

VELTRON HEATERS

USER MANUAL

- ▶ Thank you for purchasing the VELTRON Heater. Please read this user manual carefully before you operate this heater.
- ▶ It is recommended that you put this manual where the user can easily find it. It is obligatory that the user read "Notice for Safety" carefully before using, and they should be aware of this notice whenever using this heater.
- ▶ This heater is designed for your country only. If you use it in another country, you have to check the electricity first, and if the electricity condition is the same, you can use it.
- ▶ A warranty card is enveloped in this manual.
- ▶ The contents (features and specifications) in this manual are subject to change without notice.



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NOTICE FOR SAFETY

This is for protecting the user's safety and preventing any property damage. Please read carefully and follow the instructions in this manual. It is classified as "Warning" and "Caution" by the contents.













WARNING In cases of misuse, it may cause serious wounds or death.

CAUTION In cases of misuse, it may cause a slight injury or property damage.

Meaning of symbols

 Forbidden  Obligatory

WARNING

- | | |
|---|--|
|  Use an AC 220/230V (50 Hz) power supply only.
(Otherwise, it may cause a fire or an electric shock.) |  Use the proper fuse.
(Otherwise, it may cause malfunctioning or a fire.) |
|  In the case of cleaning, you must take out the plug from the outlet and wait until the furnace is cooled down sufficiently.
(Otherwise, it may cause an electric shock or a burn.) |  Put a plug into the outlet tightly with Earth (-) only.
(It may cause an electric shock.) |
|  It is dangerous to turn off this heater by taking out the power plug.
(It may cause a malfunction or electrical shock.) |  Please turn it off using the ON/OFF button.
(Otherwise, it may cause an electric shock or a burn.) |
|  Do not use a damaged power cord or plug or a loose outlet.
(It may cause shorts, fire, or a shock.) |  Do not fold the power cord or put heavy material on it.
(It may be damaged by the covering material, which might cause a fire or an electric shock.) |
|  Do not take out the plug while holding the cord or with wet hands.
(It may cause a fire or an electric shock.) |  Do not place any inflammable material near the heater, including curtains, carpet, paper, match, clothes, etc.
(It is exposed to the danger of fire or a burn.) |
|  Do not extend the power cord with connecting another cable in the middle.
(It may cause a fire or an electric shock.) |  Do not place or use any inflammable near the heater, including fuel, gas, thinner, benzene, spray, solvents, volatile organic compounds, etc.
(It is exposed to the danger of fire or explosion.) |

※ Place this manual noticeably near the heater so that, if necessary, the user can always find it easily.

NOTICE FOR SAFETY

CAUTION



You must ventilate well while you are using the heater, and do not use it in a stuffy area where ventilation is not possible.
(You need to ventilate with fresh air 1~2 times per hour.) (In cases of incomplete combustion due to a lack of oxygen, carbon monoxide can be increased to cause an accident from poisoning.)



It is dangerous to use this heater for a long time in a closed room, especially if there are children, the elderly, or the weak.
(It is recommended that the user open the windows to let fresh air into the room if the room is stuffy.)



It is dangerous to put your hands or anything else into the grill or furnace or to apply a considerable shock or force to the heater.
(It is exposed to fire, burn, or electric shock.)



Do not place any inflammable vinyl or plastic goods on top of the heater or cover the heater grill with clothes.
(It is exposed to fire or burn.)



Do not place any electrical items or heavy materials on top of the heater.
(It may cause malfunctioning or electrical shock, or if the heavy material falls, the user can be injured by shock or a burn.)



Do not touch any of the heated material, such as the grill, furnace, etc. While the heater is operating or just after extinguishing, the grill and furnace are hot, so do not touch any of those parts. Especially pay more attention to keeping children away from hot materials.
(they may cause a burn).



Do not move or transport during the operation.
(It may cause a fire or a burn.) (In case of moving, you must turn off heaters and take our power plug.)



It is recommended not to use this heater in highly elevated areas.
(Do not use this heater in areas where it is higher than 1500m above sea level.)



Do not use this heater for anything other than heating.
(Do not use this heater for keeping pet animals.)



You need frequent ventilation in areas 700~1500 m above sea level.
(Due to the lack of oxygen, carbon monoxide can be increased to cause an accident from poisoning.)



Do not operate this heater while you are sleeping. (Due to no ventilation while you are sleeping, the room easily gets stuffy and lacks oxygen.)



Pay attention to avoiding water entering the heater during cleaning.
(It may cause a fire or electric shock.)



Do not use this heater in unstable places.
(Do not use this heater on an inclined surface or a shaking support. This heater may fall down, which may cause a fire or malfunction.)



If you use an extension cord to power the heater, only a rubber extension cord rated at 230V 1.5X3 with ground (IP44) may be used, up to a maximum length of 20 meters, with a specification of 3G 1.5mm² and a 16A rating. The manufacturer or importer does not assume responsibility in case of a fire or any other electrical accident resulting from a damaged extension cord (e.g., run over by a forklift or crushed by a heavy object).

※ Place this manual noticeably near the heater so that, if necessary, the user can always find it easily.

NOTICE FOR SAFETY

CAUTION



When storing this heater, be sure that you store it in a dry place indoors instead of in a hot and humid environment.

(Otherwise, it gets rusty or goes into trouble.)



You must take the plug out of the outlet if there is a flash of lightning or thunder or if you haven't used it for a long time.

(Otherwise, it is exposed to the danger of electrical shock, a short circuit, or a fire.)



Do not put an excessive physical shock on the remote controller, and do not disassemble it arbitrarily.



Call your local after-sales service agent in case the power cord is damaged.

(Otherwise, it is exposed to the danger of electric shock, a short circuit, or a fire.)



Do not put this heater on an unstable surface of the ground, such as an inclined or bumpy surface.

(The heater may not work.)



Do not shower water on the heater directly, nor use benzene, thinner, or alcohol for cleaning.

(Otherwise, it is exposed to the danger of electrical shock, a short circuit, or a fire.)



If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or a similarly qualified person in order to avoid a hazard.

(Otherwise, it is exposed to the danger of electrical shock, a short circuit, or a fire.)



Do not operate this heater in a place where it gets wet from the humidity, such as a bathroom.

(It may cause an electrical short circuit or an electrical shock accident.)

TIPS BEFORE INSTALLATION...

1. Make sure the safety in the place where you wish to use this heater ensured.

■ The ground surface and surrounding area should be plain, non-flammable, and solid.

■ You need to have sufficient space surrounding the heater, at least 15cm from the wall and the left and right sides, and at least 1 meter from the ceiling and the front side, without any obstacles.

■ You need to use an exhaust duct when operating in small spaces.

(Recommended duct specification: 75mm or more (diameter))

(Be sure there are no raindrops entering the exhaust duct end.)

(You must ventilate frequently with fresh air by opening a window or fan.)

■ You must put an extinguisher beside the heater.

■ There must not be direct sunlight or excessive heat near the heater.

■ After you fix the installation, lock the caster to avoid unexpected movement.

■ Do not use this heater near a fabric, carpet, plastic, or vinyl curtain that may cover the heater in case of falling down, but in the wind or by any physical force that may cause a fire.

■ The heater must not be located immediately below a socket outlet.

■ Positioned so that the plug is accessible.

2. You must use diesel/red diesel/kerosene/ as fuel. If you use other fuel for example; gasolin, it will cause a irreversible damage to the heater

■ In the case of refueling, make sure the heater is turned off.

■ To be made by the manufacturer or his service agent, who should be contacted if there is an fuel leakage.

■

3. The proper electricity is 220/230V, 50 Hz. It will be applied and adjusted as per the customer's request. You must supply power as per its requirements only once they are adjusted.

TIPS BEFORE INSTALLATION...

- *Ensure the safety of the planned location for the diesel heater.
 - *The base surface should be flat, strong, and non-flammable.
 - *Sufficient clear space is required around the heater - the left and right sides of the heater should be at least 15 cm away from the wall, the distance from the ceiling should be at least 1 m, and there should be a minimum of 1 m of free space in front of the heater.
 - *When using the heater in a very small space, it is advisable to use an exhaust pipe or fresh air intake, **this is recommended but not mandatory**. It is recommended to use fresh air inlet from outside in case of small spaces, if needed it is possible to use exhaust pipe: please refer to the diagram.
- Recommended dimensions and material for the exhaust pipe: 75 mm diameter, 5 meters in length, made of aluminum or stainless steel. Ensure that rain does not enter the exhaust pipe. The room should be well-ventilated, either by opening windows or using a fan.
- *A fire extinguisher must be placed next to the heater.
 - *The heater should not be exposed to direct sunlight or placed near a heat source.
 - *After installation, lock the device's transport wheels to prevent accidental movement.
 - *Do not use the heater near fabric curtains, carpets, or plastic or vinyl curtains, as wind or other forces may cause the heater to become entangled, potentially leading to a fire.
 - *The heater should not be placed directly under a power outlet.
 - *The heater should be positioned to allow access to the power plug.
 - *Only diesel/kerosene/red diesel fuel may be used as the fuel source.

- *The use of other fuels may result in excessive soot or equipment malfunctions.
- *The heater must be turned OFF during refueling.
- *In the event of a fuel leak, contact the manufacturer or an authorized service center.
- *When disposing of the device, follow the relevant regulations for fuel disposal.
- *The required electrical supply is 220/230V, 50Hz. The heater will be configured to meet the customer's needs and should only be connected to the power supply after this configuration.

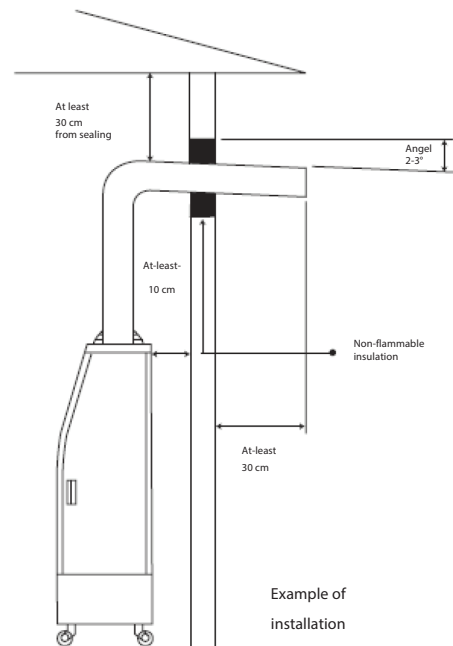
Installation Instructions:

Install the heater on a **flat surface**. If the heater is installed on an inclined surface, the burner may be damaged due to uneven burning.

REFER TO THE DIAGRAM: If there is no ventilation in the room or no ventilation system is present, or if there is insufficient oxygen flow, it is recommended and possible to install an exhaust pipe with the layout shown in the diagram. If the exhaust pipe is passed through a flammable wall, cover the inside of the wall with non-flammable insulation at least 3 cm thick.

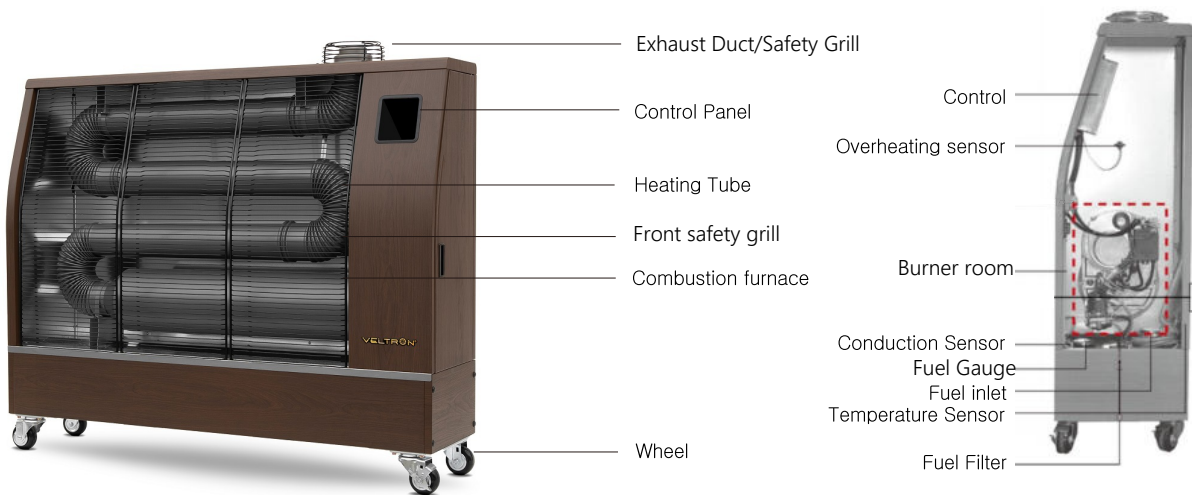
*Use a stainless steel or aluminium exhaust pipe (75-80 mm in diameter). The length of the pipe should be less than 4 m, and there should be no more than two joints. More than two joints in the exhaust pipe or a longer exhaust pipe than 4 m may cause incomplete combustion.

The models VHOE-90-VHOE-210 can also be transported sideways if the product is brand new. If there is fuel in the tank and the product has been used, it must not be laid flat.

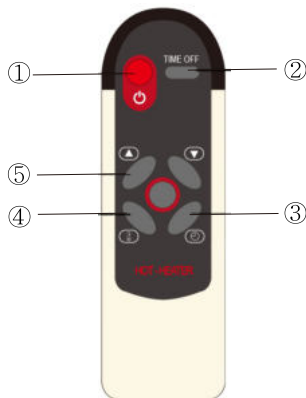


STRUCTURE & DESCRIPTION

STRUCTURE & DESCRIPTION FOR MODEL ※ This design may be changed for improved efficiency.



REMOTE CONTROL



1. ON/OFF

When the heater turns ON or OFF, you can press this button.

2. OFF TIMER

Every time you press this button, the heater repeats set-up and cancels.

3. TIME SELECT BUTTON

To select the time control mode

4. TEMP SELECT BUTTON

To select the temperature control mode.

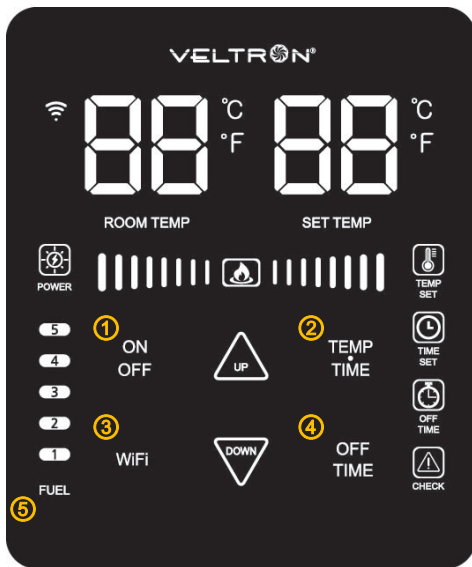
5. UP / DOWN

To set or change the temperature or time

- ① Connect the power cord of the heater to the outlet.
- ② When you connect a power plug, the current temperature is displayed.
- ③ When you press the UP/DOWN button, the desired temperature is displayed.
- ④ You can set the desired temperature between "0~40°C (1°C per press).

STRUCTURE & DESCRIPTION

CONTROL PANEL



FUNCTION

1. ON / OFF

Can be switched between power stand-by state and operational state using the ON/OFF button on the front panel.

2. TEMP / TIME

You can change the operation method by pressing the button and switch between time mode and temp mode.

3. WIFI

You can proceed with WiFi pairing by pressing the button for 5 seconds.

4. OFF TIME

This is a function that automatically turns off operation when the set time arrives.

5. FUEL LEVEL

You can check the remaining fuel amount.



CAUTION

- When the heater turns off, the motor (to cool the heater) is operated.
- It is dangerous to turn off this heater by taking out the power plug. It may cause a malfunction or electrical shock. Please stop the heater using the ON/OFF button.
- If the malfunction is caused by a power outage, the customer is responsible for the repair.

HOW TO USE

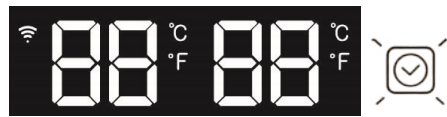
OPERATION & STOP

1. Connect the power plug (you can see the current temperature), then press the on/off button. (Check "SET time/time," the number on the right side.)

But if this heater operates in case it is first used from purchase, turn the air screw left around four times and then start by pressing the "ON/OFF" switch. The heater will be turned on with a "beep" sound and automatically operated. Fasten the air screw after 4 seconds. If the "E1" error is displayed, press the "ON/OFF" button more times (check page 19).



2. Operation mode can be changed by pressing the 'Time/Temp' button.



3. The heater operates when you set the temperature or time according to the operation mode using the UP/DOWN button.



4. Preheating

1) How it works

Preheating begins when you press the display power button to ON. Voltage is applied and preheating occurs only once.

2) Operating time

Warm-up lasts 180 seconds.

3. Automatic operation

When preheating is finished, the heater turns on automatically.

4. Precautions

Do not touch the heater during preheating.

Do not perform any other work while the heater is warming up.

(Some models do not have a preheating function.)

※Tip

In order to operate, the setting temperature should be higher than the current temperature.

- After power on, the default mode is temperature control mode.

During the operation, if you push the ON/OFF button, the heater will stop and the off-timer function will be cancelled.

Circulation fans operate in a minute after turning on the heater and stop in two minutes after turning off the heater.

(This fan is for circulating heat and a cooling heater.)

The model equipped with a "solenoid valve (by-pass device)" makes the remaining fuel return to the fuel tank. For 10 seconds, from the time the burner is off, the solenoid valve is in operation, which makes the remaining fuel return to the fuel tank, and by this device, the smell caused by unburned gas is remarkably shrunk.

HOW TO USE

TEMPERATURE CONTROL

This mode enables the user to set the desired temperature in the room, and once it is set, this heater works automatically, running and stopping repeatedly to hold this temperature. (If power is on and the heater starts operation, the temperature control mode will be operated by default.)

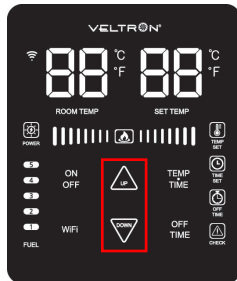
1. Push the ON/OFF button.



2. By pressing the "TEMP/TIME" button, select the temperature control mode.
At that time, the temperature control lamp will light up.

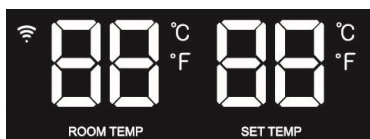


3. By pushing the "▲" or "▼" buttons, select the desired temperature.
- The setting range is 0~40°C.
- The default value is 25°C.
During the time you push "▲", "▼", "setting temperature" is increased or decreased very fast.
The "room temperature" display range is: -9~50°C.



4. During operation, "room temperature" and "setting temperature" are displayed, and if you push the ON/OFF button and make the operation stop, only "room temperature" is shown.

5. When "setting temp" is higher than 2°C than "room temp", heaters operate, and when "setting temp" is less than 1°C than "room temp", the operation stops.
Room temp. < Setting temp. & over 2°C gap : Operate.
Current temp. > Setting temp. : Stop.



※ Tip

The current temperature is less than -9°C (16°F), the display of the temperature is 'LO', and more than 50°C (99°F), it is displayed as 'HI' (50°C is not the same value as 99°F; actually, 37°C is the same value as 99°F).

The setting temperature is increased or decreased by 1°C by pushing the (▲/▼) button if you push the button for more than 2 seconds. The value is increased or decreased by 1°C in 0.2 seconds. If you push the ▲ and ▼ buttons simultaneously for 5 seconds, the unit is converted from °C to °F (the default unit is °C).

HOW TO USE

TIME CONTROL

This mode enables the user to set the desired time for the heater working continuously, and once it is fixed, this heater works automatically, running and stopping repeatedly by the time what has been set. (If power is on and the heater starts operation, the temperature control mode will be operated by default.)

1. Push the ON/OFF button.



2. By pushing the "TEMP / TIME" button, select time control mode.
At that time, the time control lamp is lit.



3. By pushing the "▲" or "▼" buttons, select the desired time.

The setting range is 5~25 min.
The default value is 25 °min.

Each time the "▲" and "▼" buttons are pressed, the time changes by 5 minutes.

- ex1) 5 minutes setting: repeat 5 minutes operation + 5 minutes break.
- ex2) 25-minute setting: repeat 25-minute operation + 5-minute break.

OFF TIME

1. If you press the OFF TIME button briefly in the operable state, it switches to set <-> release mode.
2. Upon entry, 'H' is displayed in the current temperature display section of the FND window, and the set time is displayed blinking in the set temperature display section. (Time unit setting)

- Time setting range.
 - MIN: 1hr
 - MAX: 24hrs
 - Default: 3hr

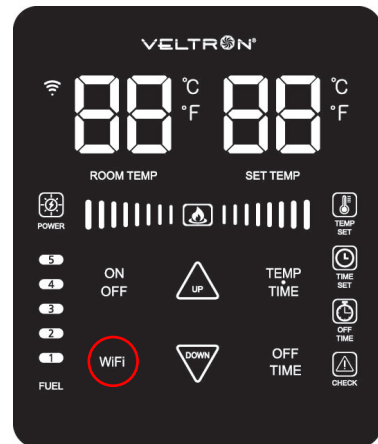
3. This function automatically turns off operation at a set time. Therefore, it is a user operation mode and changes can only be made in an operational state.



HOW TO USE

WiFi MANUAL

1. Install "Smart Life" app
2. Add and connect devices
3. VELTRON panel function control
4. Heater firmware online upgrade (OTA)



1. Install the " Smart Life" app to use the home control function of your Veltron heater.

- 1) Search for the Smart Life app in Google Play on your Android phone or iPhone app store. Once you find the application, click the "Install" button to install the app.
- 2) Run the Smart Life app, agree to the terms of use, and proceed with membership registration.
- 3) Once membership registration is complete, log in with your registered account.
- 4) Allow the permission requested by the app.

2. Pair the heater and WiFi router to connect to Smart Life Cloud (Add and connect devices)

- 1) Check the following precautions before connecting the heater to the network.

- VELTRON Heater connects to the cloud using a 2.4GHz WiFi network. Make sure you have WiFi. An access point supporting a 2.4GHz WiFi signal is located near the heater .
- If the Access Point 's access password is incorrect, the heater cannot be connected to the network. Enter your password correctly .
- The Smart Life app uses location- based weather information for your convenience.

- 2) Press and hold the **WiFi button** on the heater control panel for more than **5 seconds**. You will hear a 'beep' sound and then the WiFi icon will blink every second. (This indicates that the heater has entered EZ pairing mode.)

- 3) When you press the 'Add device' button in the Smart Life app, the app will start searching for the device. EZ pairing mode allows you to easily pair the heater to your smartphone using both Bluetooth and WiFi. If Bluetooth isn't turned on, we recommend turning it on.

- 4) Once the heater is discovered, press the "Add" button, enter the SSID and password of the WiFi AP you want to connect to, and continue the connection process.

- 5) Once heater pairing is complete, the Wi-Fi icon on the heater control panel is always on, and the heater added to the app is displayed on the My Home screen. You can change the heater name by clicking the pen icon that appears to the right of the added heater. When managing two or more heaters with the app, it is convenient to distinguish between heaters.

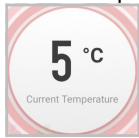
WiFi MANUAL

3. Monitor and control your heater using the device panel in the Smart Life app (VELTRON panel function control)

- Click 'VELTRON-BIO Heater' on the My Home screen of the Smart Life app to launch the heater control panel.

A description of each screen component is as follows

1) Current temperature: Displays current temperature around heater.



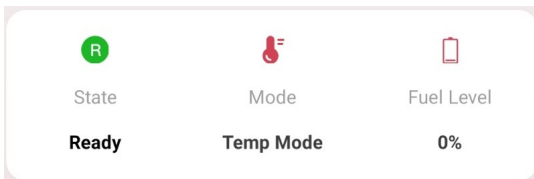
2) Heater status icon



- Preheating: Preheating occurs when power is applied to the heater and lasts for 180 seconds
- Ignition: The burning procedure has started
- Burner Fan: The fan in the burner motor is operating
- Blower Fan: The blower fan is operating

- ※ Each icon appears dimly when it is OFF.
- ※ The icon is not displayed for products without preheating function and blowing fan.

3) Heater status information

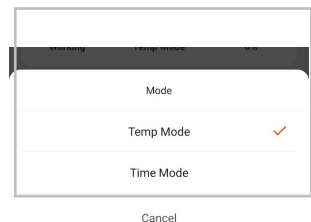


① State OFF R

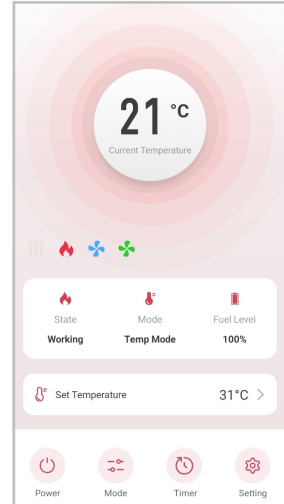
- OFF: The heater power is not connected.
- Ready: This means that the heater power is connected but is not operating and is in standby state.
- Working: The heater is working. When the heater is running, the icon will change to a flame and an animation of heat spreading will play.
- Error: The heater has stopped working. When an error code occurs, a View Error button is created, which allows you to check if there is any problem with the heater. Error codes range from E1 to E6 and the error must be resolved directly at the heater. Error codes information are in page 16

② Mode: Displays the automatic operation mode of the heater.

- Temperature setting: The heater operates and automatically maintains the set temperature.
- Time repetition: Automatically repeats heating and stopping every 30 minutes according to the set time. Setting it to 25 will run for 25 minutes and stop for 5



③ Fuel amount: Displays the remaining fuel amount in %. The icon changes when the fuel remaining is between 0%, 20%, 40%, 60%, 80% and 100%.



WiFi MANUAL

4) Heater set value setting



Heater operation settings: If the heater is in temperature setting mode, you can set the target temperature value, and if the heater is in time repeat mode, you can set the heating time.

5) Command buttons and menus for other settings

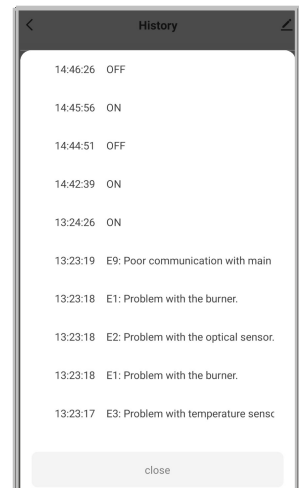
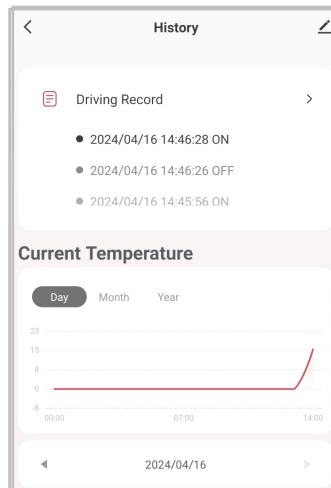
- Power: Press the ON/OFF button to turn the heater on or off
- Mode: You can change the operation mode
- Timer: You can set the on/off reservation schedule function
※ Set the schedule at least 3 minutes later than the current time. It takes some time to exchange data with the server.
- Settings: Go to the settings screen

6) Setting screen

- History: Go to the history page.
- Temperature unit change: °C/°F can be changed.
- Push notifications
- Error notification: You can turn on or off the notification function that notifies you when a defect occurs in the heater.
- Low fuel notification: You can turn on or off the notification function that notifies you when fuel is below 20%.

7) History page

- History: Shows data that records device activity in chronological order over a specific period of time . You can track the operational history of your device and see what actions occurred at a specific time. - Chart: You can visualize the device's status or data in graph format and easily identify data trends over a specific period.



WiFi MANUAL

4. Display MCU firmware remote update (OTA) method

1) Function description

When the firmware version of the display PCB's MCU is changed, this is a function to remotely download the firmware via Wi-Fi and apply the new version. This is possible only when the smartphone app (Smart Life) and the device are connected.

2) How to update

- It notifies you that there is an update through the Smart Life app, or when you reconnect to the Smart Life app, it notifies you of the update status.
- If you accept the update, the equipment will first stop operating and then proceed with the update. If the update is successful, it will immediately restart with the new version (equipment reset).

3) Update progress display

- You can check the progress and results of the update through the Smart Life app and the display of the device.

① Update start stage

- At the same time as the signal sound, “Pr dn” is displayed on the temperature display FND window for about 3 seconds.

② Update progress steps (file saving)

- “Px xx” is displayed as a down count in the temperature display FND window (x: remaining file packet number to be saved)

③ Update completion stage (when file download is complete)

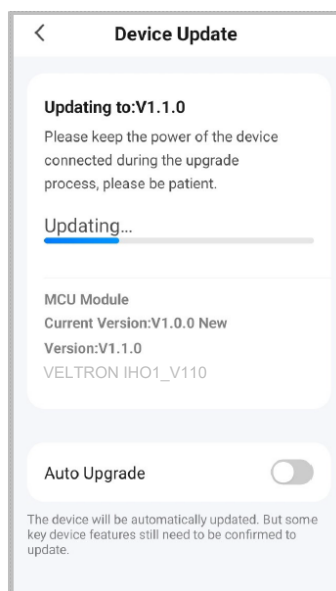
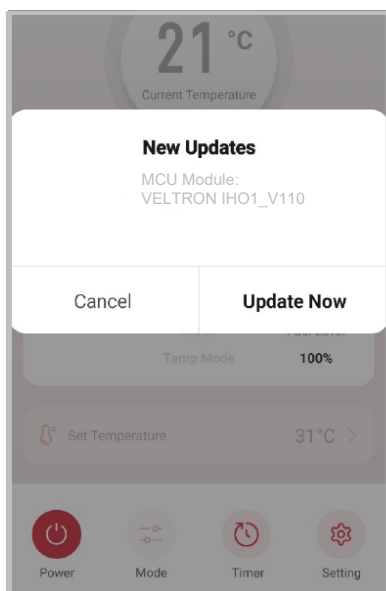
- “Pr UP” is displayed on the temperature display FND window for about 3 seconds at the same time as the signal sound.

④ MCU firmware writing stage (apply as new version)

- The RED LED at the location of the WIFI button blinks rapidly, lighting the program with the new version.

⑤ Restart the system

- Once firmware writing is complete, it will restart with the new version (same as when the initial power is turned on).
- At this time, various setting values and operating status are applied as previously set values.



※VELTRON Smart Heater upgrades firmware online. Manufacturers may upgrade firmware to modify features or improve performance. When new firmware is released, we will notify you that there is new firmware that needs to be installed through the Smart Life app. If you agree and press the upgrade button, the new firmware will be automatically downloaded and upgraded, and the heater will restart with the newly upgraded firmware.

HOW TO USE

ITEMS TO CHECK BEFORE REPORTING THE ISSUE

If the following error or trouble signs are displayed on the operation panel

Displayed messages	Description of troubles	Items to check and required actions
E1. No ignition	The burner is misfiring	<ul style="list-style-type: none"> - The lack of fuel - There is air in the fuel tube (▶ air discharge). - Photocell pollution (▶ cleaning)
E2. Photocell (flame sensor)	Photocell trouble Detection of residual flame	<ul style="list-style-type: none"> - Unplugged Photocell (▶ plug), Phototube Trouble (▶ exchange) If the heater is stopped just after ignition, there is residual flame (no change; ▶ Re-operation).
E3. Temperature sensor	Temperature sensor trouble	<ul style="list-style-type: none"> - Check if the temperature sensor connector is loosening. (Firmly connect the connector if it is loosened.)
E4. Overheating sensor	The product is overheated	<ul style="list-style-type: none"> - Check if there are any nump signs inside the burner. (Ask the survivor.) - Check if the overheat protector wire is disconnected. (Operate the heater again after connecting the wire.)
E5. Slope	The heater is tilted	<ul style="list-style-type: none"> - Check if the heater is moved (a tilt may occur if the heater is shaken or moved). Operate the heater again. - The inversion switch wire is disconnected. (Operate the heater again after connecting the wire.)
E6. Lack of fuel	Lack of fuel	<ul style="list-style-type: none"> - Refuel and operate.
HI	Temperature is above 50 °C	<ul style="list-style-type: none"> - Check that the temperature sensor is installed inside. (Install the sensor outside.)

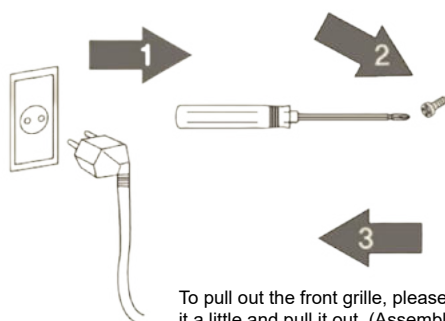
If the troubles E1 ~ E6 occur, check the causes and take the required action. If you press the power button twice, you may restart the heater.

If the troubles persist even after taking the actions indicated in the below table,

Troubles	Items to check	Required action
All lamps on the operation panel are turned off.	<ul style="list-style-type: none"> - Power failure - The power plug is unplugged. - Fuse burns out. 	<ul style="list-style-type: none"> - Plugging - Changing Fuse
The lamp is repeatedly turned off and turned on.	<ul style="list-style-type: none"> - Select the time (check the lamp). 	<ul style="list-style-type: none"> - Select the temperature.
The heater is operated with no indication of fuel.	<ul style="list-style-type: none"> - Fuel gauge wiring is unplugged. 	<ul style="list-style-type: none"> - Connect the wires
Something burning smells during the initial operation.	<ul style="list-style-type: none"> - Foreign substances are burned inside burning chamber. 	<ul style="list-style-type: none"> - To disappear after 1 or 2 hours of working
The fuel smell is unusual.	<ul style="list-style-type: none"> - There is a smell when the heater is stopped as soon as it starts. - On fuel supply, spilling fuel 	<ul style="list-style-type: none"> - Operate 15' or more. - Remove spilled fuel.
The room temperature is higher than the normal one.	<ul style="list-style-type: none"> - Check if the location of the temperature sensor (it may occur if the sensor is installed inside). 	<ul style="list-style-type: none"> - Fix the sensor at the correct position.

CLEANING & MAINTENANCE

CLEANING & MAINTENANCE



To pull out the front grille, please raise it a little and pull it out. (Assembly is the opposite way.)



In case you keep the heater for a long time and you want to maintain its clean status, please power off and cool down the heater, pull out the plug as shown in the above picture, and clean according to the following instructions.

- Please pull out the front grille by raising it and pulling it out to the front.
- Please clean the heating reflection, which is on the back side of the heater and burner area. The combustion tube has a ceramic coating. (Be careful not to damage the coated surface.)

※ DO NOT DISASSEMBLE ANY BURNER PARTS (including the burner motor, burner chamber, and burner pipes)

- Please wipe out the front controller area with soft wool.
- After finishing the cleaning, please assemble the front grille for the heater.

STORING

To store the heater properly, follow these steps:

Allow the heater to cool down completely, then unplug it. Wrap the heater in a plastic cover to protect it from dust and debris. Store it in a well-ventilated area. Before storing, it's recommended to either consume or pump out all the fuel in the tank to ensure safety and prevent any potential issues.



CAUTION

To keep a heater in an outdoor or humid place is a major cause of problems.

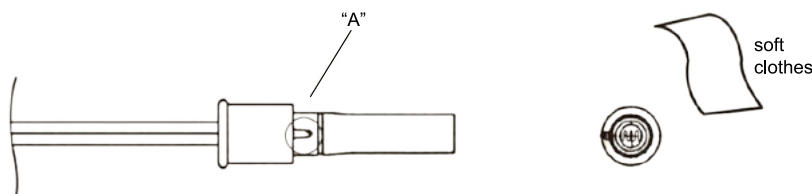
DAILY CHECK POINTS & ADJUSTMENT

DAILY CHECK POINTS

CLEAN OF FLAME SENSOR (Photocell, CDS)

- If the detection part of the photocell is contaminated by soot or other dirt, the performance can be lowered, which may cause a problem.
- Please take out the photocell carefully, which is placed in the lower part of the burner.
- Please clean the detection part of the photocell with soft clothes.

Be sure a photocell is fixed correctly. (Mark "A" should be inserted fully.)



CLEAN OF COMPONENTS

- If you need to change components, please contact us.
- In case of a repair or exchange of components, please contact the service center operated by our distributor's head office.
- Do not try to repair this heater by non-licensed service personnel because it may cause a worse condition, so please contact the local service center or distributor that is designated by our company.

DAILY CHECK POINTS & ADJUSTMENT

ADJUSTMENT

► IN CASE OF SUDDEN STOP DURING OPERATION

- Please check if now is operating in the time control operation? If so, the heater can be rest for 5min.
- Please check if now the setting temp, is less than the current temp.
- Please check if the heater is stop by pressing On/Off switch by remote controller or front controller.
- Please check if the heater is stop by sleep timer function.
- Please check if the heater is stop by auto-self-checking.

AIR FLOW-OUT

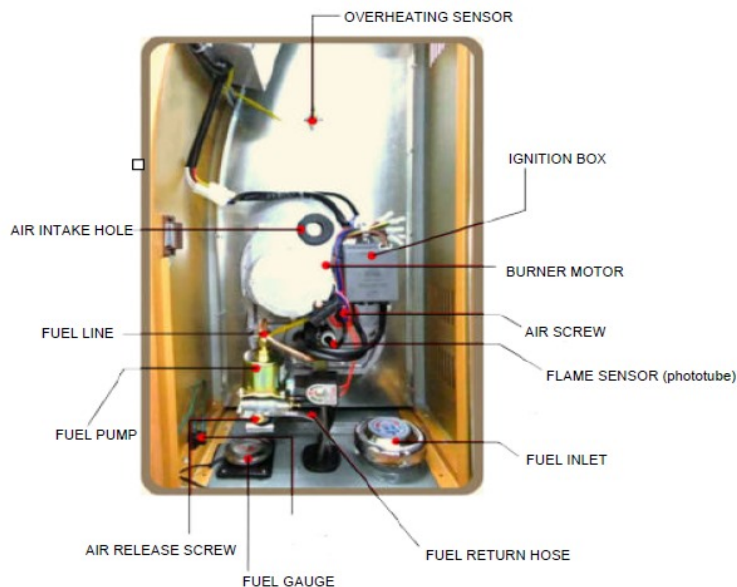
- If the electric pump is making noise and there is no ignition inside the burner, the main cause of the problem is likely air inside the electric pump, preventing proper fuel flow. This can occur if the fuel tank is nearly empty and the heater is still operating, causing the pump to draw in air along with the fuel..

The method to flow-out air

1. Turn on the heater.
2. When the electric fuel pump starts operating, turn the air outflow screw counter-clockwise four times.
3. Wait until the air flows out and fuel begins to come out through the hose.
4. Once fuel starts to come out, turn the air outflow screw clockwise to close it.
5. If there is a significant amount of air inside, repeat this process 2-3 times.

DETAIL OF BURNER STRUCTURE

When you contact service person with a problem, please refer the below detail structure of the burner.



TROUBLESHOOTING

Please check the points below before you think trouble has occurred.



Is Power ON?



Is Fuel enough?



Is Flame sensor clean?



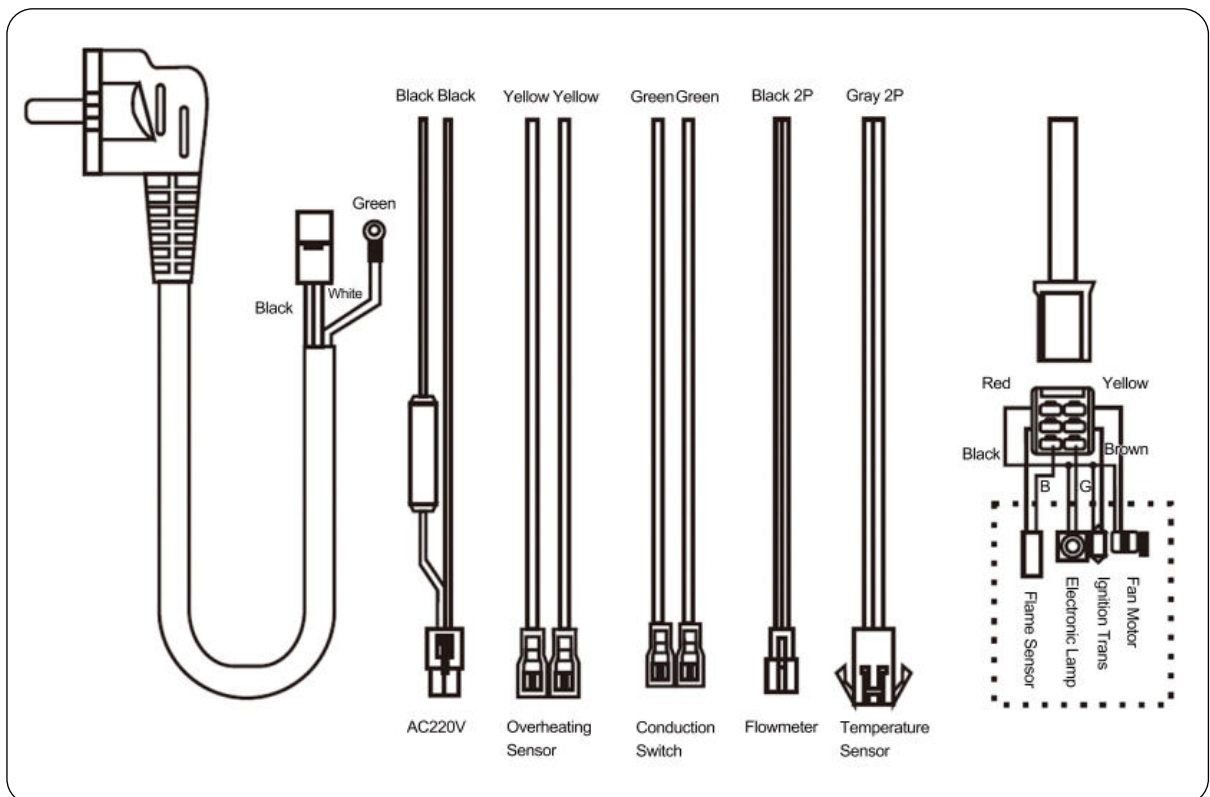
PROBLEM		CAUSE	SOLUTION
NO OPERATION	No power supply?		Check if the power supply is proper. (ex. 220/230Vac, 50Hz)
	Check that the power plug is disconnected.		Plug the power plug into the outlet.
	Is the fuse short?		Replace the fuse with a new one. (250Vac, 3.15A)
NO FAN MOTOR OPERATED	"Lack of Fuel" light on?	Lack of fuel	Fill it up with kerosene or diesel. Do not mix or use these two different fuels.
	Is the set temperature lower than the current temperature?		Set the temperature to be higher than the current (room) temperature.
	Is the misfire lamp on?	Air in the electric pump.	Remove the air from the electric pump.(Refer to page 19.)
	Is the overheating lamp on?	Under the operation of overheating prevention	Ventilate with fresh air in the room and turn off the heater for a while.
	Can you see "E2" on the display?	Error on temperature sensor	Select timer control mode from temperature control mode.
NO IGNITION ON THE BURNER	Is the fuel filter stuffy?	Filter is contaminated.	Clean the filter with compressed air, or replace it with a new one.
	Is the air suction valve adjusted excessively or too small?		Call the after-sales service agent.
	The voltage is low.	In cases of low voltage	The burner will not work properly, so use a booster to elevate the voltage. (A/S)

TROUBLESHOOTING

PROBLEM		CAUSE	SOLUTION
IMMEDIATE STOP JUST AFTER IGNITION	"Lack of Fuel" light ON?	Running out of fuel	Fill up the fuel.
	Check what kind of fuel is inside the tank	It may cause less performance & trouble	Drain the existing fuel and fill with diesel or kerosene only.
	Water or any other impurities inside fuel?	It may cause less performance & trouble	Replace the fuel with good quality one
	Is flame sensor located well?	In different position, it causes an error	Place the sensor in original location.
	Is flame sensor dirty?	Error because of soot of dirt	Call after sales service agent.
	Noise in fuel pump?	Excessive air in the pump and nozzle.	Remove the air from the fuel system
EXCESSIVE SOOT IS GENERATED	Check what kind of fuel is inside the tank	It may cause less performance & trouble	Drain the existing fuel and fill with diesel or kerosene only.
	Water or any other impurities inside fuel?	It may cause less performance & trouble	Replace the fuel with good quality one
	Is air suction valve adjusted excessively or too small?	Error on Temperature sensor	Call after sales service agent.
	Is tube clogged?	Smoke may flow backward	Clean the tube by removing soot inside of tube, or replace with new one.
NOISE IN BURNER	Is Fuel filter stuffy?	Dirty filter with impurities and contamination	Clean or replace with new one
	Noise in fuel pump?	Excessive air in the pump and nozzle	Remove the air from the electric pump.

SPECIFICATION

Model	VHOE-90	VHOE-120/N	VHOE-150/N	VHOE-210/N	VHOE-250F/N	VHOE-350F/N	VHOE-500F
Fuel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Heating Output (kcal/h)	9,000	13,000	15,000	21,000	25,000	35,000	49,800
Fuel Consumption (L/h)	0.8-1.0	0.95-1.2	1.28-1.5	1.8-2.1	2.02-2.3	3.4-3.8	4.0-4.4
Heating Area (㎡)	36~53	55~88	66~133	135~237	166~280	231~330	330~500
Electric Power Consumption	50W	50W	50W	65W	110W	115W	115W
Dimensions (WxDxH)	970x280x800	950x320x1130	1300x320x1130	1300x320x1300	1350x350x1600	1380x400x1830	1530x450x1860
Weight	42kg	54kg	60kg	63kg	105kg	123kg	130kg
Used	Heating	Heating	Heating	Heating	Heating	Heating	Heating
Power Supply	230V/50Hz	230V/50Hz	230V/50Hz	230V/50Hz	230V/50Hz	230V/50Hz	230V/50Hz
Fuel Capacity	25L	30L	45L	45L	85L	90L	90L
Exhaust Pipe	90mm	100mm	100mm	100mm	100mm	100mm	110mm



WARRANTY

- To activate your 2+1 year warranty, please scan the QR code below, which will take you to a page where you need to fill in your details.

VELTRON₂



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