and make sure it is located correctly.
5- Control the gas pressure. Check the high and low gas pressure at the test point.
6- Check that the heater turns on and works properly.
7- Explain how the heater works to the consumer.

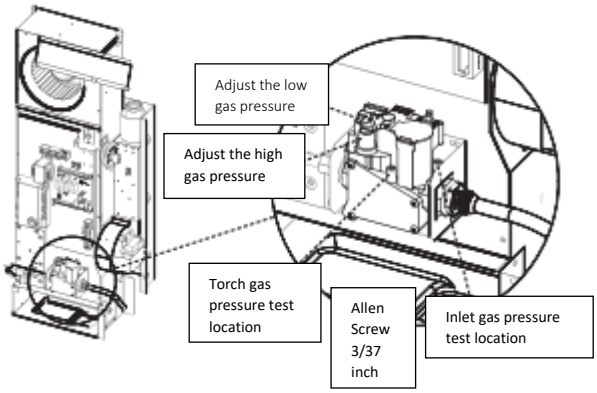
Gas Pressure Control

1- Loosen the burner gas pressure screw at the test point, but do not loosen the screw completely (use a 3.32 Allen wrench)
2- Connect the barometer to the burner pressure test point.
3- Turn on the heater.
4- The low gas pressure must correspond to the pressure specified in the specification label. If you need to adjust, remove the low-pressure adjustment screw cap and turn the screw counterclockwise to increase the pressure and counterclockwise to reduce the pressure.
5- The high gas pressure must correspond to the pressure specified in the specification label. If you need to adjust the high pressure, remove the high-pressure adjusting screw cap and turn the screw clockwise to increase the pressure and turn it counterclockwise to reduce the pressure.

Turning on the Heater: Press the on / off button of the heater and increase the heater temperature to start the heater. At first the gas flame is low and increases after about 30 seconds. If it takes longer to control and adjust the low gas pressure, turn on the eco mode (press and hold the lower button ↓ for 2 seconds, the red LED lights up). To turn off Eco mode, press and hold the ↓ button again for 2 seconds.

Start

• Press on/off button, press ↑ to increase the temperature set;
• The heater turns on.
• The heater checks the safety system.
• The combustion fan starts working.
• The lighter ignites and the gas valve opens.
• The burner ignites with low power.
• The room fan starts about 15 seconds after ignition.



Measure the gas pressure when all gas appliances are in operation. If the required gas pressure is not met, measure the inlet gas pressure when the heater is on.

Minimum inlet gas pressure: Natural gas: 11.3 mbar liquid gas: 27.5 mbar

Heater Function

The heater constantly monitors the ambient temperature with the set temperature and monitors the safety system.

• If the ambient temperature is much lower than the set temperature (if the difference between the ambient temperature and the set temperature is large), the heater increases the gas rate and the fan speed of the room.
• If the ambient temperature is slightly lower than the set temperature (the difference between the ambient temperature and the set temperature is small), the heater reduces the amount of gas and the fan speed of the room.
• The heater switches off when the ambient temperature reaches the set temperature.
• The heater temperature is adjusted by pressing the down / up button.
• By pressing and holding the ↓ button for 2 seconds, the ECO mode is activated and the red indicator will be on.
• By pressing and holding the ↑ button for 2 seconds, the child lock feature is activated and the red indicator will be on.
• On cold days, water vapor may be seen around the flue, which is normal for high-efficiency appliances.
• If there is an error, the heater will turn off and restart.

• If the heater cannot be restarted, the device will give an error message. (Refer to the inner label of the front cover of the heater)

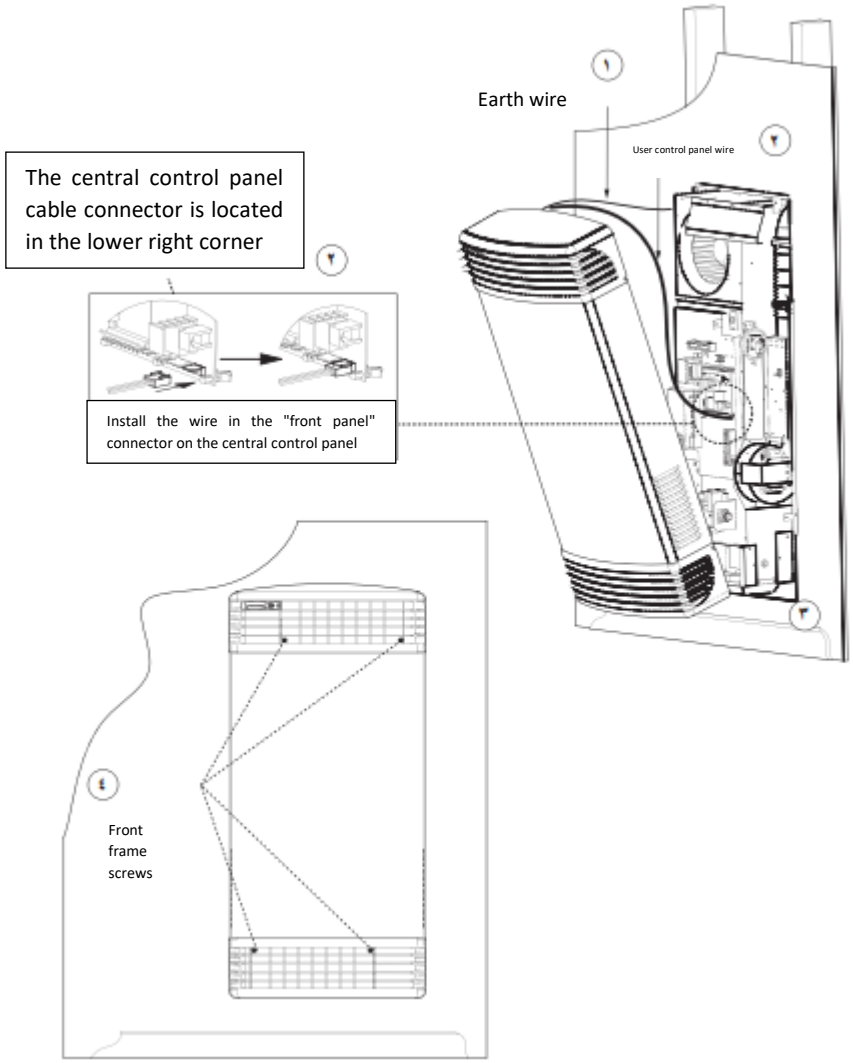
Shutdown Steps

• The heater turns off.
• The torch goes out.
• The room fan operates first at high speed and then at low speed to cool the heater.
• Continued operation of the fan at any speed depends on the high or low temperature of the burner at any time.

If you see any warning during initiation, refer to the error codes inside the heater cover.

Cover installation

1- Connect the ground wire from the cover to the heater body (top and left side of the cover)
2- Connect the set of control wires (string of colored wires) from the main board to the user control panel. The connection is named as FRONT PANEL and the wire can only be connected properly.
3- Attach the cover to the heater body from the bottom window so that it completely covers the metal body of the heater. Then place the top window in place so that it covers the heater body and the mounting base. The cover set must be completely in contact with the wall surface.
4- Close the cover to the body with 4 screws.



Note that the removal of the heater cover after installation, for any service, inspection or possible repairs should be conducted only by an authorized service center. If the cover is detached, damaged or opened for any reason, turn off the heater and contact authorized service personnel.

Operation

• All surfaces of the heater are thermally insulated and touching the heater body is not dangerous.

• Due to the presence of a room blower fan, the heater does not overheat the floor, shelves and surrounding materials.

• In any case, do not place flammable materials near the heater. The safety distance of the heater from the side walls, top and bottom, shelves and curtains is at least 30 cm.

• Each heater is only for the type of gas that is listed on it, and if you need to change the type of gas consumed, this should be done through the company's after-sales service center.

At the beginning of the cold season and before starting the heater, make sure that the flue system and the heater are working properly while contacting authorized service personnel.

Safety Warning in Case of Gas Leak

In case of gas leakage and inhaling its smell, before taking any actions, care should be taken not to light any matches, lighters and the like in that place, and also do not turn off the switches and electrical appliances and keep them on or off as they are, because a flame or spark from any of the above actions may cause the diffuse gas to explode.

In such cases, while maintaining composure, carry out the following items:

1- Remove family members from the place contaminated with gas.

2- Close the main gas valve immediately.

3- If the electricity meter is outside the gas-contaminated space, disconnect the power from the main fuse.

4- Open the doors and windows.

5 - Shake the wet cotton towel to accelerate the flow of air contaminated with gas (note that never use fans, fans and other similar electrical devices to remove contaminated air).

6- Do not allow people to enter the house until you are sure that the gas is completely drained.

If the place is dark, you should avoid turning on the light or any kind of flame. A flashlight can be used to illuminate the area. Turn on the flashlight outside the gas-contaminated space.

Reminder

• If the power is turned off and on, the heater will turn off and after turning it on, the heater will automatically conduct the test and initiation steps.
• If the heater flame is intentionally or unintentionally extinguished, at restart, the heater will automatically turn on the flame, taking into account the appropriate stop time.
• If you need to open the front cover of the heater, make sure the main gas valve is closed and the power is off.

Safety Intervals:

• If the gas is cut off, the heater switches off immediately in less than one second.
• If the flame is not present and the heater is off, the new control and start-up cycle will begin in less than 10 seconds.

Heater malfunction

If your heater does not work, check the following simple items before calling and requesting service to avoid paying unnecessary fees.

Fault	Probable Cause
Indicators do not light up	Make sure the plug is plugged in; Press the on / off button.
The device does not turn on	Make sure the child lock is not activated. Check / increase the set temperature.
Combustion does not take place in the furnace	The gas flow is interrupted due to the shutdown of the gas controller or the gas flow is interrupted by the supplier; Make sure ECO mode is off; Make sure doors and windows are closed
The heater heats up slowly	Check that the hot air outlet is unobstructed / Keep appliances away from the front of the heater / Check or increase the set temperature

Error Message:

This heater is equipped with a smart system and defective performance by switching on and off the key display. Accordingly, the display signal lights indicate the error as described in the table below.

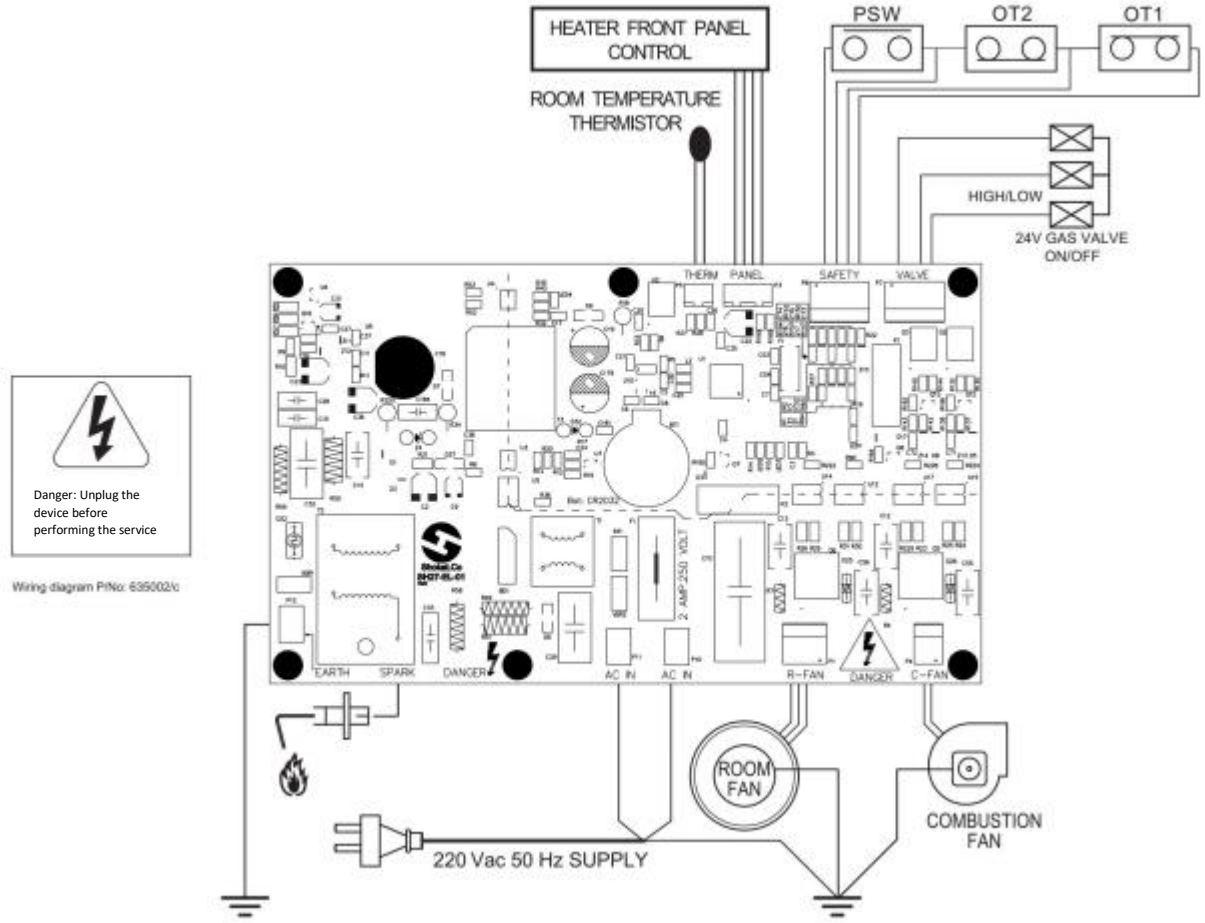
Digital User Panel Guide

FC	Status of markers	The basic solution to fix the defect
1		Request service
2		Make sure the flue is not blocked and reset by the user
3		Make sure the flue is not blocked and reset by the user
4		Request service
5		Make sure the gas flow is not interrupted. Reset by user.
6		Make sure the bottom heater vent is not blocked
7		Reset by user.
8		Request service
9		Request service
13		Request service

- Blinking three red markers: error code

Heater Electrical Circuit Diagram

Wiring Plan



SHOKAT low consumption heater							
Model	SH13		SH27		SH37		
Setting	LOW	HIGH	LOW	HIGH	LOW	HIGH	
Nominal gas consumption	0.29	0.43	0.4	0.6	0.68	0.98	M3/h
Gas pressure test point	5	10	5	10	5	10	mbar
The diameter of the gas orifice according to the figure	1.40		1.60		1.60		mm
National standard number 19940 & 1220-2				Input power specifications 220 Vac, 50Hz, 0.63 A			
NATURAL GAS							

Digital User Panel Guide

Introduction

The new version of the heater user control panel consists of a digital display (2-Digit), three LED lights and three pushbuttons. Sending all commands and announcing all statuses is done through this set.

Initial Start-Up

By connecting the heater to the mains, the status of the panel is initially turned on to full power for 2 seconds (numerical display and three lights are turned on together), which indicates the standby status.

Initiation

The device will start by pressing the power button (⏻) and in this case the power light will turn on. The heater temperature range is from 16 to 28 degrees, which can be adjusted using the up and down keys.

Pressing the POWER key again turns off the device.

Child Lock Status

By pressing the Lock key (▲) and holding it for 2 seconds, the device goes into lock mode and the lock light (🔒) turns on. In this case, it is only possible to turn off the device and will not accept any other commands until the device is unlocked. By pressing this key again and holding it for 2 seconds, the device returns to its original state.

ECO Status

By pressing the Eco key (▼) and holding it for 2 seconds, the device is in Eco mode (e) and the heater works low. In this case, the Eco light is on. By pressing this key again and holding it for 2 seconds, the device will return to normal.

Fan Mode (Cooler)

To use the fan independently, press the power button for 3 seconds when the heater is off, then the fan starts working and circulates the room air (note that in this case the room heating operation is not performed and the air in the room circulates without any change). This mode is deactivated by turning off the heater.

Device Menu Status

The device settings menu is activated and appears by simultaneously pressing the up and down keys and holding them for 3 seconds. In this case, the power light is blinking and the device display shows the menu list, which from the up / down keys it is possible to select its options.

In menu mode, the power switch will have two different functions. Pressing this key momentarily to confirm (SET/OK) in each step and holding it for 2 seconds is a return to the previous step.

If the user enters the device menu and has no activity for up to 20 seconds, the device will automatically exit the menu.

By entering any of the submenu options, the device enters the second layer of the setting, and in this case, the power light (which was previously blinking) becomes fixed and the lock light turns blinking. Similarly, by entering the third layer of the settings (for example, in the settings to enable or disable the beep sound) the lock light is fixed and the echo light becomes blinking.

For example, the steps and layers of beep activation are as follows:

1- Enter the device menu (first layer)

2- Select menu number 2 device settings (second layer)

3- Beep activation (third layer)

The menu list and description of its sections can be seen on the next page.

Main Menu	Title	Description
1	Date / Time Set	With 5 steps in the next layer to adjust Hour - minute - day - month - year By entering this option, set the desired values (marked as blinking) in order using the up / down keys. Here you can move to the next item by pressing the power button and finally return to the main menu. The set clock will not be activated until the user exits the device menu. Therefore, if you continue to work for a long time, it is possible to create a difference between the device clock and the real time. To prevent this discrepancy, exit the menu after setting the device clock.

2	Device Settings	Section (Submenu)	Performance
		1	**Beep Sound Status** There are two modes in this section: **ON**: In this mode, you can hear the beep by pressing the buttons on the user panel and also turning the heater on and off. **OFF**: In this case, the beep sound cannot be heard by pressing the user panel buttons and turning the heater on and off
		2	**Holiday Calendar:** There are two modes in this section: **ON**: Calendar holidays are activated and the heater does not turn on automatically on holidays based on the solar calendar. **OFF**: The heater operates according to the days specified by the user in the timer activation phase, regardless of the calendar holiday.
		3	**Initiation Status:** There are two modes in this section: **ON**: • If the heater is in automatic mode, it turns on after 10 seconds by turning off and on the power and works according to the program given to it. • If the heater is in manual mode, by re-connecting the heater, the heater will be switched on immediately according to the conditions and settings given before the power failure, and will start operating. **OFF:** In manual mode, the heater does not turn on after the power is turned on and needs to be started by the user

		4	Initial Temperature Level Status: There are two modes in this section: L5: The heater starts up again according to the previous temperature set for it. DF: The heater operates by 21 degrees by default after restarting.
		5	Viewing Error List and Clearing it: Use the up / down keys to see previous errors stored on the device. Pressing the two up + down buttons at the same time for 3 seconds clears the list of errors. In this case, the phrase CL is displayed on the screen for a short time.
		6	Reset Factory: By pressing the two up + down buttons simultaneously for 3 seconds, the device returns to the factory settings. In this case, the phrase Re is displayed for a short time on the screen.
		7	Selection of Ready Timer Programs: In this section, you can select 3 scheduled modes to start and end the heater operation. Timer program P1: 5-day from 06:00 to 13:00 Timer program P2: 5-day from 06:00 to 18:00 Timer program P3: 5-day from 12:00 to 18:00 * By selecting any of the above programs, timer 1 is set accordingly and timer 2 is deleted.
		8	Viewing the Software Version of the Main Board and Panel: In this section, the version of the main board and panel can be seen.
3	Working Mode Set	Automatic or Manual Selection of Heater Function When the user enters this section, the following two modes	

		are visible: AU: Automatic mode; This option can be used to activate the heater timers and turn the heater on and off according to the time set by the user in steps 2 and 3 for the heater. KA: Manual mode - The heater is in manual mode and it is turned on and off by the user and the user presses the buttons of the user panel.
4	Timer 1	Note: To access menus 4 and 5 (activation of timers), you must first enter menu 3 and set the heater to AU mode. It has 4 steps in the next layer: 1-Activation, 2 - Mode setting, 3 - Start and End Time Set, 4 - Custom Mode Days Set 1 - When the user enters this step, he/she is faced with the following two options: ON Mode: The timer is activated. OFF Mode: Timer is deactivated. 2 - In this step, you can select the working mode of the heater: 5d: In this mode, the heater starts working on the first 5 days of the week according to the time you specify for the timer. 6d: In this mode, the heater starts working on the first 6 days of the week according to the time you specify for the timer. 7d: In this mode, the heater works on all days of the week according to the time you specify for the timer. CU: In this mode, the heater starts working on the days specified by the user in step 4. If this feature (CU) is enabled, submenu number 4 will open in the timer menu to select business days. 3 - In this step you can set the start time and end time of the heater, respectively. The timer setting pattern is as follows: Hours - Minutes • Note that the setting of the start and end minutes of the heater timer goes forward by 15 minutes and the order is 15- 30 - 45 - 00. 4 - At this stage, you can choose the days of operation of the heater per week to your liking. This step follows the following

		pattern: 1 is Saturday, 2 is Sunday, 3 is Monday, 4 is Tuesday, 5 is Wednesday, 6 is Thursday, 7 is Friday, with one click (Power button) on the desired number, it will be activated that day to turn on the heater according to the time you have set for it. • How to display the days of the week before they are selected: (E.g., Saturday not yet selected)  • Method of displaying the days of the week after they are selected: (For example, Saturday is selected) 
5	Timer 2	Note: To access menus 4 and 5 (activation of timers), you must first enter menu 3 and set the heater to AU mode. It has 4 steps in the next layer: 1-Activation, 2 - Mode setting, 3 - Start and End Time Set, 4 - Custom Mode Days Set 1 - When the user enters this step, he/she is faced with the following two options: ON Mode: The timer is activated. OFF Mode: Timer is deactivated. 2 - In this step, you can select the working mode of the heater: 5d: In this mode, the heater starts working on the first 5 days of the week according to the time you specify for the timer. 6d: In this mode, the heater starts working on the first 6 days of the week according to the time you specify for the timer. 7d: In this mode, the heater works on all days of the week according to the time you specify for the timer. CU: In this mode, the heater starts working on the days specified by the user in step 4. If this feature (CU) is enabled, submenu number 4 will open in the timer menu to select

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- Pressing the power key briefly to confirm (Ok / Set) in each step and holding it for 2 seconds is a return to the previous step.

- Auto Mode Status

The presence of two separate timers in the device allows the heater to start automatically at the desired time intervals and turn off at a certain time. Each of the timers can be activated and programmed independently, and three main working modes (5 days, 6 days, and 7 days) and a custom working mode (optional number and number of days) are provided for their automatic operation. The start and end time of the timers can be adjusted through the panel according to the instructions and stored in the internal memory.

To activate the automatic function, you must first enter option 3 from the main menu and change its status to AU mode. By activating the auto mode, options 4 and 5 appear from the main menu (previously hidden) and each timer is accessible and set.

If the heater timers are set to overlap, the heater will be activated in the larger start and end intervals. For example, timer 1 is set from 8 am to 6 pm and timer 2 is set from 6 am to 12 pm, in this case the heater will be active from 6 am to 6 pm.

As long as the device is activated automatically, it is possible for the user to turn it on / off manually. Also, outside the automatic time interval, the device can be turned on manually but after a certain time (90 minutes) it will turn off automatically (90 minutes cannot be changed)

Operation in automatic mode requires the presence of a backup battery on the main board. If the device timers are deactivated and options 3, 4 and 5 (automatic status and timers) are hidden and inaccessible in the device menu, the presence of a service worker is required.

- Device Error Status

When the device fails (according to the list of available errors) the error code is displayed on the device panel with flashing lights. By pressing the power button in this mode, the device turns off.

Through the main menu and entering section 5 in menu 2, it is possible to see the last 6 errors of the device. In this case, using the up and down keys can select and view errors. Also, by pressing the up and down keys simultaneously for 2 seconds, all previous errors of the device are eliminated.

- Reset to Factory Settings

It is possible to reset all panel settings through the main menu and enter option 6 in menu 2. By entering this option and pressing the up and down keys simultaneously for 2 seconds, the device returns to the factory state. In this case, all settings are reset and the device is ready to reset.