



# Far-infrared Oil Heater Owner's manual



**Please read this manual carefully for your safety**

- Thank you for purchasing WELTEM's far infrared heater
- Read this manual carefully prior to using this heater to prevent any injury and damage.
- Specifications can be changed without prior notice for product improvement

- ▶ Features ..... 02
- ▶ Name of parts (Front) ..... 03
- ▶ Name of parts (Side) ..... 04
- ▶ Display / Controller ..... 05
- ▶ Safety cautions ..... 07
- ▶ Items to check before use ..... 08
- ▶ Cautions during use ..... 09
- ▶ Routine check / Periodic check ..... 10
- ▶ How to install the product ..... 11
- ▶ Electrical wiring diagram ..... 12
- ▶ Items to check before requesting service ..... 12
- ▶ General specifications ..... 14
- ▶ Limited warranty ..... 15

**Product feature**

This heater applied to the principle of radiant heat blows warm air directly to users without burning oxygen in the air and is suitable for open areas.

1. Far infrared radiation heating

- By far infrared radiation that is linear, this heater blows warm air widely and directs exactly warm air to user's intended area
- This heater provides users with pleasant heating incomparable to other heaters thanks to radiant heat
- Far infrared radiation released enables users to feel more warmth immediately and is good for bio rhythm.
- This heater is more efficient through immediate heating compared to other heaters

2. A device to get rid of the smell from oil is equipped

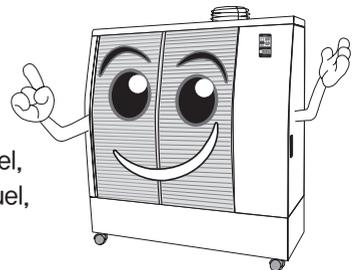
- Smell from oil is minimized through recovery system when the unit is not operated

3. Dual side heating

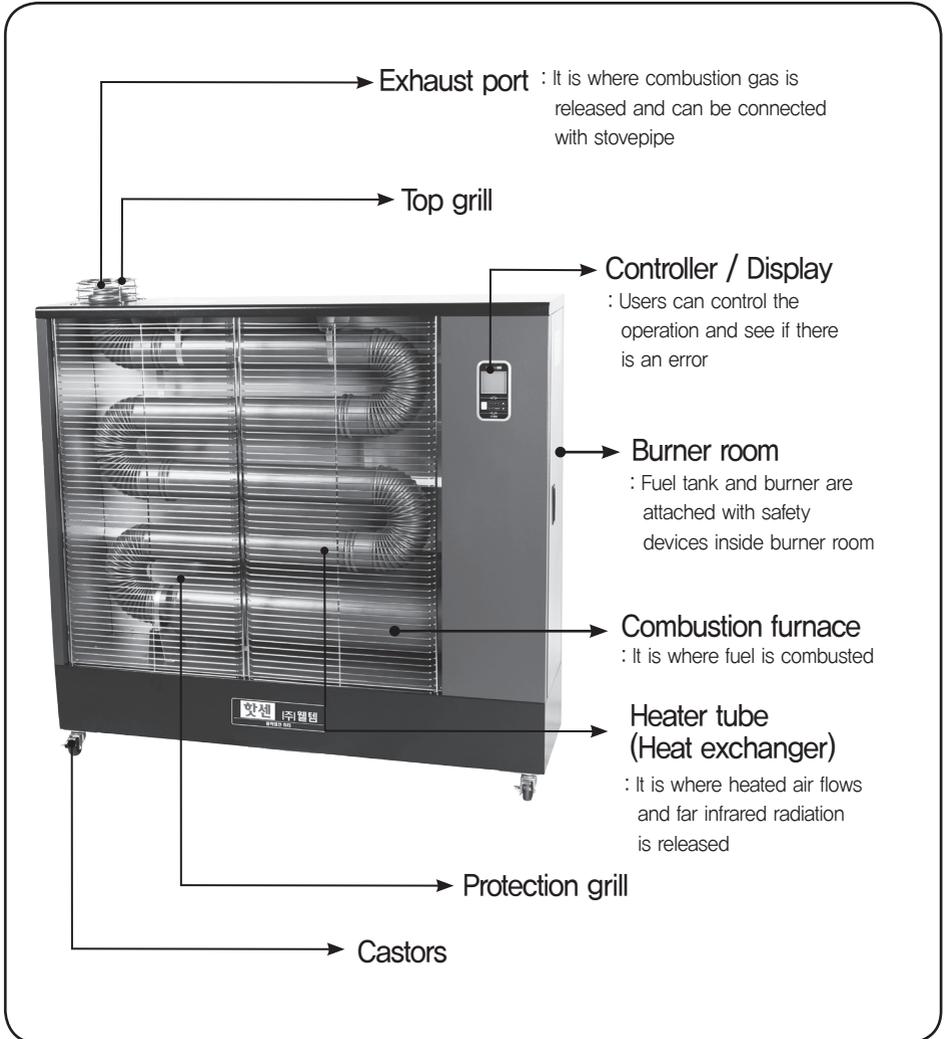
- Both front and rear side heating is available  
(Additional cost for protection grill)

4. Various functions (Current temperature on display,

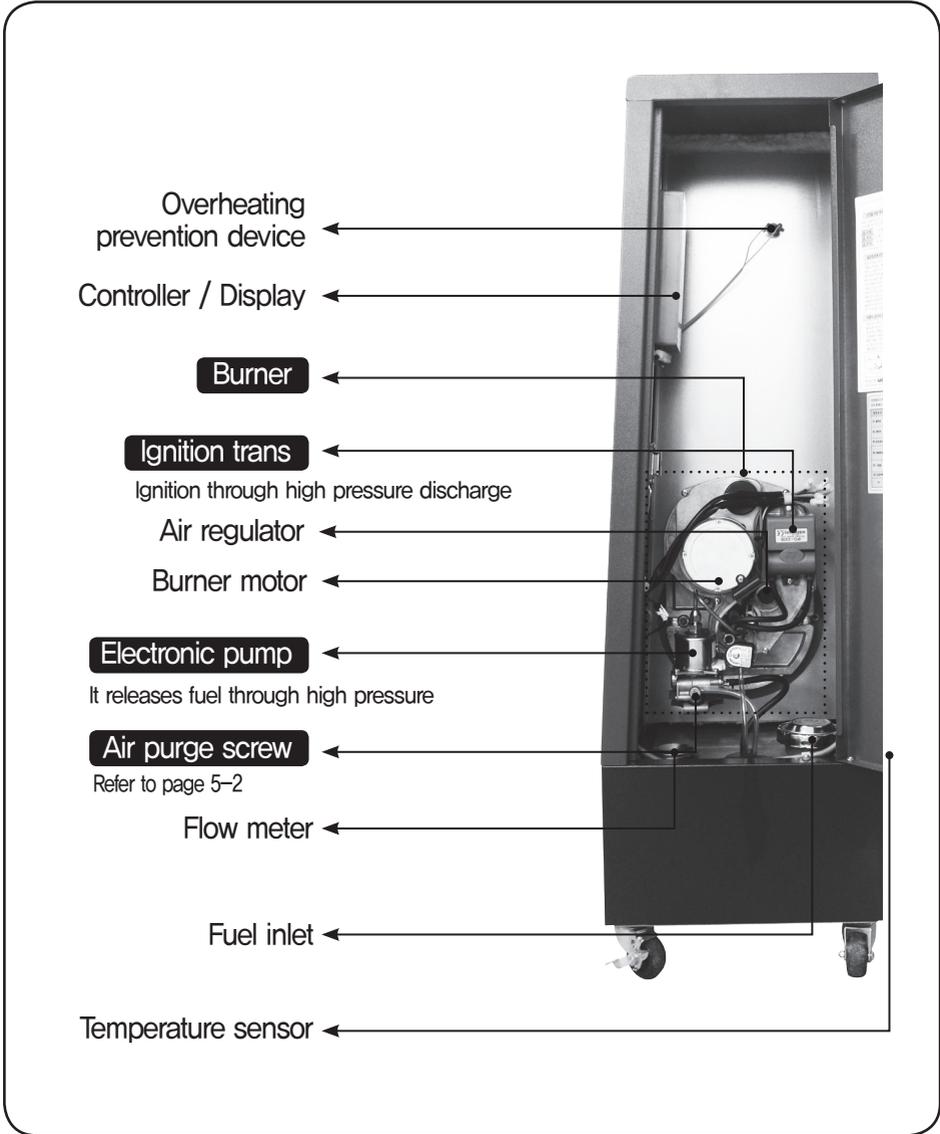
- Off-timer, High performance burner, Low noise level,  
Current fuel amount on display, Alarm for lack of fuel,  
Automatic air purge)

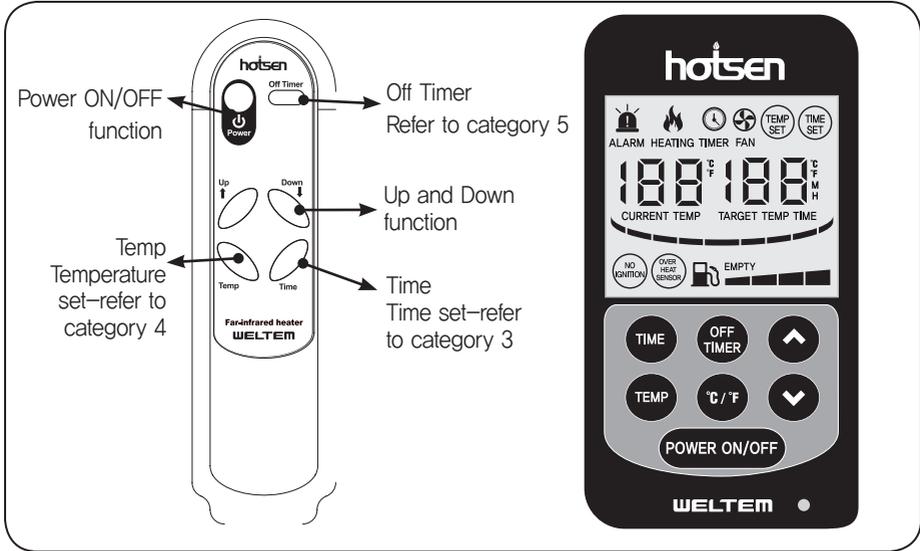


Front



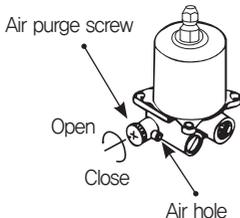
**Side**





- 1) Plug the power cord. Current temperature and the fuel amount are displayed.
- 2) **POWER ON/OFF** Press the 'Power ON/OFF' button
  - If Fan and Heating icons and current temperature, target temperature and fuel amount are shown on the display, the LCD display is always lighted up
  - This button is for turn on or turn off the unit
  - The heater is operated in 8 seconds after fan is operated with blinking heating icon on the display.
    - ※ When the current temperature is 2 °C higher than target temperature on the temp set or the time reaches target time, the heater is turned off.

However, there might be no ignition for the first use since purchase with E1 displayed. Please re-start the heater in this case. Automatic air purge device is equipped in the heater. Refer to the followings when manually operating air purge device.



- ① Turn left the air purge screw 2~3 round.
  - ② Re-operate the heater. (push the power button 2 times)
  - ③ Bubble flows out of the air hole. In 10 seconds, clean fuel flows out of the air hole.
  - ④ Close the air purge screw when clean fuel flows out of the air hole or ignited successfully.
  - ⑤ Retry if not successful. (request service after 4 times failure)
- ▶ This product is designed not necessary to purge the air after refueling when lack of fuel.

**Caution : Do not open the air purge screw entirely.**

- 3) **TIME** Press the 'TIME' button
  - This button is for saving mode by setting heating time
  - 'TIME SET' icon and setting outcome (minute) are displayed.
  - **▲ ▼** Setting outcome is controlled with 'UP' and 'DOWN' button  
(It is either increased or decreased by 5mins)
  - The time is set from 5 to 25mins and the heater is operated and stopped every 30 mins  
Example) If time is set to 20mins, the heater is operated for 20mins and stopped for 10mins
  
- 4) **TEMP** Press the 'TEMP' button,
  - It is for automatic temperature control detecting indoor temperature
  - 'TEMP SET' icon and setting outcome (current temperature) are displayed
  - **▲ ▼** Setting outcome is controlled with 'UP' and 'DOWN' button  
(It is either increased or decreased by 1°C)
  - Temperature is set from 0~40°C
  
- 5) **OFF TIMER** Press the 'OFF TIMER' button
  - This button is for saving mode
  - When selecting the 'OFF TIMER' button, original set time is displayed and 'OFF TIMER' alarm blinks on the display When pressing the 'OFF TIMER' button after setting preferred time with **▲ ▼** 'UP' and **▼** 'DOWN' button, 'OFF TIMER' function will work with blinking 'OFF TIMER' alarm
  - Cancel of 'OFF TIMER' function : When pressing the 'OFF TIMER' button, the 'OFF TIMER' alarm disappears and the function is cancelled
  
- 6) **°C/°F** Press the '°C/°F' button
  - This is to change from °C to °F or °F to °C
  
- 7) **POWER ON/OFF** Press the 'POWER ON/OFF' to turn off the heater
  - Burner motor stops working in 5mins after the heater is turned off
  - Only current temperature is displayed whereas target temperature disappears

**Do not turn off the unit by unplugging the power cord  
(It may cause damage to the burner)**

When running out of fuel, alarm icon and fuel guage blink  
In this case, users are supposed to turn off the heater and refill the fuel

Users may smell something burning during the initial operation. It is an indication of burning the foreign substances. However, it will not last for more than 1~2 hrs.

Pay careful attention to the following warning signs intended to prevent the accidents resulted from the incorrect use.

<b>Danger</b>	This danger sign warns you of serious injury or death expected when violating the safety rules or instructions.
<b>Warning</b>	This warning sign warns you of serious injury or death expected when violating the safety rules or instructions.
<b>Caution</b>	This caution sign warns you of injury or product damage expected when violating the safety rules or instructions.

Information to observe

General prohibition Danger

Warning and Caution

No touch

Do not use fire

Connect ground wire

## Warning

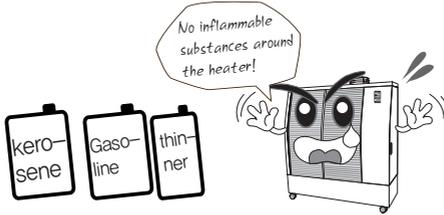
- ▶ **It is very hot when the heater is under operation, so do not allow children to touch or hang**
- ▶ Make sure to install the flue tube and vent prior to using the heater in the indoor area.
  - Material of flue tube should be stainless steel. Length of flue tube must not exceed 4 meters and number of bend must not exceed 2.
- ▶ Never move when the heater is under operation. If the heater falls down, it may cause fire.
- ▶ Stop operation when fill the fuel.
- ▶ This product is designed for space heating purpose only. We are not responsible for the trouble or accidents resulted from the other uses such as cooking, dry and any modification.
- ▶ Do not put any inflammable substances within 3 meters from the heater.

## Cautions

- ▶ Only use the fuel stated in the nameplate. Be careful not to let the fuel overflow by watching scale of flow meter.
- ▶ Open the window once or twice every hour for ventilation when the heater is operating for a long time.
- ▶ Clean the heat reflecting plate not to be dirty with dust. If dust is deposited on the bottom of heat reflecting plate, it may cause fire or deformation.
- ▶ When the heater is used outdoor area, protect it from rain or snow and lock the castors before use.
- ▶ Please use proper electricity referring label on the heater.
- ▶ Store the heater with cover. Use the heater only after completely cleaning dust or dirt on the bottom.
- ▶ Do not leave the containers such as kettle on the exhaust port of the heater. It may cause damage to heater and bottom of container may be smoked.

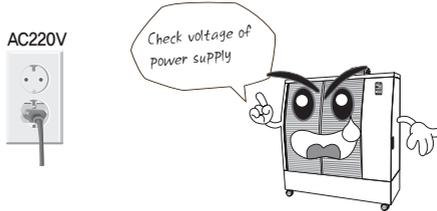
**Warning** : Check if there are any inflammable substances

- ▶ Get any inflammable substances like gasoline, kerosene, thinner away around from the heater.



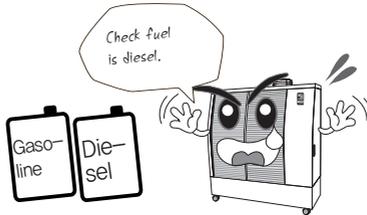
**Check power supply**

- ▶ Make sure power supply is 220~240V
- Improper power supply may cause trouble.



**Check fuel**

- ▶ Make sure fuel is diesel.
- Improper fuel may cause trouble.

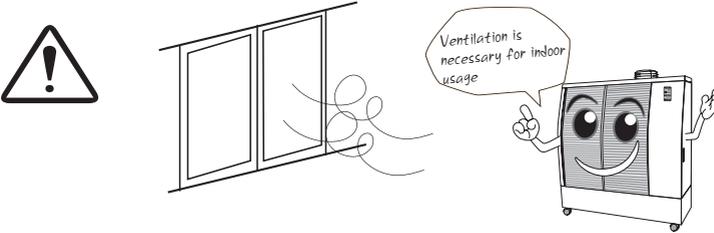


**Check castors lock**

- ▶ Make sure to lock the castors not to move easily before using.

## ⚠ Caution : Ventilation

- ▶ Open the window once or twice every hour for ventilation when heater is used in closed area.
  - It may cause lack of oxygen if heater is operated for a long time without ventilation.



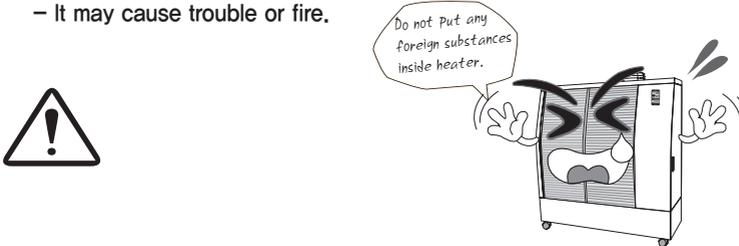
## ⚠ Caution : Away from Children

- ▶ It is very hot when the heater is under operation, so do not allow children to touch or hang.
  - Children may be hurt.



## ⚠ Caution : No foreign substances

- ▶ Do not put any foreign substances inside heater.
  - It may cause trouble or fire.



## **Caution** : Routine check

- ▶ Make sure to check or clean only after the combustion of heater is stopped.
- ▶ Check if the fuel tank leaks
- ▶ Check if the combustion furnace or heating tube is corrupt or damaged.
- ▶ If the dust is deposited on heat reflecting plate, completely remove or clean the dust.
- ▶ Check if soot occurs in the exhaust port.
- ▶ The burner is adjusted to be suitable for the performance of heater. Avoid the unauthorized modification of adjustment. If you inevitably need to adjust the burner, consult with the agency where you purchased the heater or service center.

## **Caution** : Routine check

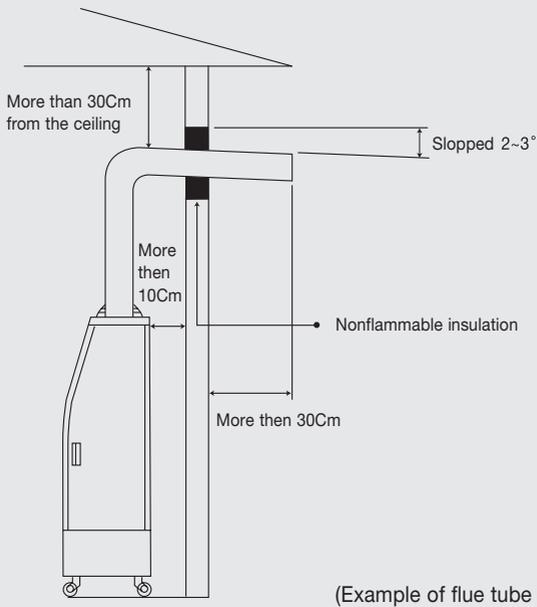
- ▶ Make sure to clean the heater with cloth wet by neutral detergent or dry cloth only after the heater is completely cooled with the power plug unplugged.
- ▶ If you clean the heater with water, it may cause electric shock or damage to the product.

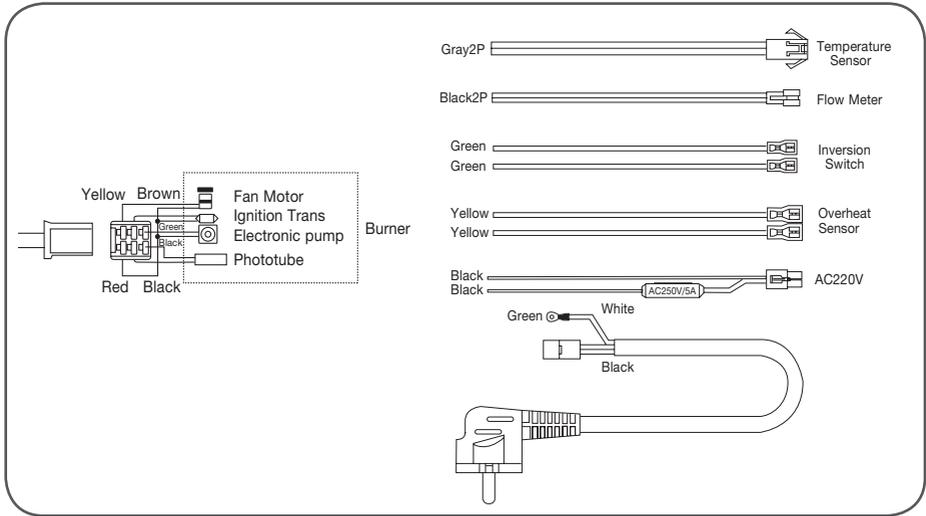
## **Caution** : Periodic check

- ▶ **Combustion furnace and Heater tube (heat exchanger)** :  
Check if there is any soot once a year and clean it if there is.
- ▶ **Bottom heat reflecting plate** : Check if there is any corruption or dirt once a year and clean it if it is dirty. Replace if it is severely corrupted.
- ▶ **Fuel filter (Inside fuel tank)** : Check visually if there is any corruption once a year and replace if it is corrupted.
- ▶ **Castors** : Check damage or installation once a month. If there is problem, fix it.

# How to install the product

- ▶ Install the heater in the flat area. If you install the heater in sloped area, combustion furnace may be damaged by the irregular combustion.
- ▶ Install the flue tube for the indoor use. If the flue tube passes through the inflammable wall, wrap the inside wall more than 3cm with nonflammable insulation.
- ▶ Use stainless steel tube (75mm diameter) for the flue tube. Length of tube must be shorter than 4m and number of bent must not exceed 2.
- ▶ If the bent number of flue tube is more than 2 or when the length of tube is longer than 4m, it may cause incomplete combustion.





## Items to check before requesting service

▶ If following problem occur please carry out remedy referring the table below.  
Request service if problem continues.

Symptom	Possible reason/Check	Remedy
All lamps are off on the operation panel	<ul style="list-style-type: none"> <li>Power interruption</li> <li>Unplugging</li> <li>Blown fuse</li> </ul>	<ul style="list-style-type: none"> <li>Connect Power</li> <li>Replace fuse</li> </ul>
Repeat on and off	<ul style="list-style-type: none"> <li>Time set is selected (check the lamp)</li> </ul>	<ul style="list-style-type: none"> <li>Select Temp set</li> </ul>
Heater is operating but Fuel gauge lamp is off	<ul style="list-style-type: none"> <li>Fuel gauge wire is disconnected</li> </ul>	<ul style="list-style-type: none"> <li>Connect the wire</li> </ul>
Burning smells during the initial operation	<ul style="list-style-type: none"> <li>Foreign substances are burnt inside the gasket</li> </ul>	<ul style="list-style-type: none"> <li>No action is needed. It will disappear after 1 ~ 2 hours</li> </ul>
Severe fuel smell	<ul style="list-style-type: none"> <li>Smells when turning off the heater right after starting the heater</li> <li>Dropping fuel when refueling</li> </ul>	<ul style="list-style-type: none"> <li>Keep operation more than 15 minutes</li> <li>Remove the dropped fuel</li> </ul>
Room temperature on display is higher than normal	<ul style="list-style-type: none"> <li>Check location of temperature sensor on rear of the heater (It may occur if the sensor is installed inside)</li> </ul>	<ul style="list-style-type: none"> <li>Locate the sensor at the correct position.</li> </ul>

# Items to check before requesting service

- ▶ Carry out remedy refer to the following instructions.  
Please request service when problem continue.

Display	Possible cause	Check and remedy
E1. No ignition	Burner is not ignited	<ul style="list-style-type: none"> <li>- Lack of fuel</li> <li>- Fuel pipe is filled with air ( → Drain the air)</li> <li>- Phototube is contaminated ( → Clean the phototube)</li> </ul>
E2. Phototube	<ul style="list-style-type: none"> <li>- Phototube error</li> <li>- Residual flame is detected.</li> </ul>	<ul style="list-style-type: none"> <li>- Check if the phototube is loose ( → Fix the phototube)</li> <li>- Phototube is defective (→ Replace the phototube)</li> <li>- This phenomenon may occur when turning off the heater right after the combustion (→ Firmly connect temperature sensor)</li> </ul>
E3. Temperature sensor	Temperature sensor trouble	<ul style="list-style-type: none"> <li>- Check if the temperature sensor connector is loose (→ Firmly connect temperature sensor)</li> </ul>
E4. Overheat sensor	Product is over-heated	<ul style="list-style-type: none"> <li>- Check if there is any burnt sign inside the burner (→ Request service)</li> <li>- Check if overheat protector wire is disconnected (→ Operate the heater again after connecting the wire)</li> </ul>
E5. Tilt	Heater is tilted	<ul style="list-style-type: none"> <li>- Tilt error may occur when the heater is shaken or moved (→ Operate the heater again)</li> <li>- Inversion switch wire is disconnected (→ Operate the heater again after connecting the wire)</li> </ul>
E6. Lack of fuel	No fuel	<ul style="list-style-type: none"> <li>- Refuel and operate the heater again</li> </ul>
E7. Burner fan failure	Burner fan failure	<ul style="list-style-type: none"> <li>- Sensor for burner fan operation does not reach minimum voltage (→ Request service center)</li> </ul>
Hi	Temperature is over 50 degree C	<ul style="list-style-type: none"> <li>- Check if the temperature sensor is installed inside (→ Install the sensor outside)</li> </ul>

- When error codes appear, find the correct reason to restart the heater  
Press 'Power ON/OFF' button two times to restart the heater

Item \ Model	WHO-095	WHO-115	WHO-135
Fuel	Diesel	Diesel	Diesel
Fuel Consumption	1ℓ/h	1.1ℓ/h	1.41ℓ/h
Heating capacity	9,000Kcal/h	11,000Kcal/h	13,000Kcal/h
Heating area	59.6 ~ 77.5m <sup>2</sup>	72.9 ~ 94.7m <sup>2</sup>	86.1 ~ 111.9m <sup>2</sup>
Power supply	AC 220V 50/60Hz		
Fuel Consumption	40W (Running)	40W (Running)	40W (Running)
Fuel tank capacity	30ℓ	30ℓ	45ℓ
Dimension(WxDxH)	973×320×979 mm		1305×320×988 mm
Weight	40 Kg		58 Kg

Item \ Model	WHO-155	WHO-175	WHO-205
Fuel	Diesel	Diesel	Diesel
Fuel Consumption	1.52ℓ/h	1.77ℓ/h	1.9ℓ/h
Heating capacity	15,000Kcal/h	17,000Kcal/h	20,000Kcal/h
Heating area	99.3 ~ 129.1m <sup>2</sup>	112.6 ~ 146.4m <sup>2</sup>	132.5 ~ 172.3m <sup>2</sup>
Power supply	AC 220V 50/60Hz		
Fuel Consumption	40W (Running)	60W (Running)	60W (Running)
Fuel tank capacity	45ℓ	45ℓ	45ℓ
Dimension(WxDxH)	1305×320×988 mm	1305×320×1158 mm	
Weight	58 Kg	63 Kg	

▶ Specifications can be changed for better quality and performance without prior notice.

# Limited Warranty

Make sure to fill in the following blanks upon sale of product:

Product Name	Far-infrared tube heater	Model No.	
Date of purchase	. . .	Warranty period	1 year from the date of purchase
User	Address:		
	Name:	Phone	No. :
Shop	Address (Shop name):		
	Name:	Phone No. :	

This product has been produced under the strict quality control.

We guarantee the quality of this product.

The product is exchanged or repaired, and you will get a refund in accordance with the consumers' damage compensation regulations.

We will provide the free repair service during the warranty period.

We will repair the defective product at actual cost after the warranty period.

What this warranty does not cover:

1. Defect or trouble resulted from the customers' carelessness
2. Defect or trouble resulting from disasters such as flood, fire and lightning stroke
3. Defect or trouble resulted from the unauthorized repair or modification
4. Defect or trouble resulted from the use of unauthorized power
5. Defect or trouble resulted from the wrong installation
6. Defect or trouble resulted from the use of other fuels besides the designated fuel.

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