

VEVOR[®]

TOUGH TOOLS, HALF PRICE

Technical Support and E-Warranty Certificate www.vevor.com/support

DIESEL HEATER

We continue to be committed to provide you tools with competitive price. "Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

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TOUGH TOOLS, HALF PRICE

DIESEL HEATER

Model: ZM5005/ ZM5004 /ZM8003/
ZM8004/ ZM8005/ CY-35/ CY-36/
CY-31/ CY-39



Model:CY-24/CY-25



Model:ZM8001/CY-6/CY-14/CY-7/CY-8








NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

Technical Support and E-Warranty Certificate
www.vevor.com/support

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

Symbol	Symbol Description
	<p>Warning: To reduce the risk of injury, the user must read the instructions manual carefully.</p>
	<p>This symbol, placed before a safety comment, indicates a kind of precaution, warning, or danger. Ignoring this warning may lead to an accident. To reduce the risk of injury, fire, or electrocution, please always follow the recommendations shown below.</p>
	<p>CORRECT DISPOSAL: This product is subject to the provisions of European Directive 2012/ 19/EC. The symbol showing a wheeled bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.</p>
	<p>Warning: Toxic material. Take care to avoid coming into contact with toxic material.</p>
	<p>Warning: Flammable material. Take care to avoid causing a fire by igniting flammable material.</p>



Responsibility requirements:

·Vevor is not responsible for any issues arising from non-compliance with these instructions and the precautions included in these instructions.

Similarly, the company shall not be held responsible for any issues arising from repairs conducted without professional maintenance or the use of original spare parts/accessories. This type of maintenance will result in the invalidation of the heater's type approval and its ECE type approval certificate.

SAFETY INSTRUCTION



WARNING:



Read all safety warnings, instructions, illustrations, and specifications provided with this diesel heater. Failure to follow all instructions listed below may result in electric shock, fire, and /or serious injury.

1. The following measures shall not be adopted
 - Change the important component of the diesel heater.
 - Make use of spare parts from other manufacturers without permission.
 - Disobey the instructions and the guidelines during installation or operation.
2. Only allow using original attachments and spare parts during installation and maintenance.
3. The heaters shall not be used in places where they may form flammable vapor or dust, for example:
 - Fuel depot
 - Carbon storehouse
 - Timber storehouse
 - Granary and similar sites
 - Diesel/petrol stationAnd keep away from fuel tanks, compression tanks, fire extinguishers, clothes, or other flammable objects.
4. Do not use cigarette lighter for startup.
5. Do not use the heater in closed and/or unventilated places.
6. The heaters shall be turned off when filling fuel.
7. Do not cut off the electric power during operation.
8. If there is a fuel leak or discharge from the fuel system of heaters, please contact VEVOR for repair.
9. Place the exhaust outlet outside to prevent any penetration of exhaust fumes.
10. In the process of work, it is forbidden to cut off the electric power directly to stop the heater from working.
11. Seal all gaps between the mounting plate and the car body.
12. The machine will stop heating after over-temperature protection. Please do not power off. After the machine is naturally cooled and turned off, it can be

restarted.

13. After turning off the machine, please do not immediately disconnect the power supply. It takes 3-5 minutes for the machine to stop working completely.

14. After starting the machine for 3-5 minutes, it will work normally and heat up. Please wait patiently.

15. When the heater is just started, the current is relatively high, so an adapter with a voltage of 12V and a current of 15A or greater is required for the power supply.

16. This appliance can be used by children aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be done by children without supervision.

17. **WARNING: Flammable material**



During installation/use, service, and disposal of the appliance, please pay attention to the fact that there should be no flammable substances around the exhaust pipe. The temperature of the exhaust pipe is very high when it is working. Take care to avoid causing a fire by igniting flammable material.

Please strictly follow the following methods to correctly install insulation sleeves on the exhaust pipe and reduce surface temperature:



18. **WARNING: Toxic material**

During installation/use, service, and disposal of the appliance, please install the appliance with space for ventilation to prevent carbon monoxide poisoning. Place the exhaust outlet outdoors to prevent exhaust gas from seeping in.



19.The fuel tank supplying fuel to the device shall meet the following requirements:

- a) If there is a leak, the fuel should be discharged to the ground and must not come into contact with the hot parts of the vehicle or load
- b) The fuel tank containing gasoline should be equipped with an effective flame arrester at the fuel filling port, or a sealing device should be used to completely seal the opening

20.Space that cannot be used for heating and transporting dangerous goods.

SAVE THESE INSTRUCTIONS

FCC INFORMATION

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment!

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This product may cause harmful interference.
- 2) This product must accept any interference received, including interference that may cause undesired operation.

WARNING: Changes or modifications to this product are not expressly approved by the party. Responsibility for compliance could void the user's authority to operate the product.

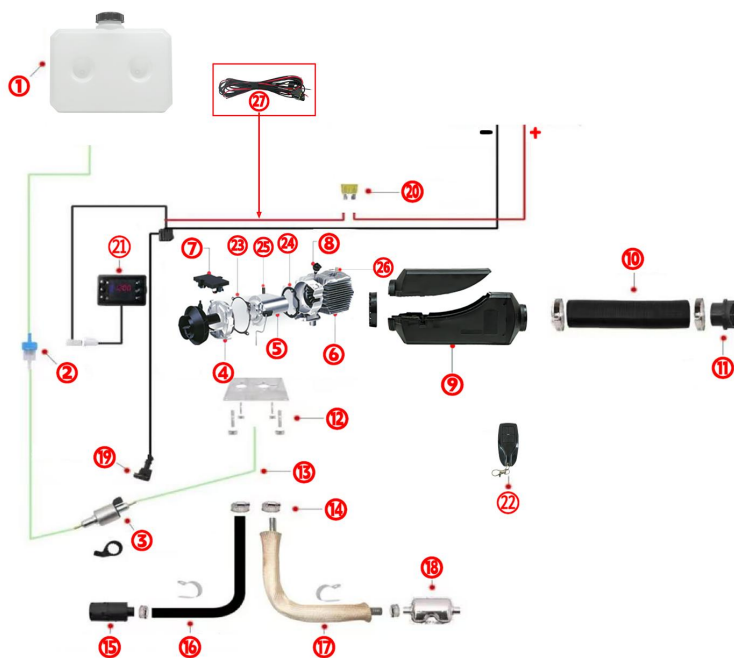
Note: This product has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by

turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the distance between the product and the receiver.
- Connect the product to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

INTERNAL STRUCTURE

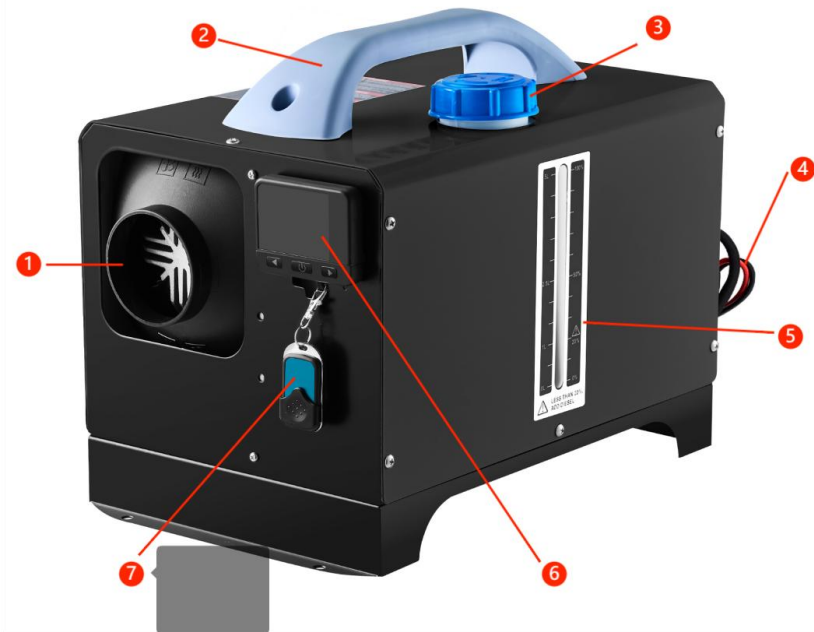


NO	Part Name	NO	Part Name
1	Fuel Tank	2	Fuel Filter
3	Fuel Pump	4	Motor Assembly
5	Combustion Chamber	6	Heat Exchanger
7	Mainboard	8	Glow Plug

9	Plastic Housing	10	Warm Air Duct
11	Air Outlet	12	Double-Ended Screw
13	Fuel Line	14	Clamp
15	Air Filter	16	Intake Pipe
17	Exhaust Pipe	18	Muffler
19	Power Cord Plug	20	Fuse
21	LCD Switch	22	Remote Control
23	Fan Assembly Gasket	24	Combustion Chamber Gasket
25	Glow Plug Atomizing Screen	26	Temperature Sensor
27	Wiring Harness		

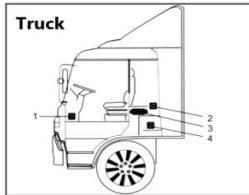
PRODUCT INFORMATION

Model: CY-24/CY-25

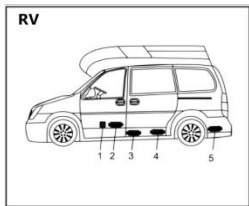


1	Air Outlet	2	Handle
3	Fuel tank port	4	Wiring Harness
5	Fuel tank scale	6	LCD Switch
7	Remote Control	8	

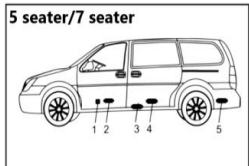
INSTALLATION POSITION



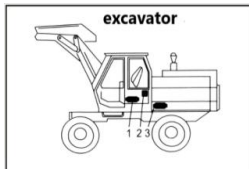
1. On the co-driver's legroom.
2. On the back wall of the cab.
3. Driver's seat backrest.
4. Within the tool box.



1. In front of the passenger seat.
2. Between the driver seat and passenger seat.
3. 3 & 4 under the container.
4. In the trunk.



The heater is mainly installed in the passenger room or baggage room of the vehicle. If it cannot be installed, fix the heater under the underside of the vehicle, but beware of splashing.



1. Inside the driver's seat.
2. On the back wall of the cab.
3. Inside the protection box.







It is recommended to use high-grade diesel fuel when refueling the diesel heater. Other types of fuels, such as kerosene, vegetable oil, gasoline, waste oil, etc., cannot be used. Otherwise, the heater may have an unpleasant odor and malfunction during operation.



The installation of the machine requires professional personnel.
















MODEL


Product Model	ZM8001	CY-6 CY-14 CY-7 CY-8	ZM5005 ZM5004 ZM8003 ZM8004 ZM8005 CY-35 CY-36 CY-31 CY-39	CY-24 CY-25
Appearance				
Heating medium	Air			
Fuel	Diesel			
Ratings	DC12-24V/40W	DC12V/40W		

PACKING LIST

Model	ZM8001 CY-6 CY-14 CY-7 CY-8	ZM5005 ZM5004 ZM8003 ZM8004 ZM8005 CY-35 CY-36	CY-24 CY-25
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			CY-31 CY-39	
Main engine		1	1	1
Intake pipe		1	1	1
Exhaust pipe		1	1	1
Blowpipe		1	1	1
Remote control		1	1	1
Silencer		1	1	1
Blowpipe clamp		4	4	4
Air outlet pipe clamp		2	2	2
Clamp		2	2	2
Pipe clip		2	2	2
Air filter element		1	1	1
Nut		5	5	5
The screw for the lock catch		6	6	6

Machine fixing screws		1	/	//
Oil pipe		1	/	/
Liquid crystal switch		1	1	1
Rotary tuyere		1	1	1
Power cord		1	/	/
Oil filter		1	/	/
Fuel pump sheath with a screw		1	/	/
Ribbon		12	/	/
Oil pipe clip		12	/	/
Fuel tank		1	/	/
Oil tank accessories		1	1	1
Machine fixing piece		1	/	/
Fuel pump		1	/	/
User Manual		1	1	1
Muffler Accessories		1	1	1

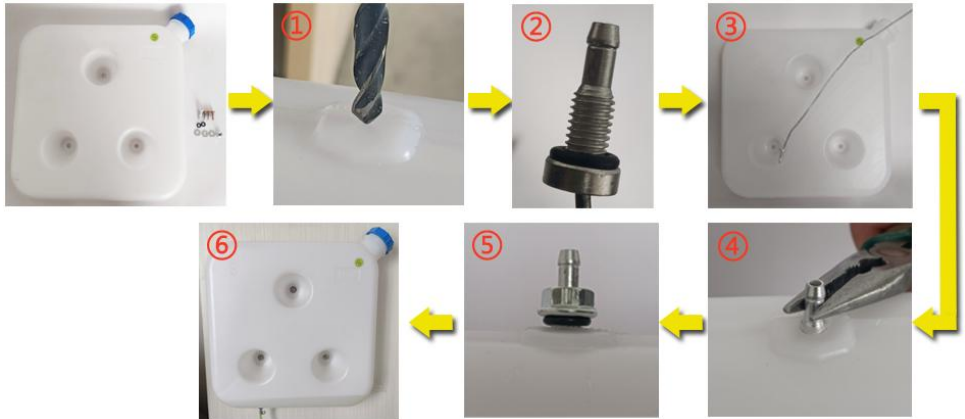
Protective sleeve		1	1	1
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INSTALLATION OF FUEL TANK AND NOZZLE

1、 Splitting machine

Please strictly follow the following diagram to avoid inevitable losses caused by oil leakage during use:

- ① Drill holes with a 7.5mm drill bit at the protruding position of the fuel tank
- ② Cover the fuel tank nozzle with a gasket
- ③ Fix the fuel tank nozzle with iron wire and thread it into the punching position along the fuel tank opening
- ④ Swivel the pointed pliers to remove the fuel tank nozzle
- ⑤ Insert washers and nuts for locking
- ⑥ The three installation holes of the fuel tank are fixed with bolts and washers, and the installation is completed



Fuel Tank Installation Diagram

Refer to the installation diagram below and carefully read the precautions when installing or using:

1. No Side Installation:

※ Side installation of the diesel heater will result in oil leaks inside the machine after a period of use, producing a large amount of smoke and carbon monoxide

poisoning. During installation, leave a space of 10cm around the heater to ensure good ventilation.

※ If installing the heater inside a building:

① With the heater placed indoors: Make holes in the wall for the exhaust pipe to be placed outdoors. Pay attention to insulating the exhaust pipe as it can become very hot and could cause a fire.

② With the heater placed outdoors: It's necessary to extend the exhaust pipe to avoid the exhaust from being sucked into the building from the back fan position of the heater, which can lead to carbon monoxide poisoning.



Incorrect Installation Direction



Correct Installation Direction

※ If installing the heater inside a building: ① With the heater placed indoors: Make holes in the wall for the exhaust pipe to be placed outdoors. Pay attention to insulating the exhaust pipe as it can become very hot and could cause a fire. ② With the heater placed outdoors: It's necessary to extend the exhaust pipe to avoid the exhaust from being sucked into the building from the back fan position of the heater, which can lead to carbon monoxide poisoning.



Indoor installation



Outdoor installation diagram

(wooden floor exhaust pipes need to be protected)

※ Installation position and precautions

- ① Reserve a 4-inch gap between the air inlet for unobstructed air intake
- ② Keep the bottom exhaust pipe at a distance of 2 inches from the ground, and prevent fires if the exhaust pipe temperature is high;
- ③ Do not bend the exhaust pipe excessively, as it may cause uneven exhaust flow;
- ④ The air outlet duct shouldn't be too long and multiple bends can cause heat not to be discharged, resulting in a high-temperature fault;
- ⑤ When refueling the fuel tank, do not flow onto the casing, as it will flow along the inside of the machine to the exhaust pipe position, causing smoke. Fill the oil level close to the fuel tank port;
- ⑥ Do not block the intake pipe, which will cause insufficient oxygen, and the heater will not work;



Installation location precautions - schematic diagram

2. Precautions for the power supply:

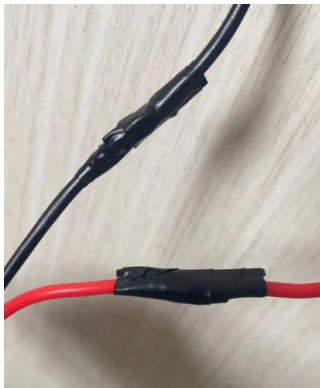
※ The power supply for the diesel heater must meet the following requirements: Voltage: 12V; Current: $\geq 20A$, either from a direct power source or a battery. When powered by a battery, do not charge the battery while using the heater as insufficient current can cause malfunction. Ensure a firm and secure connection to the battery. Using clamps for fixation can result in poor contact.



1. Do not use the heater when charging the battery
2. The current is low and it does not work

Suggest using energy storage (batteries) or adapters for the power supply

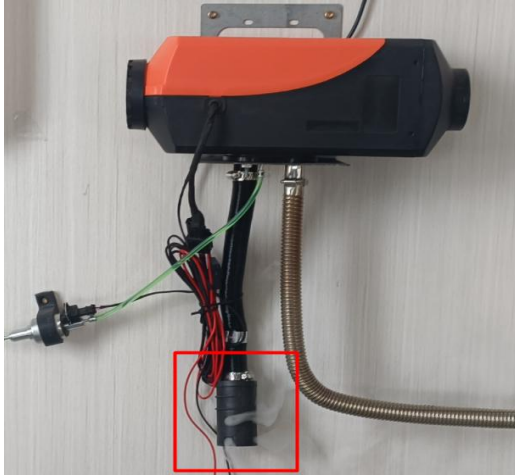
※When extending the power cable for the diesel heater, the wire diameter should be $>2\text{mm}^2$. Using a thin wire can lead to insufficient current, causing the heater not to work. After connecting, use insulating tape to protect the connection and prevent electrical leakage, which might lead to fires.



※Do not disconnect the power when the diesel heater is operating at high temperatures. This can cause backfire due to high temperatures. Repeatedly doing so can cause permanent damage. Solutions:

- If power is cut and you immediately turn on the heater: Wait until the internal heat of the heater has completely dissipated before turning it on for normal operation.

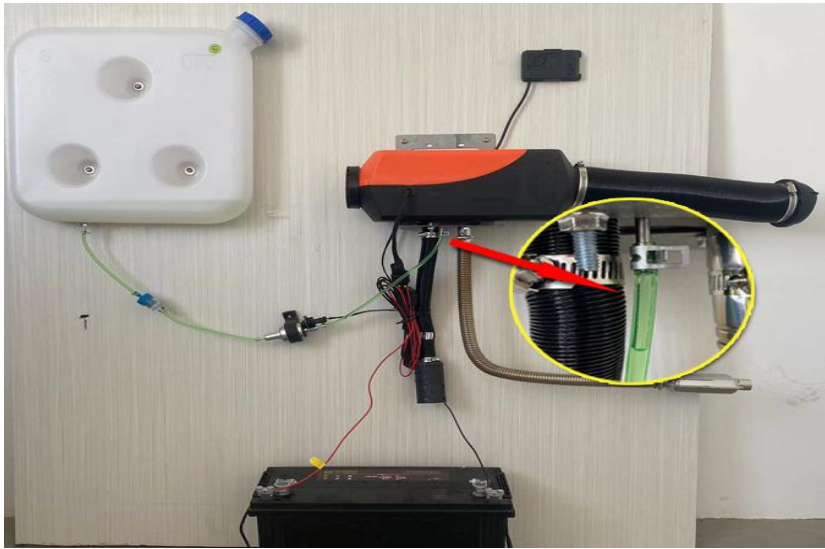
- If the heater is turned on a long time after a power cut: Incomplete combustion inside may produce a large amount of smoke. Wait for the smoke to clear, and the heater will automatically start and operate normally.



Abnormal power outage and smoke coming from the intake pipe

3. After the heater is installed, you need to manually pump oil before turning it on:

※ The fuel line of the heater is long. Before initially starting the heater, manually pump oil up to the fuel inlet. Otherwise, when turned on, the heater will take over 30 minutes to detect the fuel (during this time, it will continuously check for the fuel signal). Once the ignition plug detects the fuel, it will ignite and heat. Refer to the LCD switch user guide for detailed instructions on manual fuel pumping.



The first work requires manual pumping of oil to the position shown in the diagram and starting up

※ When manually pumping fuel, pump just up to the fuel inlet. Over-pumping can result in the heater emitting a large amount of white smoke. Quick solution: Detach the fuel line, turn on the heater, let it stop naturally, and restart it. Repeat this process until no smoke is emitted. Reconnect the fuel line and turn the heater on to resume normal operation.

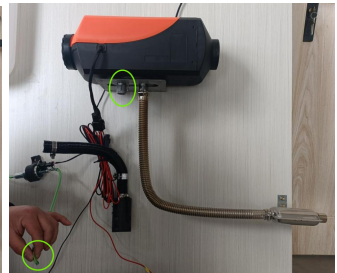
※ After starting the diesel heater, continuously blow air into the air pipe using an air pump or a high-speed blower until the heater starts and functions normally. If white smoke appears after operating for a period: This indicates that the atomizing net is clogged. Remove the ignition plug, take out the atomizing net, clean its surface or replace it with a new one.



Excessive pump oil produces white smoke



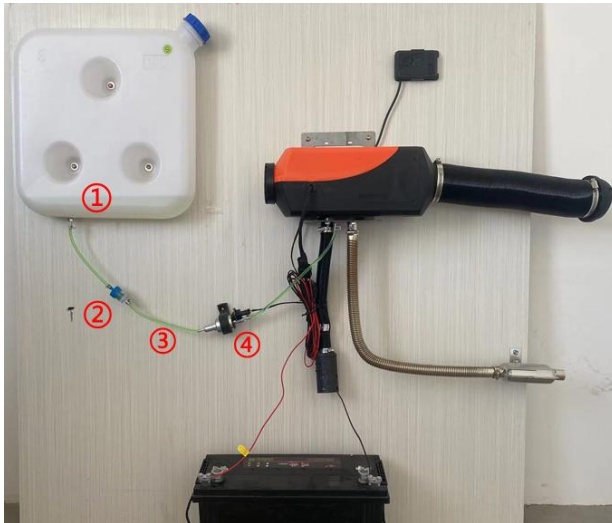
Blow the air gun towards the intake pipe to assist combustion



Remove the oil pipe and insert it after it is normal

※ Oil circuit fault, such as E4/E8/E10 fault code, indicates that there is no oil heater or heat in the machine. The following steps need to be followed for troubleshooting:

- ① Is there a shortage of oil in the fuel tank?
- ② Whether the oil filter is blocked;
- ③ Is there any bending of the oil pipe that cannot accommodate oil?
- ④ Is the oil pump not working?

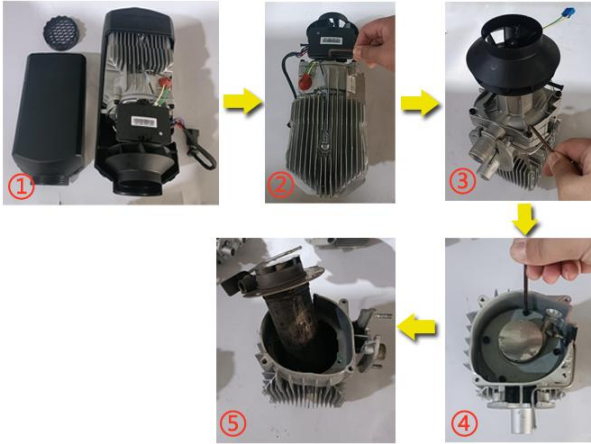


Inspection diagram

※ **Maintenance:** If black smoke is found during the operation of the heater for a period of time or in the second year of use, it indicates that there is carbon accumulation in the combustion chamber that needs to be cleaned in a timely manner. The operation method is as follows:

- ① Remove the outer shell;
- ② Remove the motherboard bolts with an Allen wrench;
- ③ Remove the four bolts of the fan assembly with an Allen wrench;
- ④ Remove the four bolts of the combustion chamber with an Allen wrench;

⑤ Remove the combustion chamber and replace it with a new recovery heater;



Schematic diagram of combustion chamber replacement

Cautions for Diesel Heater Power Supply:

※ Diesel heater power supply requirements: Voltage: 12V; Current: $\geq 20A$; Use either a power source or a battery. (Avoid charging the battery while supplying power to the heater, as low current may lead to malfunctions. Ensure a secure battery connection without using clamps to prevent poor contact. Using the car's cigarette lighter as a power source is not recommended due to insufficient current.)



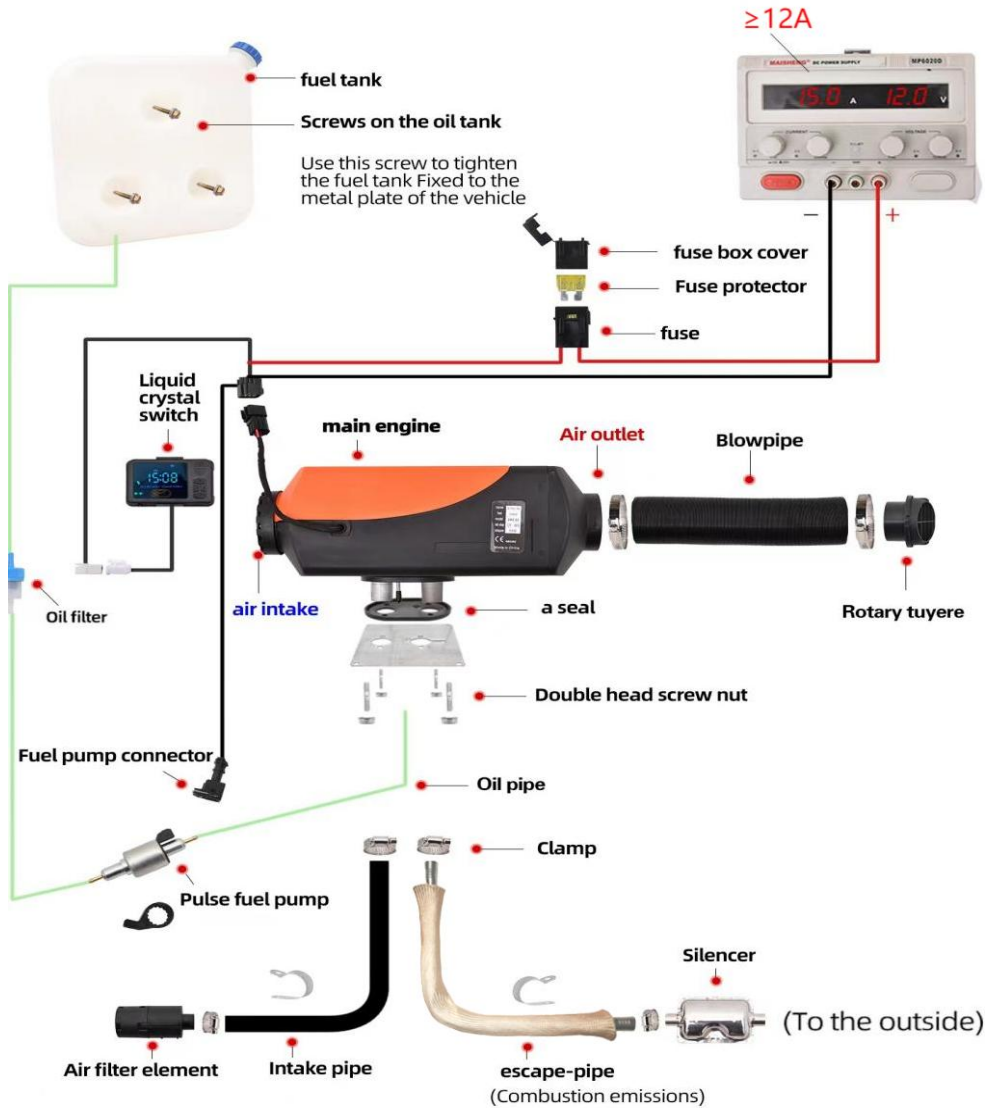
Fixing the battery clamp can easily cause poor contact



Cigarette lighter current low does not work

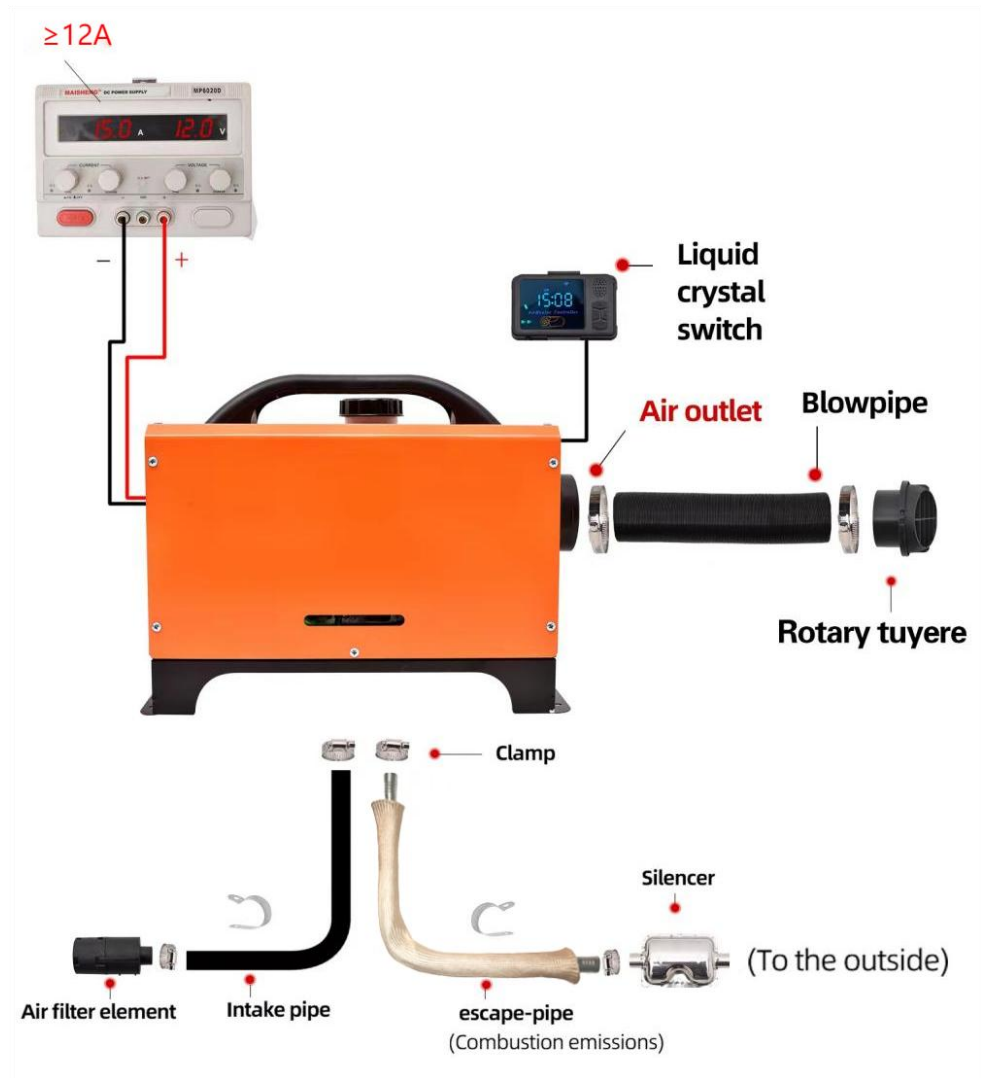
INSTALLATION DIAGRAM

ZM8001/CY-6/CY-14/CY-7/CY-8 (Split type)

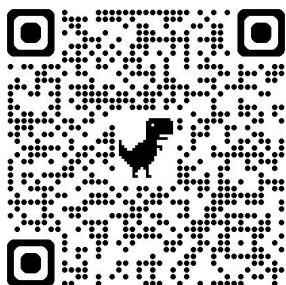
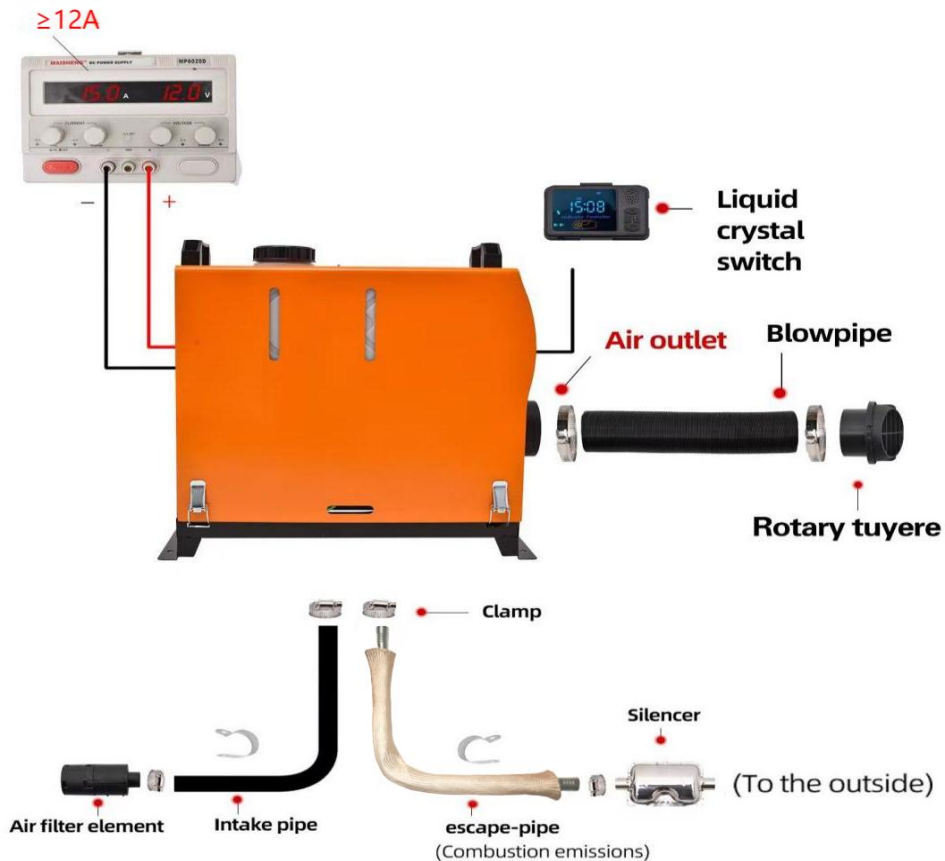


During installation, the oil tank should be properly placed above the main engine to facilitate the operation of the fuel pump.

CY-24/CY-25 (Horizontal type)



ZM5005/ZM5004/ZM8003/ZM8004/ZM8005/CY-35/CY-36/CY-31/CY-39 (Vertical type)

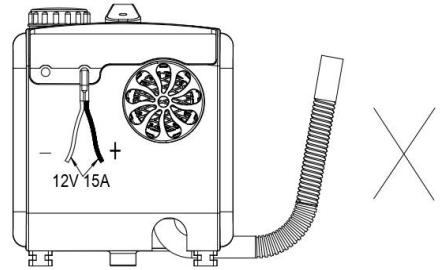
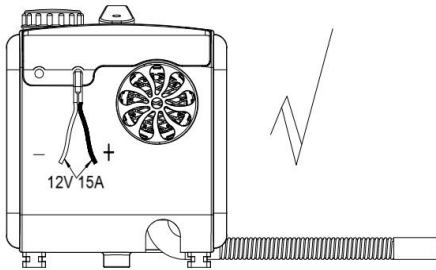


For specific installation, please scan the QR code to view the installation video



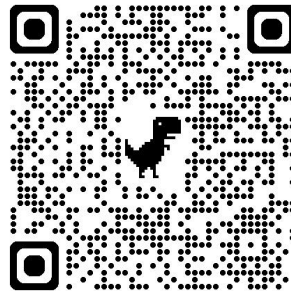
Warning:

1. The air inlet shall not be blocked to keep it open and clear.
2. Keep the exhaust pipe clear. The exhaust pipe outlet shall be kept away from anything flammable, and avoid heating and igniting the flammable goods and loading cargo on the ground.
3. To ensure optimal combustion, please remember that the smoke exhaust pipe cannot be placed upward, but must be placed horizontally or downward.



Panel operation instructions

Please refer to the instructions below for the LCD screen switch usage.
To sync, scan the QR code on the Right to watch the video.



1. Three-button digital-LCD switch [voice type]



Function	Parameter	Operation method	Specific operational steps
Power on	/	Short press the power on/off button	In the shutdown state, press the power button briefly to turn on the device. When the screen displays temperature or H-number, it indicates that the device has been turned on for heating.
Shutdown	/	Short press the power on/off button	<p>In the power-on state, short press the 'power on/off button' to display 'OFF' to shut down. During the shutdown process, the button cannot be operated. Wait for the fan to stop working, and the language will announce that the heating will stop and the machine will be completely shut down;</p> <p>Note: It is forbidden to forcefully cut off the power during the shutdown process. Otherwise, the internal heat will not be completely dissipated. A second startup will produce a large amount of smoke, and incomplete heat dissipation can easily damage the internal wind turbine of the machine. At this time, it is necessary</p>

			to wait for the internal to completely burn before returning to normal.
Display time	24-hour clock system	Display in standby mode	<p>After powering on, the screen displays 'Display Time 'in standby mode, and automatically switches to' Display Time 'in standby mode after shutdown.</p> <p>In the power-on state, long press [Left] for 2 seconds to enter the time option, long press [Power button] for 2 seconds [Hour flashing], press [Left]&[Right] to adjust to the current time, long press [Power button] for 2 seconds [Minute flashing], press [Left]&[Right] to adjust to the current time, long press [Left] for 2 seconds to save and exit.</p> <p>S1 is to adjust the current time setting; S2 runtime setting; S3 timed power on/off settings; S4 timed on and off settings;</p> <p>Note: The display time will automatically reset to zero after a power failure, and there is no memory-saving function.</p>
run time	9999min	Display during work process	Automatically timed after startup, allowing real-time observation of working time.
Gear mode	Levels 1-6	Left and Right Click to Adjust	Default gear mode upon startup, [left button]&[right button] adjust the gear size. The lowest gear is 1st gear, and


		Gear	the highest gear is 6th gear.
Gear/Temperature Switching	/	Long press the power button for 2 seconds	Default gear mode when turned on, long press the [power on/off button] for 2 seconds to switch temperature mode. Short press the left and right buttons to adjust the temperature.
Temperature - Celsius	8~36°C	Long press the power button for 2 seconds	In the power-on state, long press the [power on/off button] for 2 seconds to display Celsius degrees.
Temperature - Fahrenheit	46~97°F	Long press the power button for 2 seconds	In the power-on state, long press the [power on/off] button for 2 seconds to display Celsius degrees, and long press the [right-click] button for 2 seconds to switch to Fahrenheit degrees. Short press the left and right buttons to adjust the temperature.
Manual oil pump	Maximum 300 second countdown	Long press the [left button] for 3 seconds	When powered on for the first time, press and hold the [left button] for 3 seconds to automatically pump oil for 300 seconds. When the oil pump icon appears on the screen, it indicates that the oil is being manually pumped. After the end, it will automatically stop, or you can short press the [power on/off button] to stop halfway. The disappearance of the oil pump icon indicates successful shutdown. Note: Observe the oil inlet at the

			bottom of the machine and stop pumping oil until it reaches the inlet position. Excessive pumping of oil can cause excessive internal oil volume and failure to ignite.
Remote control matching	Effective distance \leq 30m	Long press [right-click] for 2 seconds	In standby mode, long press the [right-click] button for 2 seconds to display [rE]. Press any key on the remote control to successfully match and exit the matching process
Remote control function	Effective distance \leq 30m	Factory default matching	[ON] - power button, [OFF] - power button, [+/-] - gear/temperature size
Timer setting	Maximum 10 hours	Minimum running time of 30 minutes	<p>In the power-on state, press and hold the [left button] for 2 seconds to enter the time setting, [S01] the current time setting; [S02] Start time setting; [S03] Set the scheduled running time; [S04] Set the timer function switch, right-click to select:</p> <ol style="list-style-type: none"> [S01] Current Time Setting: [S01] Interface, long press the [Power On/Off] button for 2 seconds [hour flashing], press the [Left]&[Right] buttons to adjust to the current time, long press the [Power On/Off] button for 2 seconds [minute flashing], press the [Left]&[Right] buttons to adjust to the current time, long press the [Left] button for 2 seconds to save and exit. [S02] Start time setting: On the [S02] interface, long press the [power on/off

			<p>button] for 2 seconds[hour flashing], press [left]&[right]to adjust to the current time, long press the[power on/off button]for 2 seconds[minute flashing], press [left]&[right] to adjust to the current time, long press the [left button] for 2 seconds to save and exit.</p> <p>3. [S03] Set the scheduled running time; On the [S03] interface, long press the [Power On/Off] button for 2 seconds [hour flashing], press the [Left]&[Right] buttons to adjust to the current time, long press the [Power On/Off] button for 2 seconds [minute flashing], press the [Left]&[Right] buttons to adjust to the current time, long press the [Left] button for 2 seconds to save and exit.</p> <p>4. [S04] Timer function switch setting; On the [S04] interface, long press the [power on/off] button for 2 seconds [t-off flashing], press the [left]&[right] buttons to turn on [t-on flashing], long press the [left] button for 2 seconds to save and exit. When in standby mode, the alarm icon displayed on the screen indicates a successful setting.</p> <p>Note: Set the start time and run time in sequence, for example: if the current time is 15:00, set it to start at 15:10, run it at 15:40 and close it</p>
Voice Announcements	Voice broadcasting during startup,	Factory default English	After turning on the device, long press the combination of the [left button] and [power on/off button] for 2 seconds to display the voice selection interface.

	shutdown, and fault code situations		Release it and it will automatically enter standby mode; [U-FU]-Russian, [U-EN]-English, [U-GE]-German, [U-OF]-Voice off
Basic information	/	Press the power button and right-click combination key for 2 seconds to enter basic information	In the power-on state, simultaneously press and hold the [Power On] and [Right] combination keys for 2 seconds to enter the basic settings. Press the [Left] and [Right] keys to select, and the display area will show data display items. Short press the [Power On] key to exit; 01: Shell temperature [XX °C]; 02: Power supply voltage [P-12V]; 03: Current gear [- X -]; 04:Environmental temperature [P-XX °C];

2. Blue screen-LCD switch [standard version]

			
Function	Parameter	Operation method	Specific operational steps

Power on	/	Long press the [power on/off button]	In the shutdown state, press and hold the power button for 2 seconds to turn on and start heating. When the screen displays the H-number, it indicates that the device has been turned on and heated up
Shutdown	/	Long press the [power on/off button]	In the power-on state, long press and hold the [power on/off button] for 2 seconds to display 'OFF' for shutdown. During the shutdown process, the button cannot be operated. Wait for the fan to stop working and the language will announce that the heating will stop, and then the machine will be completely shut down; Note: It is forbidden to forcefully cut off the power during the shutdown process, otherwise the internal heat will not be completely dissipated. A second startup will produce a large amount of smoke/ incomplete heat dissipation, which can easily damage the internal wind turbine of the machine
Display time	24-hour clock system	Display in standby mode	After power on, the screen displays 'Display Time 'in standby mode, and automatically switches to' Display Time 'in standby mode after shutdown. In standby mode, long press the OK button for 2 seconds to enter the time option, short press the power button to select the hour and minute, press the left and right buttons to adjust to the current time, short press the OK button to confirm and enter the week option, press the left and right buttons to adjust the week, and short press the OK

			button to save and exit. Note: The display time will automatically reset to zero after power failure, and there is no memory-saving function.
run time	99 hours and 59 minutes	Display during work process	Automatically timed after startup, allowing real-time observation of working time.
Gear mode	Levels 1-6	Left or Right Click to Adjust Gear	Default gear mode upon startup, short press [left button]&[right button] to adjust the gear size.
Gear/Temperature Switching	/	Long press the [Settings] button for 2 seconds	Default gear mode when turned on, long press the 【Settings】 button for 2 seconds to switch temperature mode. Short press the left and right buttons to adjust the temperature
Temperature - Celsius	0~40°C	Long press the [Settings] button for 2 seconds	In the power-on state, press and hold the 【Settings】 button for 2 seconds to display Celsius degrees. Short press the left and right buttons to adjust the temperature
Temperature - Fahrenheit	32~104°F	Long press the [Settings] button for 2 seconds	In the power-on state, long press the 【Settings】 button for 2 seconds to display Celsius degrees, and long press the 【Left】 & 【Power On】 combination button for 2 seconds to switch Fahrenheit degrees. Short press the left and right buttons to adjust the temperature
Manual	Maximum	Long press the	In standby mode, long press the [left button]&[right button] for 3 seconds to

oil pump	300 second countdown	【 Left 】 & 【 Right 】 buttons for 3 seconds	<p>automatically pump oil. When the oil pump icon appears on the screen, it indicates that the oil is being manually pumped. Stop pumping oil after releasing the button, and the disappearance of the oil pump icon indicates the end of manual pumping.</p> <p>Note: Observe the oil inlet at the bottom of the machine and stop pumping oil until it reaches the inlet position. Excessive pumping of oil can cause excessive internal oil volume and failure to ignite.</p>
Remote control matching	Effective distance \leq 30m	Long press the power button and left button combination key for 2 seconds	In standby mode, press and hold the 【 power on/off button 】 & 【 right button 】 combination key for 2 seconds to display 【 HFR1 】 Press any key on the remote control to successfully match and exit the matching process.
Remote control function	Effective distance \leq 30m	Factory default matching	<p>[ON] - power button, [OFF] - power button, [+/-] - gear/temperature size</p>
Timer setting	Maximum 23 hours and 59 minutes	Minimum running time of 5 minutes	<p>In standby mode:</p> <ol style="list-style-type: none"> 1. Current time setting: Long press the [OK] button for 2 seconds to enter the time option, short press the [Power On/Off] button to select hours and minutes, press the [Left]&[Right] buttons to adjust to the current time, short press the [OK] button to confirm, enter the [Week Options], press the [Left]&[Right] buttons to adjust the star period, short press the [OK] button to save and exit.

		<p>2. Timer startup time setting: Long press the 【 Right 】 & 【 OK 】 key combination for 2 seconds to enter the time setting, press the 【 Left 】 & 【 Right 】 key to set the hour and minute, press the 【 Power On 】 key to enter the hour and minute selection, and then short press the 【 OK 】 key to set the timer shutdown time; Press the left and right buttons to set the hour and minute settings. Short press the power button to enter the hour and minute selection. After completion, press the OK button to confirm and save to exit. Confirm to save and exit. When the screen displays an alarm during standby, it means the setting is successful.</p> <p>3. Cancel the timing method; When the timer function is activated, press and hold the 【 right-click 】 & 【 OK 】 key combination for 2 seconds to turn off the timer function. When the alarm icon on the screen disappears, it means it has been successfully turned off</p> <p>Note: After setting the current time, sequentially set the startup time and shutdown time. For example, if the current time is 15:10, set it to start at 15:12 and run and shut down at 15:17,</p> <p>Warning: Timer startup and timer shutdown need to be set simultaneously and cannot run independently. After setting the timer startup and shutdown, they will be repeated every day. When not in use, follow the cancel timer</p>
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			method to turn off the timer.
Basic Settings	/	In the startup state, press the [OK] key to enter the basic settings	In the power-on state, press the [OK] key to enter the basic settings and view information: 01: Shell temperature [XXX °C]; 02: Power supply voltage [P-12V]; 03: Environmental temperature [PXX °C]; 04: Current gear [H-X];

3. Five-button-large LCD switch[standard version A]



Function	Parameter	Operation method	Specific operational steps
Power on	/	Long press the [power on/off button]	In the shutdown state, long press the [power on/off button] for 3 seconds to turn on and start heating.
Shutdown	/	Long press the [power on/off button]	In the power-on state, long press and hold the [power on/off button] for 2 seconds to display 'OFF' for shutdown. During the shutdown process, the button

			<p>cannot be operated. Wait for the fan to stop working and the language will announce that the heating will stop, and then the machine will be completely shut down;</p> <p>Note: It is forbidden to forcefully cut off the power during the shutdown process, otherwise the internal heat will not be completely dissipated. A second startup will produce a large amount of smoke/incomplete heat dissipation, which can easily damage the internal wind turbine of the machine</p>
Display time	24-hour clock system	Display in standby mode	<p>After power on, the screen displays 'Display Time 'in standby mode, and automatically switches to' Display Time 'in standby mode after shutdown.</p> <p>After the first power is on, the display screen lights up with a flashing time. Press the power button to select the hour and minute, press the ↑ and ↓ keys to adjust to the current time, and press the OK button to save and exit.</p> <p>Note: The display time will automatically reset to zero after power failure, and there is no memory-saving function.</p>

Gear mode	Levels 1-6	【 ▲ Key 】 & 【 ▼ Key 】 Adjust gear	Default gear mode upon startup, adjust the gear size using the 【 ▲ Key 】 & 【 ▼ Key 】
Gear/Temperature Switching	/	Long press the [Settings]button for 2 seconds	Default gear mode when turned on, long press the 【 Settings 】 button for 2 seconds to switch temperature mode.
Temperature Celsius	- 0~40°C	Long press the [Settings]button for 2 seconds	In the power-on state, press and hold the 【 Settings 】 button for 2 seconds to display Celsius degrees.
Temperature Fahrenheit	- 32~104°F	Long press the [Settings]button for 2 seconds	In the power-on state, long press the 【 Settings 】 button for 2 seconds to display Celsius degrees, and long press the 【▲】 & 【 Power On 】 combination button for 2 seconds to switch Fahrenheit degrees.
Manual oil pump	Maximum 300 second countdown	Long press the 【 ▲ 】 & 【 ▼ 】 key combination for 3 seconds	When powered on for the first time, press and hold the 【 ▲ 】 & 【 ▼ 】 combination key for 3 seconds to automatically pump oil for 300 seconds. Release the button and it will automatically stop. Note: Observe the oil inlet at the bottom of the machine and stop pumping oil until it

			reaches the inlet position. Excessive pumping of oil can cause excessive internal oil volume and failure to ignite.
Remote control matching	Effective distance ≤ 30m	Long press the [power on/off] key and the [▼] key combination for 2 seconds	In the shutdown state, long press the combination key of [power on/off] and [▼] key for 2 seconds to display [HFR1], then press any key on the remote control to successfully match and exit the matching process. Note: HFR1~HFR5 can be matched with 5 remote controls for simultaneous operation.
Remote control function	Effective distance ≤ 30m	Factory default matching	[ON] - power button, [OFF] - power button, [+/-] - gear/temperature size
Timer setting	Maximum 10 hours	Minimum running time of 30 minutes	In standby mode, long press the [▼] & [OK] key combination for 2 seconds to enter the timed startup setting. The setting sequence is: current time setting → startup time setting → timed running time setting → timed function switch setting: 1. Current time setting: After the first power is on, the display screen will light up with a flashing time. Press the power button to select the hour and minute, press

		<p>the ↑ and ↓ keys to adjust to the current time, and press the OK button to save and exit.</p> <p>2. Start time setting: Long press the 【▼】 and 【OK】 combination keys for 2 seconds to enter the time setting. Press the 【▲】 and 【▼】 keys to set the hour and minute settings. Press the 【power on/off】 key to confirm. After completion, press the 【OK】 key twice to confirm and save to exit.</p> <p>3. Timed running time setting; Long press the 【▼】 and 【OK】 combination keys for 2 seconds to enter the time setting. Press the 【OK】 key to enter the timed running time setting. Press the 【▲】 and 【▼】 keys to set the hours and minutes. Press the 【power on/off】 key to confirm. After completion, press the 【OK】 key to confirm and save to exit.</p> <p>4. Timer function switch</p>
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			<p>setting; When the timer function is activated, long press the 【▼】 & 【OK】 combination key for 2 seconds to turn off the timer function.</p> <p>Note: After setting the display time, set the start time and run time in sequence. For example, if the current time is 15:00, set it to start at 15:10 and run at 15:40 to close</p>
Basic Settings	/	In the startup state, press the [OK] key to enter the basic settings	<p>In the power-on state, press the [OK] key to enter the basic settings and view information:</p> <p>01: Shell temperature [XXX °C];</p> <p>02: Power supply voltage [P-12V];</p> <p>03: Environmental temperature [PXX °C];</p> <p>04: Check the scheduled opening time 【 XX: XX 】 ;</p> <p>05: Check the scheduled stop time 【 XX: XX 】 ;</p>

4. Five-button-large LCD switch[standard version B]



Function	Parameter	Operation method	Specific operational steps
Power on	/	Long press the [power on/off button]	In the shutdown state, long press the [power on/off button] for 3 seconds to turn on and start heating.
Shutdown	/	Long press the [power on/off button]	<p>In the power-on state, long press and hold the [power on/off button] for 2 seconds to display 'OFF' for shutdown. During the shutdown process, the button cannot be operated. Wait for the fan to stop working and the language will announce that the heating will stop, and then the machine will be completely shut down;</p> <p>Note: It is forbidden to forcefully cut off the power during the shutdown process, otherwise the internal heat will not be completely dissipated. A second startup will produce a large amount of smoke/incomplete heat</p>

			dissipation, which can easily damage the internal wind turbine of the machine
Display time	24-hour clock system	Display in standby mode	<p>After power on, the screen displays 'Display Time' in standby mode, and automatically switches to 'Display Time' in standby mode after shutdown.</p> <p>After the first power is on, the display screen lights up with a flashing time. Press the power button to select the hour and minute, press the ↑ and ↓ keys to adjust to the current time, and press the OK button to save and exit.</p> <p>Note: The display time will automatically reset to zero after power failure, and there is no memory-saving function.</p>
Gear mode	Levels 1-6	<p>【 ▲ Key 】 & 【 ▼ Key 】</p> <p>Adjust gear</p>	Default gear mode upon startup, adjust the gear size using the 【 ▲ Key 】 & 【 ▼ Key 】
Gear/Temperature Switching	/	Long press the [Settings] button for 2 seconds	Default gear mode when turned on, long press the 【 Settings 】 button for 2 seconds to switch temperature mode.
Temperature	- 0~40℃	Long press the	In the power-on state, press

Celsius		[Settings]button for 2 seconds	and hold the 【 Settings 】 button for 2 seconds to display Celsius degrees.
Temperature Fahrenheit	- 32~104°F	Long press the [Settings]button for 2 seconds	In the power-on state, long press the 【 Settings 】 button for 2 seconds to display Celsius degrees, and long press the 【▲】 & 【 Power On 】 combination button for 2 seconds to switch Fahrenheit degrees.
Manual oil pump	Maximum 300 second countdown	Long press the 【 ▲ 】 & 【 ▼ 】 key combination for 3 seconds	When powered on for the first time, press and hold the 【 ▲ 】 & 【 ▼ 】 combination key for 3 seconds to automatically pump oil for 300 seconds. Release the button and it will automatically stop. Note: Observe the oil inlet at the bottom of the machine and stop pumping oil until it reaches the inlet position. Excessive pumping of oil can cause excessive internal oil volume and failure to ignite.
Remote control matching	Effective distance ≤ 30m	Long press the [power on/off] key and the 【 ▼ 】 key combination for 2	In the shutdown state, long press the combination key of [power on/off] and 【 ▼ 】 key for 2 seconds to display [HFR1], then press any key on the remote control to

		seconds	successfully match and exit the matching process. Note: HFR1~HFR5 can be matched with 5 remote controls for simultaneous operation.
Remote control function	Effective distance ≤ 30m	Factory default matching	[ON] - power button, [OFF] - power button, [+/-] - gear/temperature size
Timer setting	Maximum 10 hours	Minimum running time of 30 minutes	In standby mode, long press the 【▼】 & 【OK】 key combination for 2 seconds to enter the timed startup setting. The setting sequence is: current time setting → startup time setting → timed running time setting → timed function switch setting: 1. Current time setting: After the first power is on, the display screen will light up with a flashing time. Press the power button to select the hour and minute, press the ↑ and ↓ keys to adjust to the current time, and press the OK button to save and exit. 2. Start time setting: Long press the 【▼】 and 【OK】 combination keys for 2 seconds to enter the time setting. Press the 【▲】

		<p>and 【▼】 keys to set the hour and minute settings. Press the 【 power on/off 】 key to confirm. After completion, press the 【 OK 】 key twice to confirm and save to exit.</p> <p>3. Timed running time setting; Long press the 【▼】 and 【 OK 】 combination keys for 2 seconds to enter the time setting. Press the 【 OK 】 key to enter the timed running time setting. Press the 【▲】 and 【▼】 keys to set the hours and minutes. Press the 【 power on/off 】 key to confirm. After completion, press the 【 OK 】 key to confirm and save to exit.</p> <p>4. Timer function switch setting; When the timer function is activated, long press the 【▼】 & 【 OK 】 combination key for 2 seconds to turn off the timer function.</p> <p>Note: After setting the display time, set the start time and run time in sequence. For</p>
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			example, if the current time is 15:00, set it to start at 15:10 and run at 15:40 to close
Basic Settings	/	In the startup state, press the [OK] key to enter the basic settings	<p>In the power-on state, press the [OK] key to enter the basic settings and view information:</p> <p>01: Shell temperature [XXX °C];</p> <p>02: Power supply voltage [P-12V];</p> <p>03: Environmental temperature [PXX °C];</p> <p>04: Check the scheduled opening time 【 XX: XX 】 ;</p> <p>05: Check the scheduled stop time 【 XX: XX 】 ;</p>

Fault table

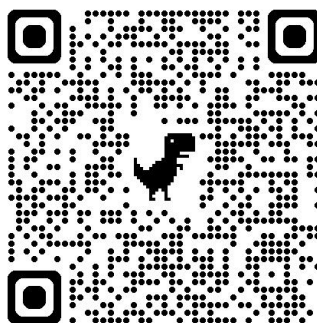
Fault alarm

Show the following figure, corresponding to the failure symbol flicker, and corresponding to the failure device icon flicker, display data as fault code, its meaning please refer to the fault table.

*Spark plug, oil pump, fan, sensor, power supply and other symbols, flicker indicates that the corresponding device is failing.

Fault table

Scan the QR code to view the troubleshooting method



Fault code	Cause of failure	solutions
E-02	Abnormal supply voltage and current	<p>1. Check the power supply equipment to ensure that the input voltage is 12V/24V and the input current is $\geq 15A$, power: $\geq 150W$, there may be losses due to differences in installation wire diameter and length; ① 12V power supply: can be started under the conditions of minimum voltage $\geq 10V$ and minimum current 9.5A; ② 24V power supply: It can be started under the conditions of minimum voltage $\geq 24V$ and minimum current 4A Over voltage protection$>32.8V$ reports E-02 fault.</p> <p>2. Power supply equipment selection: recommended for power supply, battery, adapter, etc. Input voltage: 12V/24V, input current: $\geq 15A$, power: $\geq 150W$.</p> <p>3. Charging the battery with a heater is prohibited as low battery current can cause it to malfunction;</p> <p>4. Prohibit the use of in-car cigarette lighters for power supply, as low current cannot work;</p> <p>5. It is forbidden to use fixtures to fix the connection between the battery and the wires, as poor contact can also cause</p>

		malfunction. When extending the wire harness, attention should be paid to wires with a diameter of $\geq 2\text{mm}^2$ to avoid voltage drop caused by thin wire diameter, and low voltage or current causing malfunction. If the wire harness does not work after being extended, measure the voltage and current at the power supply end and the heater wire harness end.
E-03	Ignition plug malfunction	<ol style="list-style-type: none"> 1. Check if the ignition plug is securely connected. 2. Remove the ignition plug and inspect the appearance for any defects such as broken wire harness, broken ignition plug head, oxidation, carbonization, etc. 3. Replace with new ignition plug accessories.
E-04	Oil pump malfunction	<ol style="list-style-type: none"> 1. Check if the oil pump plug is loose, unplug it, and reinstall it to confirm. 2. Confirm if there is any pumping sound in the oil pump. If there is no pumping sound, there may be impurities inside after repeated tapping after disassembly. 3. The oil pump has malfunctioned, please replace it.
E-05	Over-Temperature Protection	The temperature sensor detects that if the surface temperature of the aluminum body is $\geq 280\text{ }^{\circ}\text{C}$, it will provide over-temperature protection. Pay attention to checking whether the inlet, outlet, and exhaust pipes are bent or too long, which affects the exhaust and prevents heat from dissipating.
E-06	Wind turbine motor malfunction	<ol style="list-style-type: none"> 1. Check if the motor rotor is stuck, if the plug is loose, if the connection is incorrect, etc. If it is stuck, use two screwdrivers to move it parallel outward and return to

		<p>normal.</p> <p>2. Check if the distance between the Huo sensor and the rotor magnet is too far, and if it cannot sense the rotor speed, causing an E-06 fault code to be reported;</p> <p>3. Check if the induction magnet of the wind turbine is missing or has incorrect polarity, and adjust it to restore normal operation.</p> <p>4. The motor and motherboard have malfunctioned. Please replace the motor or motherboard.</p>
E-07	Communication Failure	<p>1. Check if the connection port of the remote control switch is loose</p> <p>2. Check if the connecting wire (blue) of the remote control switch is open circuited</p>
E-08	Secondary ignition failure (Oil circuit malfunction)	<p>The program will automatically detect whether there is an oil pump entering the machine, perform 2 checks, and each check takes 4 minutes;</p> <p>1. Newly purchased machines need to be filled with diesel in the fuel tank and patiently wait for 2-3 minutes before starting the heating process. If there is no oil in the oil pipe of the new machine, it will start slowly.</p> <p>2. Check if the diesel in the fuel tank has been completely burned, and observe the fuel tank scale to confirm if the fuel is sufficient. If there is no fuel in the tank, replenish it in a timely manner before starting the machine and heating it up normally.</p> <p>3. Refer to the troubleshooting method for E-10 fault code.</p>
E-09	sensor fault	<p>1. Check if the temperature sensor</p>

		<p>connection wire and connector are damaged or loose, and if there is no signal detected by the motherboard program due to signal interruption.</p> <p>2. Replace sensor accessories.</p>
E-10	One ignition failure (Oil circuit malfunction)	<p>1. Check if there is enough oil in the fuel tank and oil pipe, if the oil pipe is blocked, and if the oil pump is stuck.</p> <p>2. Check if the intake and exhaust pipes are unobstructed. Insufficient oxygen intake or poor exhaust can cause ignition failure.</p> <p>3. Does the altitude exceed the calibration parameters? Insufficient oxygen intake can cause ignition failure;</p> <p>4. Refer to the E-02 fault code check, the ignition failed due to insufficient heat from the low point spark plug of the power supply voltage/current.</p>
Installation Guide	The surface temperature of the exhaust pipe is around 752 °F, and attention should be paid to protection against flammable materials during installation	<p>1. Please note that there are no flammable substances around the exhaust pipe and muffler hot air outlet, and insulation materials should be used for protection. It is forbidden to drill holes and install machines on wooden floors. The surface temperature of the exhaust pipe is around 752 °F .</p> <p>2. Prohibit the use of nonhigh temperature resistant adhesives to avoid odor poisoning, and be careful to avoid causing fires by igniting flammable materials.</p> <p>3. Installation position: ① Reserve a 4-inch gap at the air inlet for smooth air intake; ② Keep the bottom exhaust pipe at a distance of 2 inches from the ground, and prevent fires when the exhaust pipe temperature is high Do not bend the exhaust pipe excessively, as it may cause poor exhaust flow; ④ The exhaust duct is not easily too</p>

		<p>long and multiple bends can cause heat to be unable to be discharged, resulting in a high-temperature fault When refueling the fuel tank, do not let it flow onto the outer shell, as it will flow along the inside of the machine to the exhaust pipe position, causing smoke. Fill the fuel tank to a level close to the fuel tank opening. Do not block the intake pipe as it may cause insufficient oxygen and the heater to malfunction.</p>
Accessories modification	<p>Prohibit the use of nonhigh temperature resistant materials and rubber seals that may cause odor and poisoning hazards</p>	<p>1. Extension of exhaust duct modification: It is recommended to purchase pipes made of the same material or high-temperature resistant material, with a length controlled within 2 meters and no large angle bending to avoid overheating.</p> <p>2. Exhaust pipe modification and extension: It is recommended to purchase pipes made of the same material or high-temperature resistant stainless steel material, with a length controlled within 2 meters and no large angle bending. The pipes must be discharged downwards to the outside and cannot be bent upwards multiple times to affect exhaust heat dissipation (the working temperature of the exhaust pipe reaches around 752 °F, and the installation position is prohibited from drilling holes in the wooden floor. Nonhigh temperature resistant rubber seals are also prohibited, which may cause odor and poisoning hazards).</p>
Emitting white smoke	<p>Abnormal power outage/excessive manual pump oil volume</p>	<p>1. Manually pump oil, if there is too much oil inside the machine, it will not ignite and emit white smoke. The correct way is to pump oil to the inlet position and stop. If the pump oil volume is too high, the oil pipe</p>

		<p>should be unplugged and restarted 2-3 times to restore normal operation before inserting the oil pipe; Or use a hair dryer to blow towards the intake pipe for a period of time until it works properly.</p> <p>2. Abnormal power outage during operation: During normal operation, press the 'power on/off button' to display 'OFF' for shutdown. During the shutdown process, the button cannot be operated. Wait for the fan to stop working before completely shutting down, and then disconnect the power supply. During the shutdown process, it is forbidden to forcefully cut off the power. Otherwise, the internal heat will not be completely dissipated and a large amount of smoke will be generated during the second startup. At this time, it is necessary to wait for the internal to completely burn before returning to normal.</p> <p>3. Refer to E-01/E-02 fault code troubleshooting.</p>
Smoking	Insufficient oxygen intake or carbon deposition in the combustion chamber	<p>1. Does the altitude exceed the calibration parameters? Insufficient oxygen intake can cause ignition failure and black smoke emission.</p> <p>2. Check if there is any blockage in the intake pipe causing insufficient oxygen intake.</p> <p>3. The small space at the air inlet position leads to air intake obstruction.</p> <p>4. Refer to the E-01/E-02 fault code check, the low point of the power supply voltage/current has insufficient heat from the ignition plug, resulting in ignition failure and black smoke emission.</p> <p>5. Disassemble the internal combustion chamber of the machine to check for</p>

		carbon deposits and replace the combustion chamber in a timely manner.
Smoke blue	Poor oil quality	Only high-grade diesel can be used, and the use of mixed diesel, other types of oil, and non-brand-new oil products is prohibited. In winter, negative temperature diesel should be met;
Machine oil leakage	Oil tank/pipe damage, side installation (Side installation prohibited)	<ol style="list-style-type: none"> 1. Check the appearance of the fuel tank/oil pipe and whether the fuel tank nozzle is damaged or cracked, which may cause oil leakage. 2. When filling the fuel tank with diesel, be careful not to pour it onto the machine casing. Otherwise, it will flow into the interior and smoke due to high internal heat during operation. 3. The heater cannot be installed on the side. The oxygen hole oil on the ignition plug side will flow out through the hole, and the correct installation method is to have the intake/exhaust port facing downwards; 4. Poor oil quality leads to blockage of the ignition plug atomization network in the combustion chamber, causing ignition to flow out through the exhaust pipe. The ignition plug atomization network and high-grade diesel should be replaced.
There is no oil or heat inside the machine	The oil pipe is bent	Check if there are any bent positions in the oil pipe that prevent air from supplying oil.
Oil flowing through the exhaust pipe	Excessive pump oil volume/blocked atomization network/abnormal voltage	1. Manually pumping oil, if there is too much oil inside the machine, it will not ignite and emit white smoke. If the combustion chamber is filled with excessive pumping oil, it will flow out from the exhaust

		<p>pipe; The correct way to pump oil to the inlet position and stop. If the pump oil volume is too high, the oil pipe should be unplugged and restarted 2-3 times to restore normal operation before inserting the oil pipe; Or use a hair dryer to blow towards the intake pipe for a period of time until it works properly.</p> <p>2. The ignition plug atomization net is blocked. After removing the ignition plug, take out the internal atomization net and check for any blockage. It should be cleaned or replaced immediately.</p>
Oil flowing inside the intake pipe	Incorrect installation direction/excessive manual pump oil volume	<p>1. Manually pumping oil, if there is too much oil inside the machine, it will not ignite and emit white smoke. If the combustion chamber is filled with excessive pumping oil, it will flow out from the intake pipe; The correct way to pump oil to the inlet position and stop. If the pump oil volume is too high, the oil pipe should be unplugged and restarted 2-3 times to restore normal operation before inserting the oil pipe; Or use a hair dryer to blow towards the intake pipe for a period of time until it works properly.</p> <p>2. The heater cannot be installed on the side. The oxygen hole oil on the ignition plug side will flow out through the hole, and the correct installation method is to have the intake/exhaust port facing downwards.</p>
The exhaust pipe temperature is too high and turns red	Combustion chamber malfunctions	Immediately shut down, dismantle the aluminum body to check if the internal combustion chamber is sealed or replace the combustion chamber.

abnormal sound	Poor exhaust flow	Foreign matter blockage in the exhaust pipe affects the exhaust. It should be immediately shut down, and the exhaust pipe, muffler, and exhaust port should be checked for blockage. If there is any blockage, it should be cleaned and restored to normal operation.
Diesel odor	Oil leakage/fuel error	<ol style="list-style-type: none"> 1. Only high-grade diesel can be used, and the use of mixed diesel, other types of oil, and non-brand-new oil products is prohibited. In winter, negative temperature diesel should be met, as other fuels may cause odors. 2. Disassemble the machine casing to check for any oil leaks inside and replace the parts promptly.
Plastic smell	Use external accessories	<ol style="list-style-type: none"> 1. Extension or modification requires the purchase of high-temperature resistant accessories. If the heater has high heat, it may produce unpleasant and pungent odors. 2. Extend the pipe fittings without bending or being too long, as this can cause heat to be unable to dissipate and result in high internal temperature and plastic odor. 3. The working temperature of the exhaust pipe reaches around 752 °F. It is prohibited to drill holes in the wooden floor or use non-high-temperature resistant rubber seals for installation, which may cause odor and poisoning hazards.
Maintenance	Smoking/insufficient heat	If black smoke or insufficient heat is found during the operation of the heater for a period of time, it indicates that there is carbon deposition inside the combustion chamber and it needs to be cleaned or replaced in a timely manner.

Fuse burnt ou	Short circuit power- off inspection	<ol style="list-style-type: none"> 1. Remove the fuse and check for damage. If damaged, replace the fuse. 2. Measure whether the positive and negative poles are short circuited. If there is a short circuit, replace the motherboard if it is damaged.
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Manufacturer: Shanghaimuxinmuyeyouxiangongsi

Address: Shuangchenglu 803nong11hao1602A-1609shi, baoshanqu, shanghai 200000 CN.

Imported to AUS: SIHAO PTY LTD.

1 ROKEVA STREETEASTWOOD NSW 2122 Australia

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Suite 250, 9166 Anaheim Place, Rancho Cucamonga, CA 91730

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YH CONSULTING LIMITED.
C/O YH Consulting Limited Office 147,
Centurion House, London Road, Staines-
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E-CrossStu GmbH
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