



AIR HEATER INSTRUCTION MANUAL



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Model:

Serial Number:

Date Purchased:

HENAN KINGCLIMA INDUSTRY CO.,LTD

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1. Introduction Before Installation

※ Installation Location of the Heating System

-Elements of the construction and other works, those in the vicinity of the heating appliance must be protected from excessive heat or the possibility of fuel or lubricant getting on them

-The heater itself must not create a fire hazard if it overheats. This requirement is deemed complete if sufficient distance to all parts is observed during installation, adequate ventilation is provided and fire protection materials or heat shields are used.

-The nameplate or its data when the heater is installed in the vehicle must be placed in such a way that it can be easily read.

-When installing the heater, all necessary precautions must be taken in order to maximize the possibility of injury or damage to the objects being transported.

※ Indication of Operating Mode

-A clearly recognizable indication of the operating mode in the driver's field of vision must inform the driver whether the heater is on or off.

※ Fuel Supply

-The fuel filler neck must not be located in the passenger compartment and roofs must be hermetically sealed to prevent the fuel from spreading.

-For liquid-fueled heaters with fuel supply, separated from the fuel system of the vehicle, the type of fuel and the filler neck must be clearly marked.

-A reminder should be put on the filler neck to switch off the heater before refueling.

※ Exhaust System

-The exhaust pipe must be located in such a way that the exhaust gases do not enter the vehicle through the ventilation system, warm air ducts or window openings.

※ Supply of Air to the Combustion Chamber

-The air to the combustion chamber of the heater must not be supplied from the passenger compartment of the vehicle.

-The spirit inlet of the air inlet channel must be located in such a way that it cannot be blocked by foreign objects.

※ Air Supply

-The air must be fresh and taken in a clean area that is not contaminated by the exhaust gases of the power unit, heater or other vehicle unit.

-The inlet line must be protected by a mesh or other auxiliary means.

※ Hot Air Outlet

-The hot air circulation line inside the vehicle must be routed in such a way that there is no chance of getting burned or grassed when it is touched.

-The air outlet must be positioned in such a way that it cannot be blocked by unauthorized objects.

2. Safety Instructions

※ Repairs by unauthorized service organization and/or the use of non-original spare parts are dangerous and therefore unacceptable. The consequence of such actions is the termination of the standard operating permit for the heater and therefore the withdrawal of the vehicle operating permit.

※ The following activities may not be performed:

-Changes in the design of thermally affected parts.

-Use of third-party parts not approved by KINGCLIMA officers.

-Deviations from the legal, safety and/or operating regulations contained in this documentation during installation or operation. This applies in particular to electrical wiring, fuel supply system, combustion chamber air supply system and the exhaust system

※ Only original accessories or original spare parts may be used during installation or repair.

※ The heater must not be operated in places where the atmosphere may contain flammable vapor or dust, e.g. in the vicinity of the heater.

-fuel warehouse

-angle warehouse

-a human resources warehouse

-grain storage, etc.

※ The heater must be switched off when refueling.

※ The installation compartment for the heating appliance, except in a shielded enclosure, etc., is not intended to store any items and must be free. Under no circumstances shall spare fuel canisters, oil canisters, aerosol and gas canisters, rags, clothes, paper, etc. be stored or transported near or on the heater.

※ If a fuel leak is detected in the heater's fuel system (unsealing), contact an authorized service centre to remedy the problem.

※ The inertia of the heating system must not be stopped prematurely by using a battery dis-connector, except for emergency shutdown. Accident Prevention the generally accepted rules for accident prevention must always be observed, of tea and comply with the relevant health and safety regulations

KINGCLIMA

3. Product Instruction

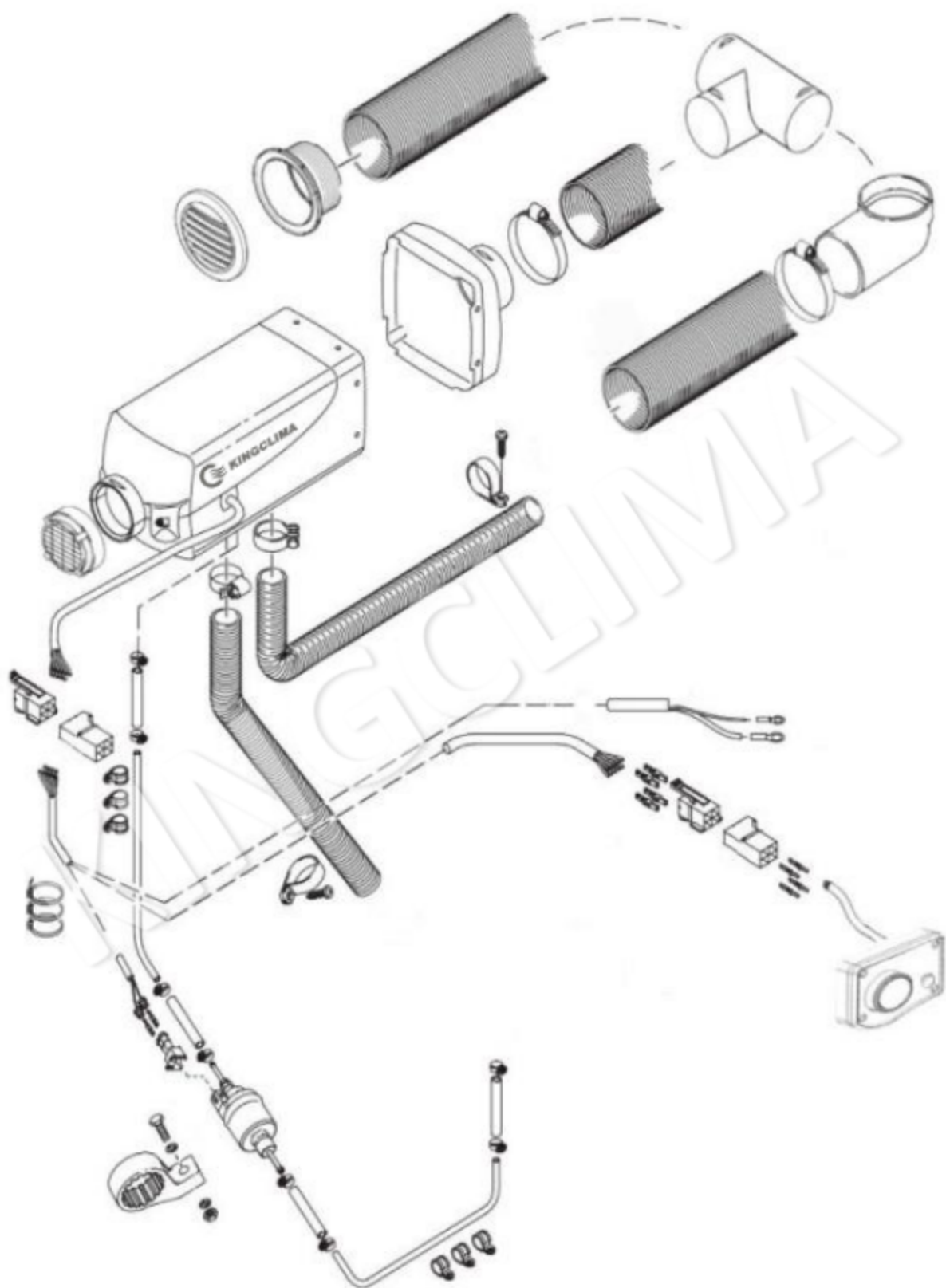
3.1 Technical Data

Model	HeaterPro2000	
Heating Capacity(W)	900-2000	
Heat flow mode	Automatic/Manual	
Heating medium	Air	
Air Flow(m ³ /h)	40-105	
Fuel consumption (l/h)	0.10-0.28	
Electricity consumed power(W)	4-34	
At start-up (W) (12 and 24 V)	<100	
Rated voltage	12 or 24V	
Operating Voltage range	10.5-16 or 21-32V Voltage protection Response time:20s.	
Fuel	Diesel	
Permissible ambient temperature	In operating mode	In offline state
Heating device	-40°C to+70°C	-40°C to +85°C
Metering unit	-40°C to +50°C	-40°C to+125°C
Noise level-interior space	The sound pressure is<60 dB(A)	
Maximum temperature of intake air	+40°C	
Weight of the heater	2.8 kg	
Dimensions	340x112x122 mm	

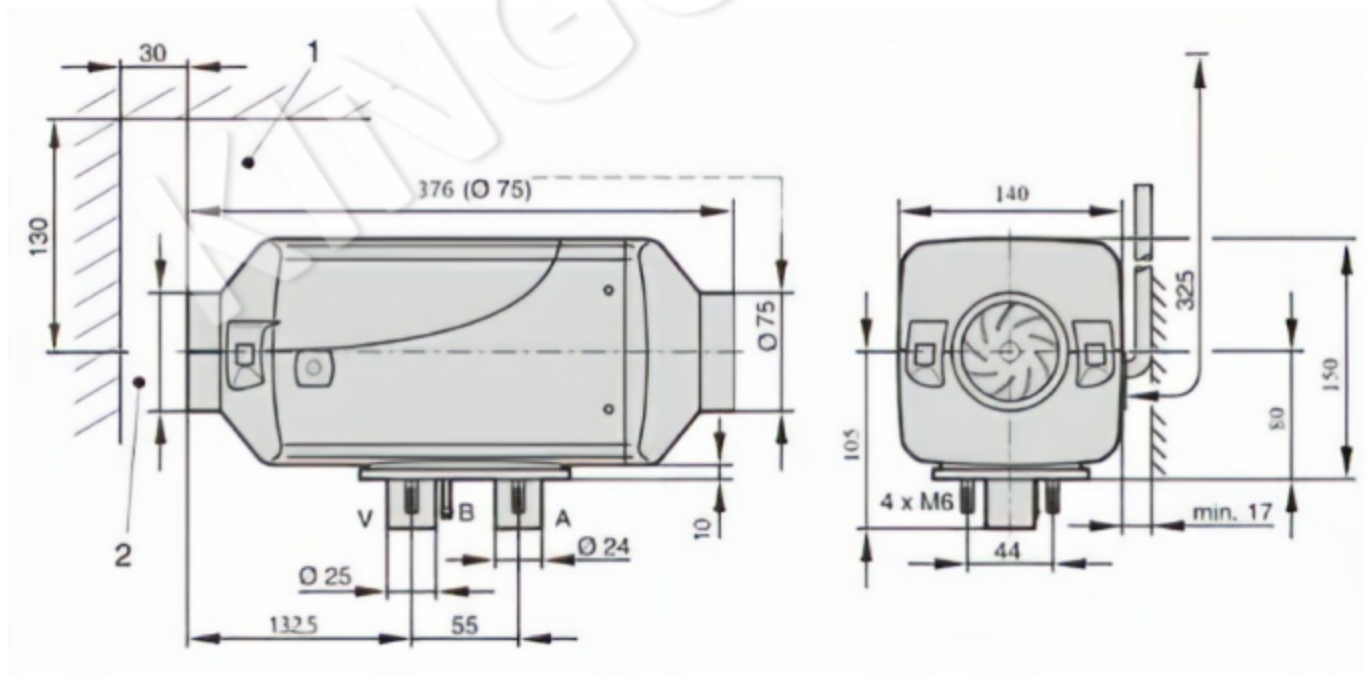
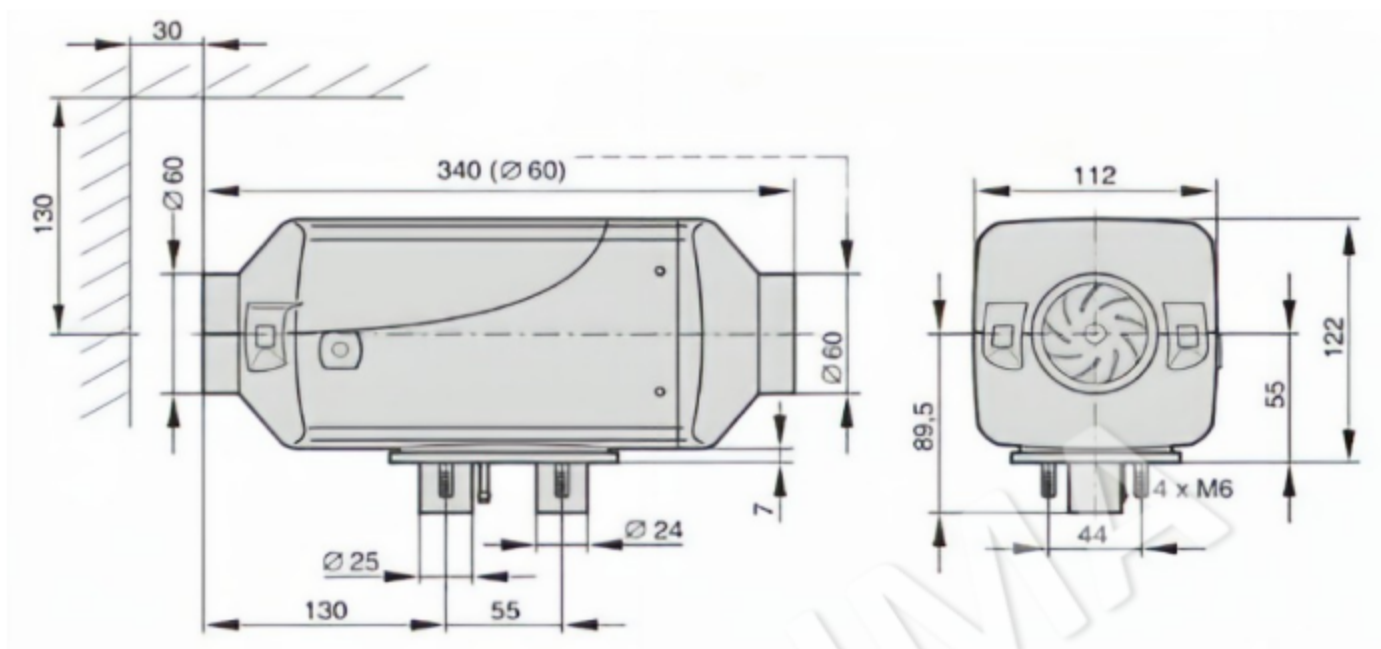
Model	HeaterPro4000	
Heating Capacity (W)	900-4000	
Heat flow mode	Automatic/Manual	
Heating medium	Air	
Air Flow (m ³ /h)	60-185	
Fuel consumption (l/h)	0.15-0.48	
Electricity consumed power(W)	7-40	
At start-up (W) (12 and 24V)	<100	
Rated voltage	12 or 24V	
Operating Voltage range	10.5-16 or 21-32V Voltage protection Response time:20s.	
Fuel	Diesel	
Permissible ambient temperature	In operating mode	In offline state
Heating device	-40°C to+70°C	-40°C to +85°C
Metering unit	-40°C to +50°C	-40°C to+125°C
Noise level-interior space	The sound pressure is<60 dB (A)	
Maximum temperature of intake air	+40°C	
Weight of the heater	4.1kg	
Dimensions	376x140x150 mm	

Note: Safety Instructions on working. Technical specifications must be taken into account, otherwise there maybe failures. All technical characteristics± 10%.

3.2 System Schematic



3.3 Product Drawing



3.4 Packing List

Description	Qty.	Description	Qty.
HeaterPro2000	1	HeaterPro4000	1
Fuel Pump	1	Fuel Pump	1
Power source wire harness	1	Power source wire harness	1
Flexible exhaust air pipe	1	Flexible exhaust air pipe	1
Air inlet pipe	1	Air inlet pipe	1
Fuel pump bracket	1	Fuel pump bracket	1
Control Panel	1	Control Panel	1
Air outlet pipe	1	Air outlet pipe 075	1
Grille	1	Corner pipe 075	1
Flexible air duct 060	1	Grille	1
Heater bracket	1	Flexible air duct 075	1
Pipe bracket	2	Heater bracket	1
Fuel tank (Optional)	1	Pipe bracket	2
Fuel tube for fuel pump	1	Fuel tank	1
Metal pipe for fuel tank	1	Metal pipe for fuel tank	1
Fuel filter	1	Fuel tube for fuel pump	1
Air filter	1	Fuel filter	1
Sealing gasket	1	Air filter	1
A set of metal-ware	1	T-tee075	1
Thermal protection for exhaust-air Pipe	1	Sealing gasket	1
Spark suppressor	1	A set of metal-ware	1
Warranty Card	1	Silencer (Optional)	1
		Thermal protection for exhaust-air pipe	1
		Spark suppressor	1
		Warranty Card	1

Note: As technology is updated, the list of accessories is subject to change without notice.

4. Installation

4.1 Installation and Location

The heater is designed and approved for installation in the premises of vehicles intended for transporting people.

When installed in rooms intended for passenger transportation, exhaust gas pipelines for the supply of air to the combustion chamber and for the supply of fuel must have no detachable connections inside these rooms, and the openings for their installation must be splash-proof. The heating appliance can therefore be attached to its support by means of a flange seal planted on this support to the vehicle floor or to the outside wall of the vehicle.

The electronic control unit is integrated into the heating appliance, which makes it considerably easier to install a wire during installation.

Pay attention!

- When installing the heater, ensure sufficient space for air intake, removal of the incandescent pin electrode and the control unit.
- Comply with safety regulations and instructions.

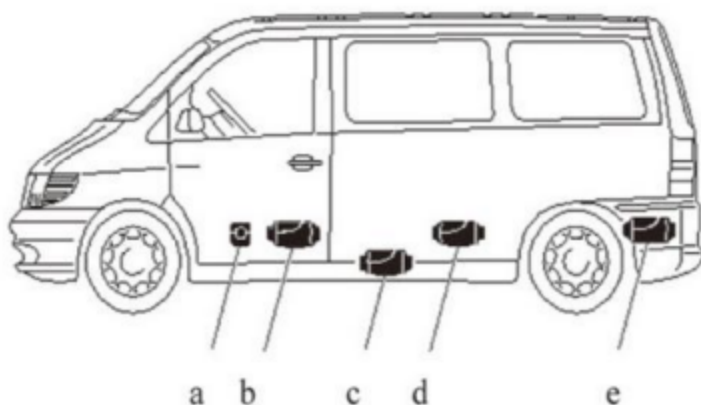
Installation of a diesel-powered heater with a 12V/24V mains supply in a vehicle designed for the transportation of dangerous goods. It is permitted to install a diesel fuel heater on vehicles intended for the transport of dangerous goods as prescribed.

4.2 Location of Installation

→ **Place of installation in a passenger car/large-size limousine**

In a passenger car/ large limousine, the heater should be installed in the passenger

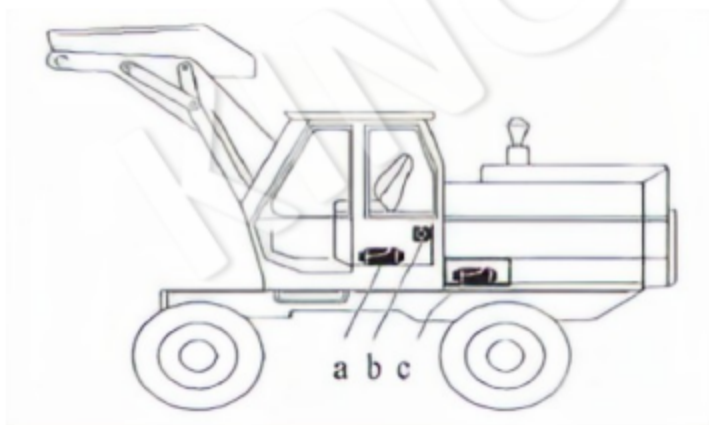
compartment or in the luggage compartment. If it is not possible to install the heater in the passenger compartment or in the luggage compartment, it can be installed under the floor of the vehicle outside



- a Heating device in front of the seat
- b Heating device between the front sides
- c Heating device under the floor
- d Heating device under the back seat
- e Heating device in the luggage

→ Location of installation in the excavator cabin

It is recommended that the heater be installed in the cabin on an excavator. If installation in the cabin is not possible, the heater can be installed in a storage drawer outside the cabin.



- a Heating device in a drawer under the seat
- b Heating device on the rear wall of the cabin
- c Heating device in a protective box

→ Location of installation in the truck (diesel heating only)

The boron is recommended to be installed inside the driver's cab. If installation inside the driver's cab is not possible, the heater can be installed in a toolbox or in an accessory box.



a Heating device in front of the neighbouring driver-skewed seat

b Heating device on the rear wall of the cabin

c Heating device under the furnace

d Heating device in the instrument box

Attention!!!

* The installation suggestions in the installation manual are given as examples.

Other installation locations are possible if they meet the requirements given in this installation guide.

* Other installation information (e.g. for boats and ships) is available from the manufacturer on request.

* Follow the instructions on the installation locations, as well as the operating and storage temperatures.

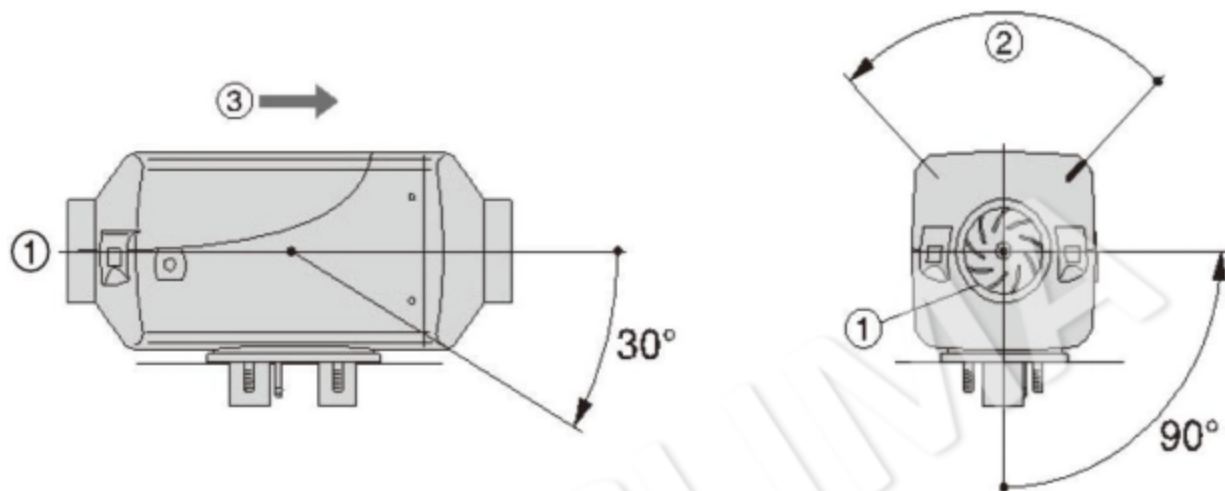
4.3 Permitted Installation Provisions

It is recommended that the heater be installed in the standard position as shown in the figure.

Depending on the installation conditions, the heater can be tilted at an angle of up to 30° according to the diagram (flow direction-down) or turned at an angle of up to 90° according to the diagram. The circle of its own longitudinal axis (outlet nozzle exhaust fumes-horizontally, the glow plug looks up!).

In heating mode, the heater can deviate from the presented stationary position by angles up to +15° in any plane due to changes in the position of the vehicle or vessel without any impact on its operation.

Standard position-horizontally (outlet pipe facing downwards) with permissible deviations

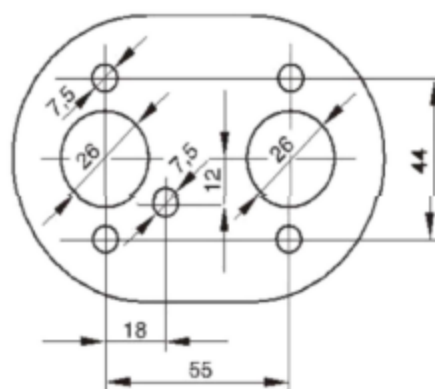


- ① Air intake opening (blower impeller)
- ② Position of the glow plug
- ③ Direction of flow

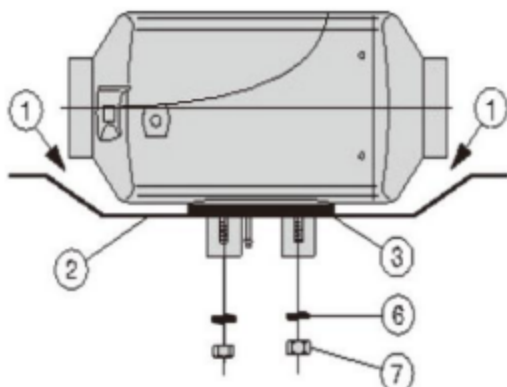
4.4 Installation and Fixation

Holes for the installation of exhaust, combustion and fuel supply channels have been drilled according to a pre-drilled layout. The mounting surface of the instrument support must be flat. The appropriate tool can be requested from the manufacturer for drilling and levelling the machine surface. Hole $\varnothing 10.5$ mm for cable routing.

Scheme for drilling holes:



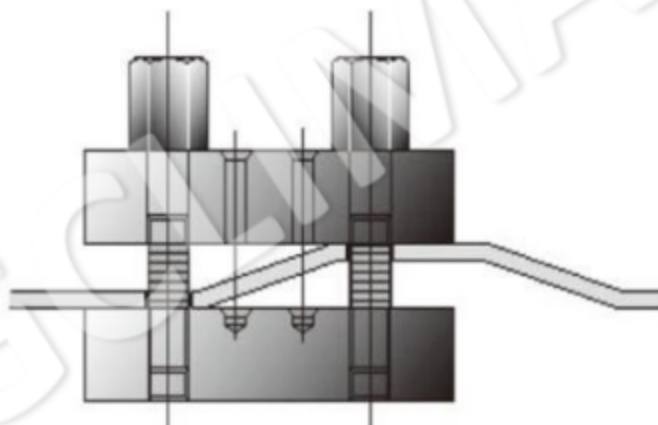
Fixing the heater on the car floor:



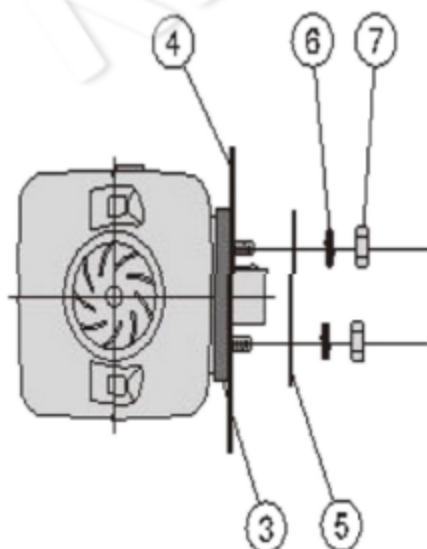
- ① A gap between the heater and the vehicle floor is absolutely necessary. Additionally, check whether the impeller of the vein rotates without interference
- ② The mounting surface must be flat.
- ③ A flange gasket must be installed.

Note: If the thickness of the installation position is less than 1.5 mm, a fixed plate needs to be installed

Leveling tool on the top of that:



Fix the heater on the wall of the vehicle in a horizontal position:



- ④ The wall of the car must be flat.
- ⑤ Reinforcing sheet metal (see above if necessary)
- ⑥ Elastic washer
- ⑦ Graduated nuts M6 (tightening torque 5+1 N)

4.5 Supply of Hot Air

The universal installation kit includes a hot air inlet, a discharge spigot and a shield mesh.

Danger of burns and injury!

- The hot air ducts as well as the hot air outlet nozzle must be installed and secured so that they do not have a direct effect by touching/blowing on people, animals or heat-sensitive materials.

- A dispersal device must be installed at the hot air outlet of the site.

Inlet and outlet of hot air with no ducts must have a safety net installed to prevent fan injuries or burns when the heat ex-changer is touched.

- The warm air supply line is heated to high temperatures. Therefore, do not carry out any work on the warm air supply line during heating operation. In this case, switch off the heater beforehand and wait until the heater

 **Attention!**

- Comply with the regulations and safety instructions.

When connecting parts of the air supply system, take into account the conductivity coefficient of the device.

It will cool down completely. Wear protective gloves if necessary.

 **Attention!**

- The hot air intake openings must be located in such a way that during standard operation, the vehicle's engine exhaust gases are not sucked in and dust, salt mist, etc. enters the heated air.


- In full air re-circulation mode, route the air supply duct so that the warm air discharged does not flow back into the air intake.
- In the event of a malfunction due to overheating, the heated air temperature may reach 150°C immediately before the emergency shutdown and the surface temperature may reach 90°C. For this reason, only air-water approved by us must be used for the installation of warm air leads!
- When checking operation after approx.10 minutes of operation, the average supply air temperature measured at a distance of approx.30 cm from the nozzle should not exceed 110°C (intake air temperature approx.20°C) .
- If the driver and passengers can get in contact with the heater while driving, protection must be installed.

4.6 Exhaust Gas Extraction Installation of the flue gas exhaust system

The universal installation kit includes a flexible flue gas pipe, inner diameter 24 mm, length 1000 mm and exhaust silencer. The flexible exhaust pipe can be shortened by 20 cm or extended to 2 m depending on the installation conditions.

Install a flexible pipe to extract the exhaust gases from the heater to the silencer and fix it with a pipe clamp.

After completion of all work, put a spark extinguisher on the end pipe.

 **Attention!**

Safety Instructions!

The entire exhaust system is heated to a very high temperature during operation

after its installation. The exhaust gas extraction system must therefore always be installed in accordance with these installation instructions.

- The outlet of the waste gas extraction system must be located outside the vehicle.
- The exhaust pipe must not protrude beyond the side dimensions of the vehicle
- Install a slightly sloping exhaust pipe, if necessary drill a hole with a diameter of approx.3 mm at the lowest point to remove the condensate.
- Important functional parts of the vehicle must not be affected (sufficient clearance)
- Mount the exhaust pipe at a sufficient distance from heat-sensitive objects.

Particular attention!

should be paid to fuel hoses(synthetic or metal) ,electrical wiring as well as brake hoses, etc.

- Exhaust pipes must be securely fastened (recommended every 50 cm) to prevent damage from displacement.
- Route the exhaust system so that the exhaust fumes do not enter the air intake channel.
- The outlet of the exhaust pipe must not be clogged with dirt or snow.
- The outlet of the exhaust pipe must not point in the direction of movement.

Dangerous-Danger of burns and poisoning!

All burning develops high temperatures and produces poisonous combustion processes.

The exhaust gas extraction system must therefore always be installed in accordance with these installation instructions.

- During heating operation, do not perform any work in the exhaust system area.
- When working on the exhaust gas system, first switch off the heater and wait until it has cooled down completely, if necessary use protective gloves.
- Do not inhale exhaust fumes.

Attention!

- Comply with the regulations and safety instructions.
- The end exhaust pipe must be significantly shorter than the flexible exhaust pipe between the heater and the silencer.

4.7 Supply of air to the combustion chamber

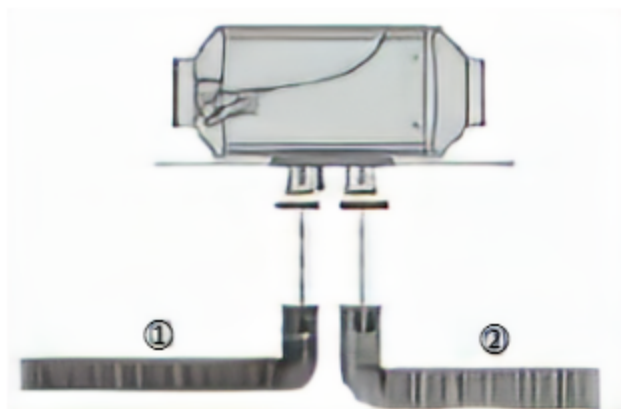
Installation of an air pipe to supply air to the combustion chamber

The universal installation kit includes an air inlet, inner diameter 25mm, length 1000mm.

The air inlet can be shortened by 20 cm or extended to 1.5 m depending on the installation conditions.

The air inlet can be connected to the heater by means of a pipe clamp and by means of hose clamps or cable strips to be installed at suitable locations. Flexible connection hose connected to the heater by means of a pipe.

and fix the inlet muffler with hose clamps or tapes for cable installation at suitable locations. After all work is completed, place the air filter on the air intake or on the inlet silencer.



① Air Inlet

② Exhaust Pipe

4.8 Fuel supply

Installing the metering pump, laying the fuel pipes and installing the fuel tank

The following safety instructions must always be observed when installing the metering pump, laying the fuel pipes and installing the fuel tank. Deviations from the instructions stated here are not allowed. Failure to comply can result in malfunctions.

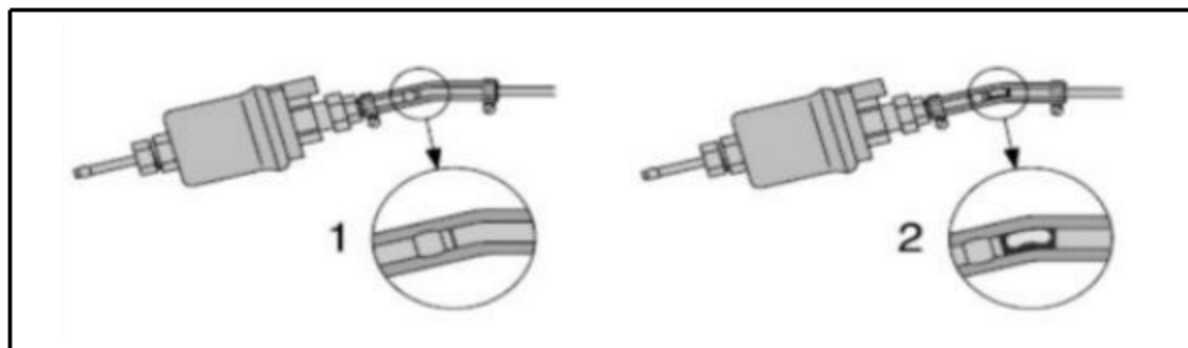
Danger!

Risk of fire, explosion, poisoning and injuries!

- Switch off the vehicle engine and the heater before refueling and before working on the fuel supply
- Avoid naked flames when handling fuel
- Do not smoke
- Do not inhale petrol fumes
- Avoid contact with the skin

Attention!

Safety instructions for laying the fuel pipes

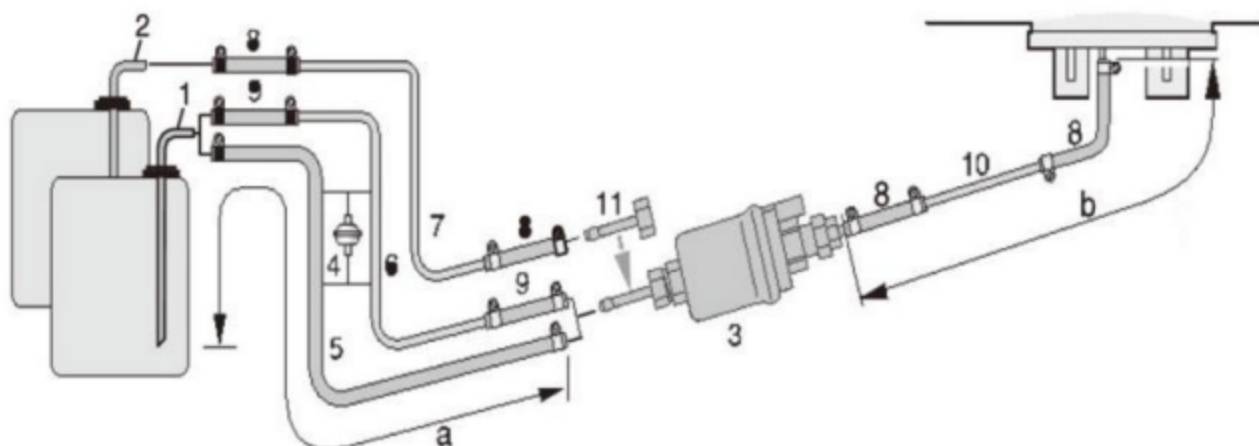


1 Correctly laid lines

2 Incorrectly laid lines- bubbles form

- Only cut fuel hoses and pipes with a sharp knife. The cutting points must not be squashed.
- Fuel hoses from the metering pump to the heater are routed as far as possible with a constant rise.
- Fuel hoses must be securely fastened in order to prevent damage and/or noise generation due to vibration (approximately every 50 cm).
- Fuel hoses must be protected from mechanical influences.
- Route the fuel hoses in such a way that the longitudinal twisting of the vehicle, engine vibration, etc. will not affect their attachment
- The elements of the fuel supply system need to be protected from thermal influences.
- Never route or fix fuel hoses in close proximity to the exhaust system of the heater or the vehicle engine. Always maintain sufficient clearance when re-crossing and, if necessary, install heat-shielded metal sheets.
- Eliminate the possibility of fuel accumulation due to leaks or evaporation on electrical equipment, which could lead to fuel combustion.
- When connecting fuel lines and hoses, always connect them backwards to prevent

Fuel intake through an upstream pipeline, into a fuel tank or a fuel line



1. Connect to a metal fuel tank - insider diameter=2mm, outside diameter=6mm
2. Fuel line connection-internal diameter=2mm, external diameter=4mm
3. Fuel pump
4. Fuel filter
5. Fuel hose, 5x3 (5 mm internal diameter)
6. Fuel tube, 6x2 (internal diameter 2 mm)
7. Fuel tube, 4x1 (internal diameter 2 mm)
8. Fuel hose, 3.5x3 (internal diameter 3.5 mm) z length approx. 50 mm
9. Fuel hose, 5x3 (internal diameter 5 mm) z length approx. 50 mm
10. Fuel tube, 4x1.25 (internal diameter 1.5 mm)
11. Connecting piece, external diameter 4 mm

Attention!

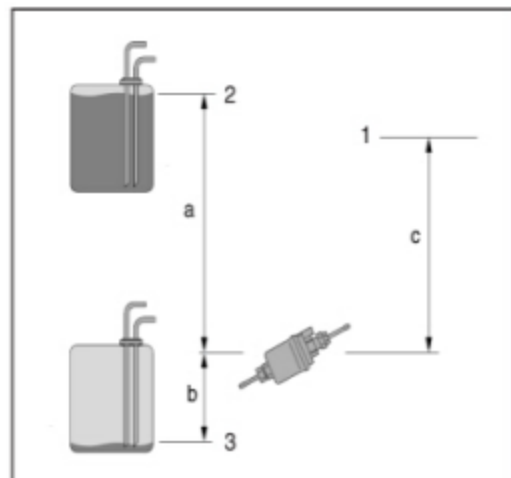
Safety instructions for the fuel supply system

- Fuel supply not be affected by gravity or by over-pressurization inside the fuel tank.
- It is not permitted to take fuel after the vehicle's feed pump.

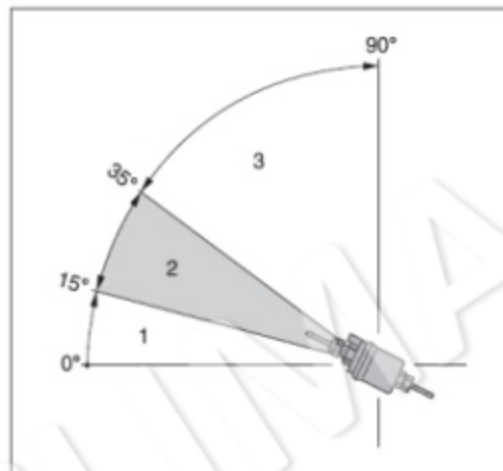
Mounting position of the metering pump

The metering pump should always be positioned with the side discharge upwards with an increase.

Installation at any angle exceeding 15° is permissible, but installation at an angle between 15 and 35° is preferable.



- a Max. fuel level
- b Min.fuel level
- c Connection to the heater



- 1 Installation at an angle of 0° to 15° is not permitted
- 2 The preferred installation angle is 15° - 35°
- 3 Installation at an angle of 35° - 90°

Permissible height of suction and discharge sides of dosing pump

Suction height when there is no pressure in the fuel tank: max.1000mm (diesel

suction height for fuel tank

Where a low pressure is generated during extraction (0.03 Atm valve in the fuel filler-cap) : max.400mm

Pressure height from dosing pump to heater: max.2000mm

Discharge height from fuel tank to dosing pump: max.3000mm

⚠ Attention!

Safety instructions for dosing pump installation

The dosing pump should always be positioned with the side discharge upwards with an elevation-the miniature elevation angle is 15°

Protect the dosing pump and filter from excessive heat, do not install near silencers and exhaust pipes.

Fuel quality for diesel heaters

The heater easily recycles the diesel fuel that you put into your car tank.

Fuel for low temperatures compliance with normal winter temperatures is automatically carried out at petrol stations (winter diesel) .

Difficulties can only occur if there is an extreme drop in temperature-the same applies to the vehicle engine-see the vehicle operating manual.

If the fuel supply to the heater is from a separate fuel tank, the following rules must be observed:

- Above 0°C, any type of diesel fuel can be used.
- If there is no special diesel fuel available at a low temperature,paraffin should be added according to the following table.

Temperature	Winter diesel	Additive
0°Cto-25°C	100%	-
-25°C to -40°C	50%	50% paraffin

⚠ Attention!

Used oil must not be added!

Attention!

Fuel lines and a dosing pump must be filled with new fuel by operating the heater within 15 minutes after refueling the winter diesel top or the specified mixture!

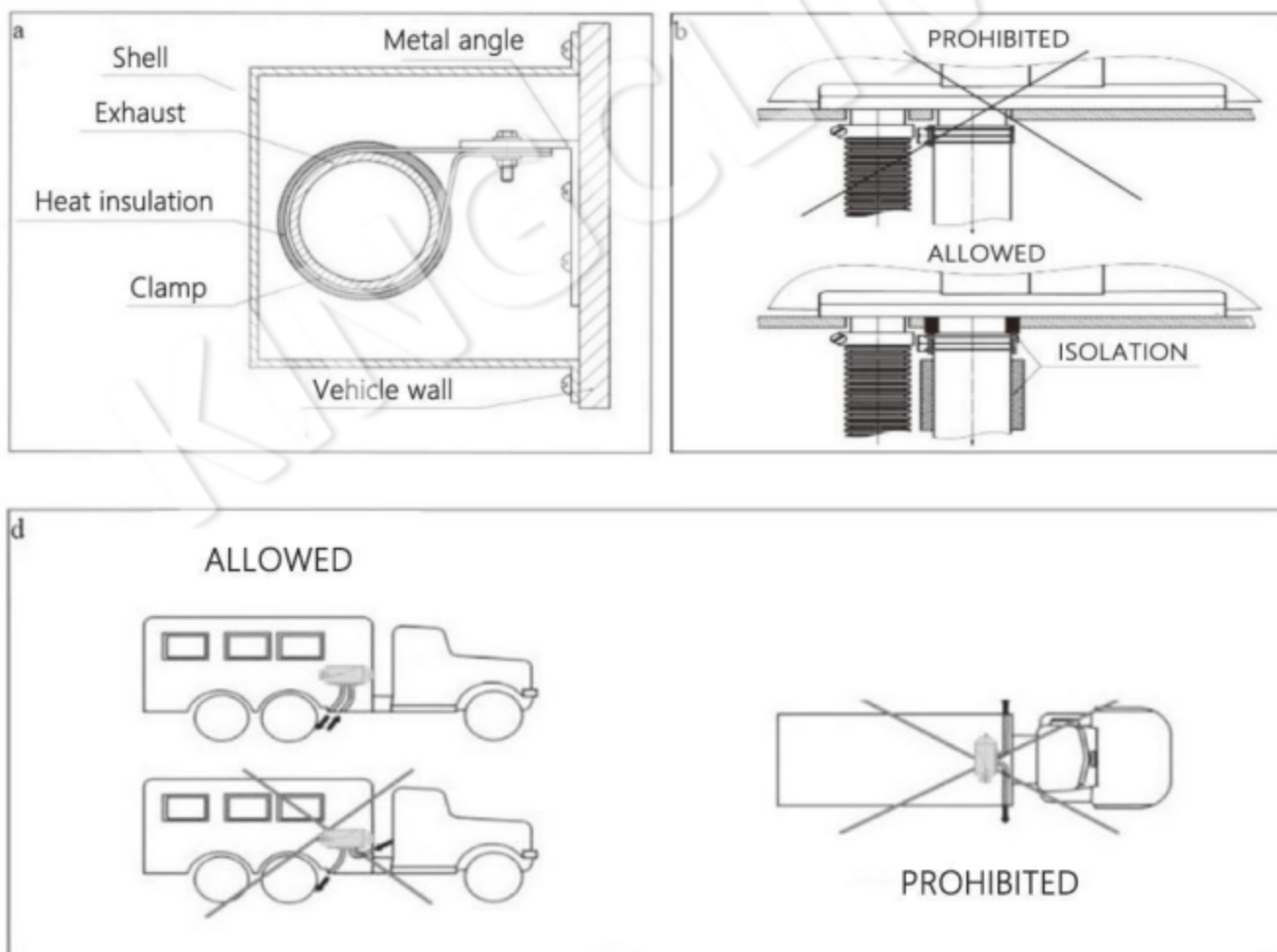
4.9 Installation of the Heater in the Van

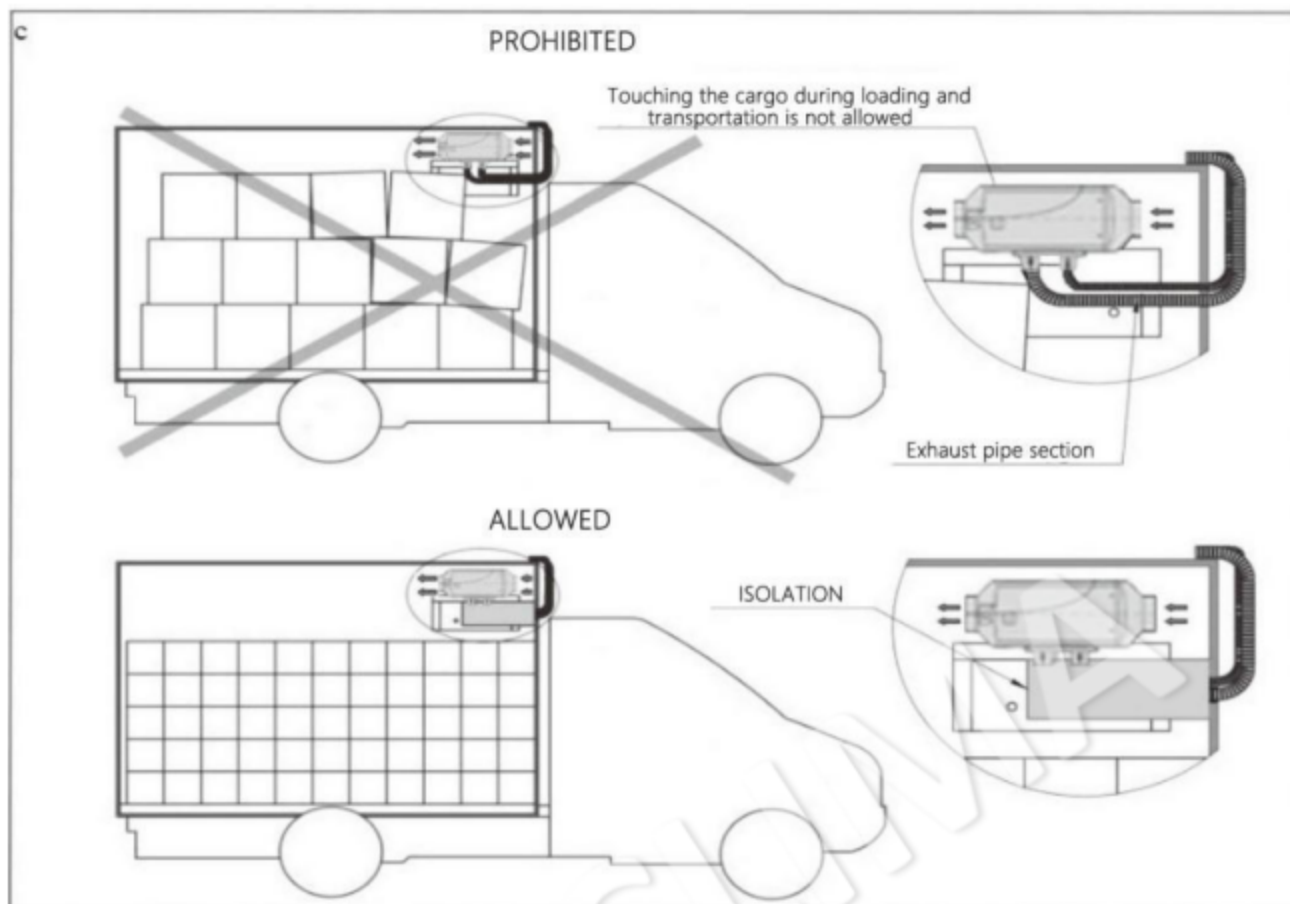
Exhaust and air intake pipes should be laid with a slope down from the heater. If not possible, a $\varnothing 3$ mm hole must be made at the lowest point to drain the condensate. This must not be done if the exhaust pipe passes through a heated room. Exhaust fumes must not enter the air intake area. Where the exhaust pipe passes through the floor or side of the bodywork, heat protection is required as shown in **Figures a and b**. When a heater is installed inside a van, an isolation van, KUNG and other vehicle rooms, the vehicle bracket, exhaust pipe and air intake area must be covered with a casing and heat protection. It is strictly prohibited to install a heater with an open section of the exhaust pipe inside the van, an isolation van, KUNG and other premises of the vehicle if heater is mounted on the bracket of the van.

Warning!

When the heater is operating, the temperature of the exhaust pipe may reach 300°C. Therefore, it is very important to install using heat protection and a protective hood. In the case of a short distance between the vehicle cab and the isolation KUNG, the installation of an exhaust pipe and an air intake with a lead to the roof of the KUNG is permitted. The inlet of the air intake and the outlet of the exhaust pipe shall be directed against the movement of the vehicle as shown in **Figure c**. The exhaust

pipe and air intake must only be mounted on one side (rear, front or side)) as shown in **Figure d**. The distance between them should be at least 200mm. Failure to comply with these requirements under unfavourable conditions (strong wind, pressure differentials etc.) not only prevents exhaust gas extraction, but also creates additional discharge in the air intake area. The additional discharge in the air intake area makes it difficult for the combustion chamber to function normally, resulting in soot clogging and shortening the service life of the heater. The manufacturer **WARNING** about possible adverse consequences for the consumer in the event of non-compliance with the above requirements for the installation and operation of **KINGCLIMA** equipment.

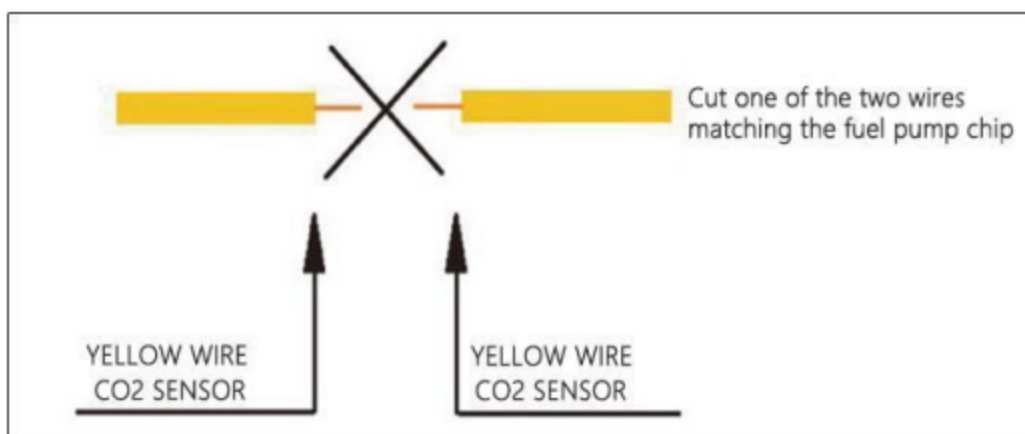




Instructions for Operation

CO2 sensor not bypassed to determine carbon monoxide concentration in car interior, van, KUNGE, etc. The portable device has a built-in a highly sensitive sensor that measures the quantity of CO2 molecules in the air. There are also 2 LED (green, red) on the pedestal panel that indicate normal and high CO2 concentrations respectively. If the carbon monoxide concentration is exceeded, the red LED is switched to the red LED.

Working Principle:



When the carbon monoxide concentration is less than 100 ppm, the sensor enables the heater to operate as standard. When the carbon monoxide concentration exceeds the standard one, i.e. more than 100 ppm, the sensor stops the top feed by opening the fuel pump circuit. An error will then appear on the control panel "06" (interrupting the fuel pump). In this case, the interior of the vehicle, van, KUNG, etc. must be ventilated. When the carbon monoxide concentration drops to a safe level, the green LED will turn on. Switch the heater off and on again for further use, and a signal is given to draw attention to the problem.

Gas detection	Carbon oxide(CO ₂)
Working tension	9-36B
Accuracy of concentration measurement	1 ppm
Start time of the device	30 sec.
System reaction time	<60 sec.
Recovery time	<60 sec.
Range	0~1000 ppm

Note: CO₂ sensor not included in the scope of delivery. We recommend this option for installation in the interior of the vehicle, van, KUNG, etc

5. Operation and Functioning

5.1 Initial Commissioning

The following points should be checked at the first commissioning after the customer has been received.

- Once the heater has been installed, the entire fuel supply system must be carefully tested, following the instructions of the vehicle manufacturer.

- During the test run of the heating system, all fuel supply connections must be checked for tightness and reliability.
- If faults are detected during operation of the heater, the cause must be determined and eliminated.

Perform a Reliability Check before Starting Up

After a long interruption of operation (summer months), the fuse must be inserted and/or the heater connected to the battery.

Check the fastening of all components (tighten bolts if necessary) .

Carry out a visual inspection of the fuel supply system to check its tightness.

Operation in the Heating Mode at Elevated Levels

Observe the following when operating in the heating mode on the terrain:

- Operation in heating mode at altitudes up to 1500 m above sea level:
 - Operation in heating mode without restriction.
- Operation in heating mode at altitudes above 1,500 m above sea level:
 - In the case of short stays (e.g. crossing a pass or stopping), heating operation is in principle possible.
 - When staying for a long time(e.g.winter camp) , the feeding system for the top must be adjusted accordingly.

5.2 Control Panel

Turn On

Press and hold the power button for 3 seconds. The console in the operating unit illuminates when switched on. The glow plug turns on and the fan runs at low speed.

Pay attention!

If the temperature after the previous heating cycle is still too high, then only the fan (cold blowing) operates. After the excess heat has been removed, it starts up.

Ignite

After 120 seconds, the top feed and the air-fuel mixture start to ignite in the combustion chamber.

Setting the temperature using the control panel

The desired cabin temperature is set with the aid of the rotary knob; depending on the set mode (automatic/manual) .

Automatic adjustment in heating mode


In heating mode, it is continuously measured temperature in the passenger compartment or caravan, provided that a temperature sensor is connected to the control panel. If it is necessary to change the preset temperature sensor, turn the controller to set the desired temperature between 0°C and 45°C. If the temperature reaches the preset value on the control panel, the heater goes into sleep mode, until the temperature drops by minus two degrees from the preset temperature on the control panel. Once the heater is switched on automatically, this temperature does not change.

Manual adjustment in heating mode

Manual adjustment in heating mode is preset for the fastest possible heating of the vehicle. If the mode is set to "9" then the heater will continuously operate at maximum heat output during operation, heater can be set to its capacity (9 stages).

Shutdown


Press and hold the power button for 3 seconds. When the heater is switched off, the central console in the control unit goes out and the heater is switched off.

 **Pay attention!**

The temperature sensor must be mounted at a distance from the heater. All temperature settings are reset when the power supply is switched off.

5.3 Control and safety devices

- If the combustion process in the combustion chamber is interrupted on its own, the fuel supply is cut off and the fan runs out inertia for about 5 minutes. Emergency shutdown can be deactivated by diagnosing an error (see error codes) .
- If a glow plug, fan motor or dosing pump electrical wiring is broken, the heater will not start
- If the combustion sensor fails or the electrical wiring is damaged, the heater will not start
- The speed of the fan engine is monitored continuously. If the heater does not start or the speed deviates by more than 10 % from the norm, an emergency shutdown occurs.
- When the heater is switched off, the glow plug is switched on for 30 seconds (after burning) during the inertia run of the fan to clean the combustion chamber of the residual fuel.

 **Pay attention!**

Forced shutdown during operation In vehicles intended for the transport of

dangerous goods (e.g. fuel wholesalers),the heating device must be switched off before entering the hazardous area(refinery,petrol station) .

- The car engine is switched off;
- An additional unit (auxiliary drive for the discharge pump etc.) is switched on;
- One of the doors of the car opens A short inertial run of the fan is then carried out for a maximum of two seconds.40 seconds.

Emergency shutdown

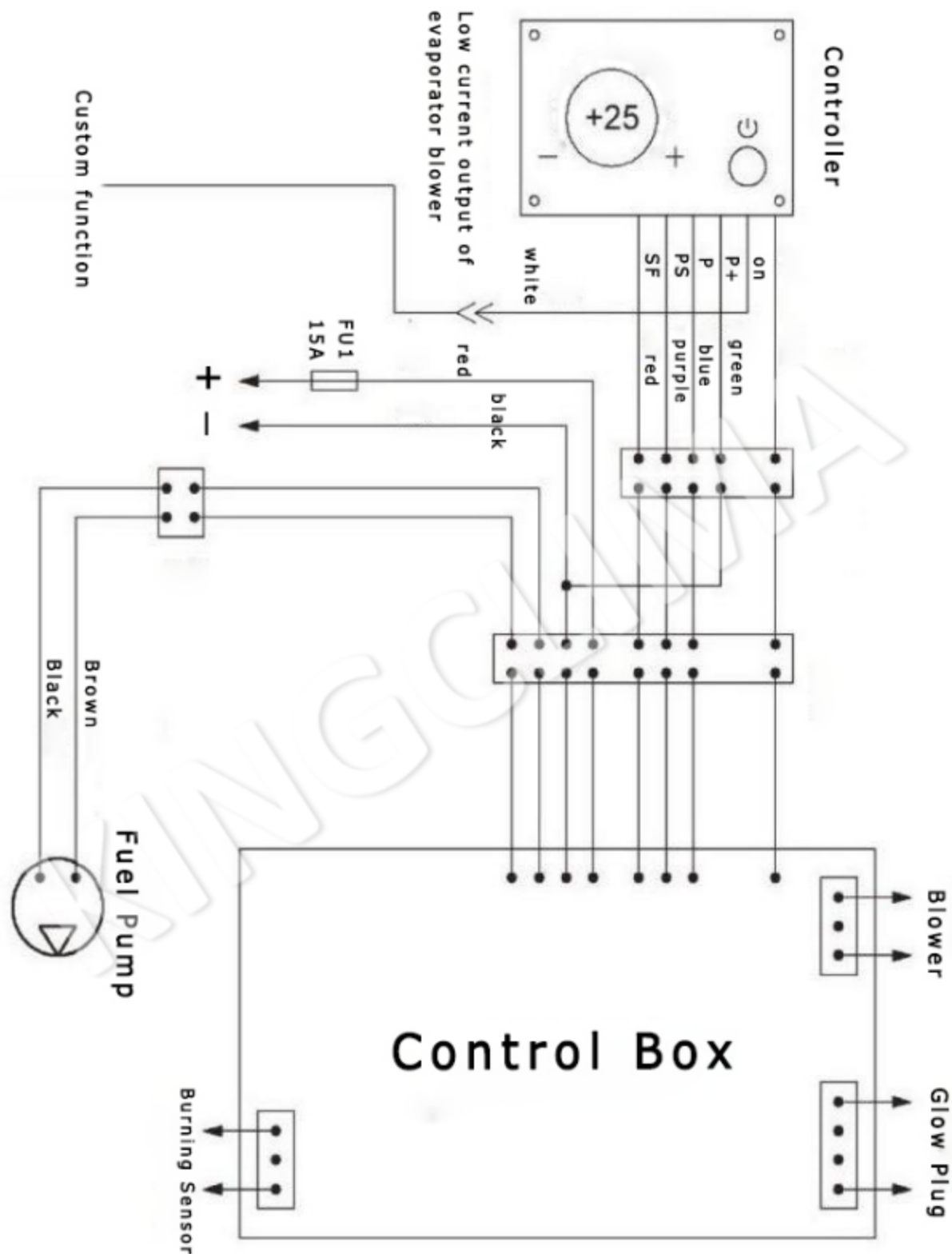
If an emergency shutdown is necessary during operation,the following steps must be taken:

Switch the heater off by switching the control panel or remove the fuse, or disconnect the heater from the bat.

5.4 Error Codes

Codes	Description	Trouble-shooting
E01	Fuel supply error	Check the quantity of fuel in the heater tank,check the fuel pipe for air,check the fuel pump (character-) In the event of an overheating, examine the sensor for proper contact with the heat exchanger.
E02	Flame stop	Check the glow plug, check the combustion chamber for contamination.
E03	Voltage too high or too low	Check the battery,the voltage regulator and the supply wiring
E05	Faulty override sensor	Check the temperature sensor (on the control unit)
E06	Fuel pump-interruption	Check the electrical wiring of the fuel pump for short circuits and opens,check the fuel pump (characteristic sound of operation), visually inspect the fuel pipe for movement of the top,check the connections of the fuel system, visually inspect the fuel pipe at the time of a fuel leak and, if necessary,close it.change the fuel pump.
E07	Aisle sensor; Air blower	Check that the control unit is well mounted on the heater heat exchanger,check that the magnets on the blower fan are well seated,change the control unit if necessary; check the electrical design vodka of the fan motor for conductivity replace the blower if necessary.
E08	Candle- glow plug	Check the glow plug, replace it if necessary.
E09	Overheating of heat Exchanger(programme-thresholds hold value)	Check the inlet and outlet connection of the heating appliance for free air inlet and outlet,check the fuel pump for the amount of fuel supplied per unit 1000 rolls.
E10	Burning sensor	Check the combustion sensor on the heat exchanger replace if necessary.

6. Circuit Diagram



7. Warranty Obligations

The warranty period for products is set at 12 months from the date of installation as intended. The warranty period for spare parts replaced under the warranty is valid until the end of the warranty period for the product.

Estimated service life of the product is 5 years from the date of installation.

In accordance with the TU for products, the shelf life shall not exceed 2 years from the time of manufacture of the product to its installation. Installation of the product after the specified period without quality control by an authorized person shall deprive the product of its warranty. The warranty card is valid only if it is correctly and clearly stated:

The product, serial number, date of manufacture, date of sale

The serial number and type of product must correspond to the one indicated on the warranty certificate. If these conditions are violated, or if the data provided in the warranty card is changed, erased or rewritten, the warranty card is invalid.

With this Guarantee Card, the Manufacturer confirms its commitment to meet the requirements of consumers established by the current legislation on consumer protection in the event of any defects in the product.

The manufacturer reserves the right to refuse warranty service if the following conditions are not met.

Warranty service conditions:

We guarantee the normal operation of products, provided that the consumers comply with all operating, transport and storage rules in the operating manual.

If the fault is detected within the warranty period, it will be rectified free of charge.

The installation of the product must be carried out by organization authorized by the Manufacturer. The column "Information on installation" of this warranty certificate shall be filled in. The list of organizations can be found at www.kingclima.com / www.climaac.com

Warranty obligations do not apply to defects arising as a result:

Force Majeure: lightning strike, fire, flooding, inadmissible voltage fluctuations, traffic accidents; failure to comply with the rules of operation, storage and transportation; installation, re-installation or adjustment if carried out by persons and organizations not authorized by the manufacturer to carry out installation and warranty repair; heater failure due to combustion chamber pollution; vehicle electrical equipment malfunction; independent repair of the product or use of non-original spare parts.

8. Ecology

Disposal–Recycling of materials

Old appliances, defective parts and packaging material must always be sorted so that, if necessary, all waste can be disposed of in an environmentally friendly manner or used for production purposes.

Electric motors, control units and sensors (e.g. temperature sensors) are regarded here as "electrical scrap".

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