

JP Heater Diesel/Gasoline electric combi air water heater installation

● Fuel system installation

As Fig 1 shows:

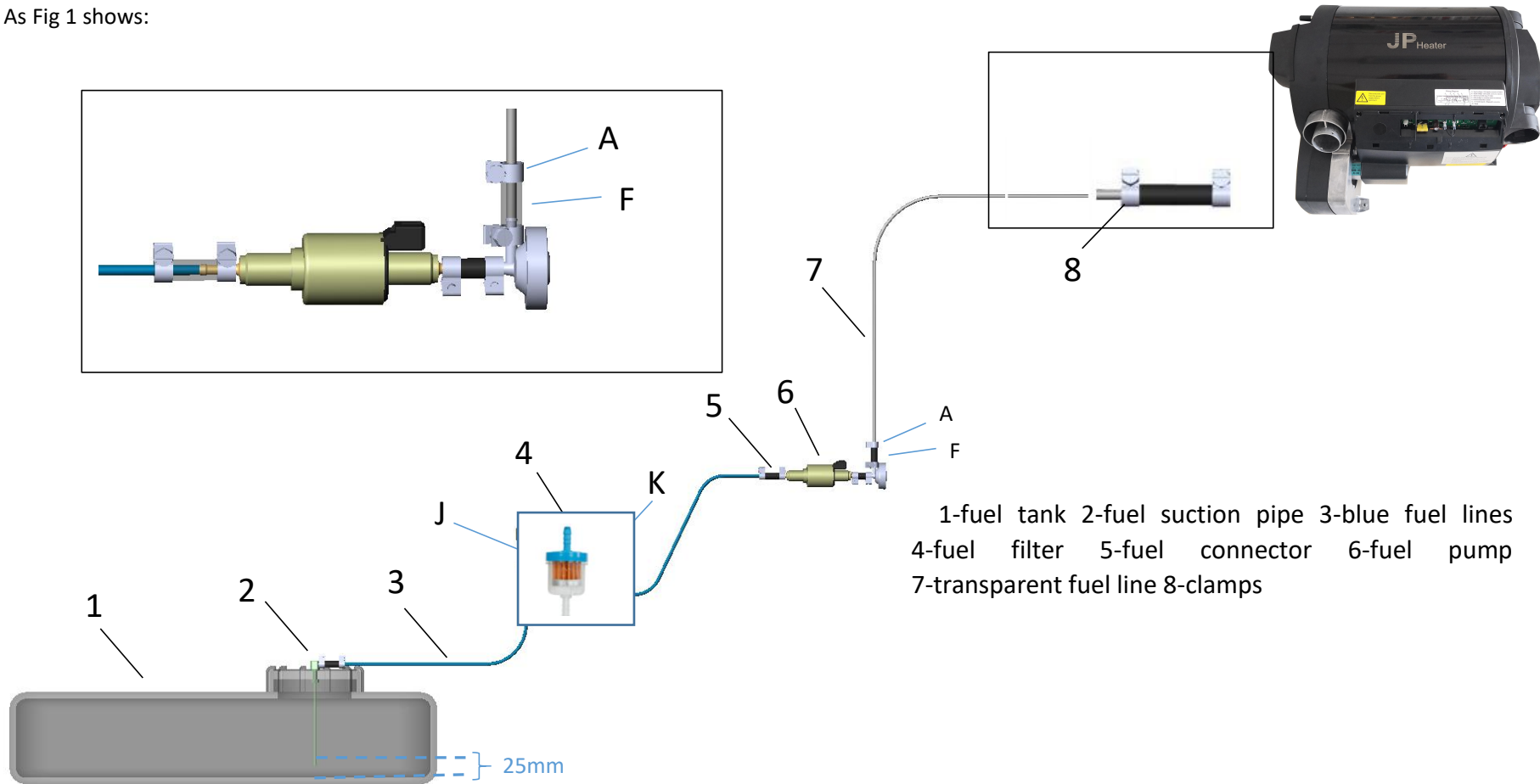


Fig 1

1. The distance from the oil suction pipe to the bottom of the fuel tank should not be less than 25mm.
2. There are two types of oil suction pipes, as shown in Figure 2. Type A oil suction pipe should take oil from the top of the tank. The hole diameter is 25mm. Type B oil suction pipe generally takes oil from the white skeleton of the fuel pump assembly. The hole diameter is 6.5mm. No matter which oil suction line is selected, it is not allowed to take oil from the bottom or side wall of the tank.



A type fuel suction pipe



B type fuel suction pipe

Figure 2

3. The blue oil pipe should be installed between the fuel tank and the oil pump, with a length ranging from 0.5 to 1.2 meters.
4. The fuel filter must be installed vertically after being filled with fuel.
5. The oil pipe in the oil pipe joint must be cut flat with a sharp knife, and there must be no gap between the oil pipes and the oil suction pipe, fuel filter, oil pump, buffer, oil check valve, and heater oil inlet pipe (metal). Take an oil pump with a buffer as an example. As shown in Figure 3.
6. The oil pump with buffer must be installed horizontally, and the oil outlet end of the buffer cannot be lower than the oil inlet end of the oil pump. It is shown by the red arrow in Figure 3.
7. The white oil pipe is installed between the oil pump and the Heater boiler, and the length ranges from 2 to 7 meters.
8. The type of A~E clamps is 8-10mm, and the corresponding oil pipe joint is 3.5/9.5mm (thin). The type of J and K clamps is 12-14mm, and the corresponding oil pipe joint is 4.1/10.5mm. Other clamp models are 9-11mm, and the corresponding oil pipe joints are 4.1/10.5mm.
9. Gasoline Combi boiler needs to install oil single-way valve. The mark on the oil single-way valve should be consistent with the direction of fuel flow.
10. Only when the blue fuel pipe, fuel filter and white fuel pipe are full of fuel, can the white fuel pipe be connected with the fuel inlet of the boiler.

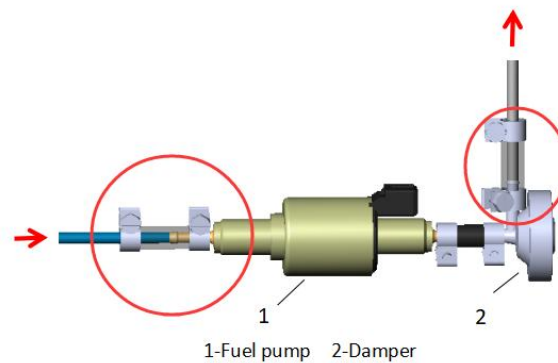
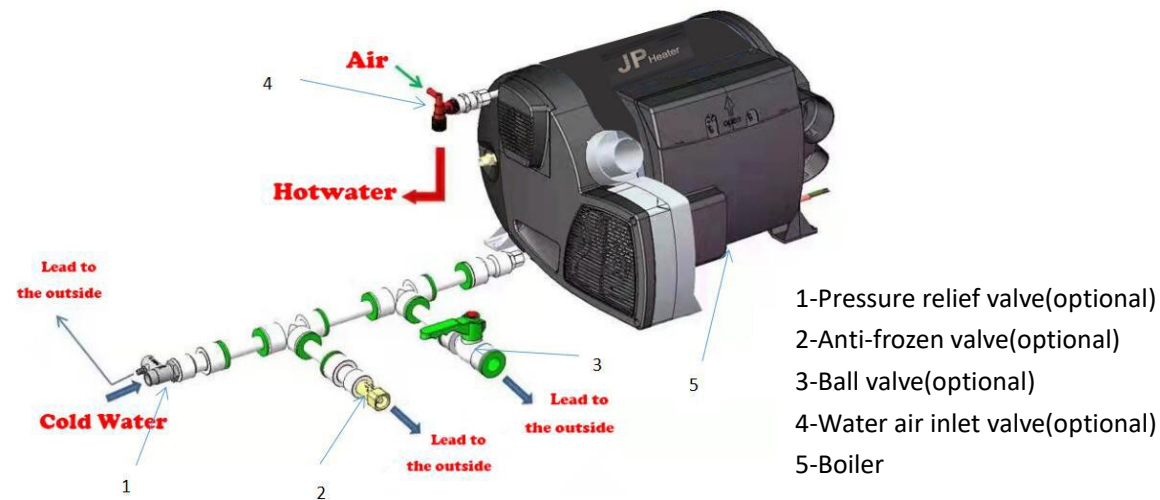


Figure 3

● Water Supply Installation

Under the action of the vehicle suction pump, the cold water enters the water tank of the BOILER through the pressure relief valve and the quick connection pipeline. The heated hot water is led to the faucet through the hot water pipeline connected by the water inlet valve for use by the passengers. As shown in Figure 4.

1. Pressure relief valve. There are two functions. One is that when the pressure in the Boiler water tank reaches 0.35 MPa, the excess pressure is released to the outside through the connecting pipeline of the pressure relief port. The second is that when the pressure of the Suction pump reaches 0.35 MPa, the excess pressure is released to the outside from the pipeline connected to the pressure relief port. Therefore, the output pressure of the suction pump is required to be less than 0.35 MPa.
2. Antifreeze drain valve. When the ambient temperature of the antifreeze drain valve reaches $1\sim 4^{\circ}\text{C}$, the internal valve will automatically open, and the water in the water tank of the Boiler will be drained to the outside through the pipeline to prevent damage to the water tank and pipeline of the Boiler from freezing.
3. Ball valve. It is used when it is necessary to drain the water in the water tank of the Boiler.
4. Water intake valve. When the antifreeze drain valve or the ball valve discharges water to the outside, the waterway pressure decreases, the waterway intake valve opens, and air enters the water tank of the Boiler, making it easier to discharge the water in the water tank.



● Electrical wiring installation

The installation of electrical wiring is shown in Figure 5.

1. Power cord (12V)

The power cord must be connected **directly** to the battery. It is forbidden to connect to electrical components such as relays, to prevent the power supply from giving no current. The

length of the power cord (12V) is 4 meters. If it needs to be extended, the power cord must follow the conditions below.

(1) If the total length of the 12V power cord is 4 to 5 ms, it must be a cross-sectional area of 4 square millimeters 12V power cord.

(2) If the total length of the 12V power cord is 5 to 8 ms, it must be a cross-sectional area of 6 square millimeters 12V power cord.

(3) It is forbidden to use power cords longer than 8 meters.

2. The fuse on the Boiler main heater is 20A.

3. Window short wiring. Available as an extended function.

4. External temperature sensor. Should be mounted on a vertical wall with free air flow all around, usually above the inside passenger door of the vehicle. When installing, a round hole with a diameter of 10mm should be opened on the installation surface, and just put it in.

5. LCD switch. The LCD switch should be mounted on a vertical wall for easy operation. Open a 74mm×84mm opening on the vertical wall first, then fix the switch frame, and finally fix the switch on the switch frame. As shown in Figure 6.

6. Power cord (220V). When you choose to use 220V electric heating, you need to connect to 220V mains.

7. Oil pump leads. The plugs at both ends should be securely fixed to prevent loosening.



Figure 6

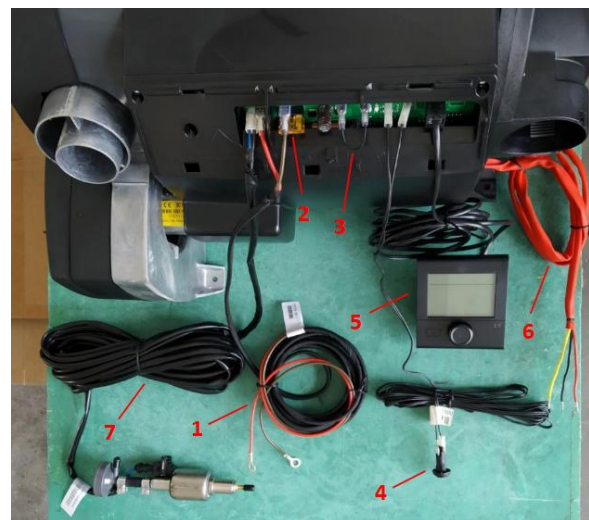


Figure 5

1-Power cord(12V) 2-Fuse(20A) 3-Window short wiring
4-External temp sensor 5-LCD switch 6-Power cord
(220V) 7-Fuel pump lead

● Installation of intake and exhaust pipes

1. The exhaust pipe is installed inside the intake pipe, one end is fixed on the exhaust port of the boiler unit, and the other end is fixed on the intake and exhaust port body. Figure 7.

2. The intake pipe is installed outside the exhaust pipe, one end is fixed on the air intake of the boiler unit, and the other end is fixed on the intake and exhaust port body. The middle part of the intake pipe needs to be fixed with clips to prevent vibration. Figure 8.

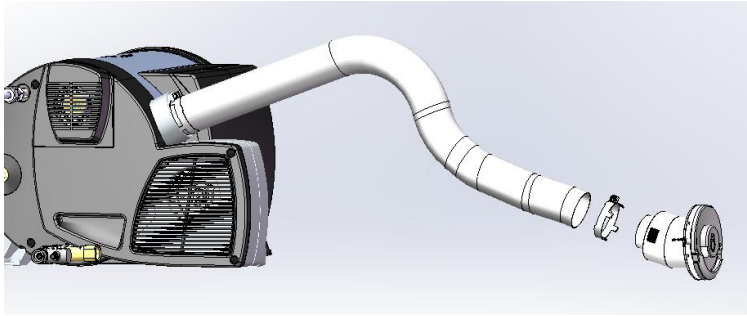


Fig 7

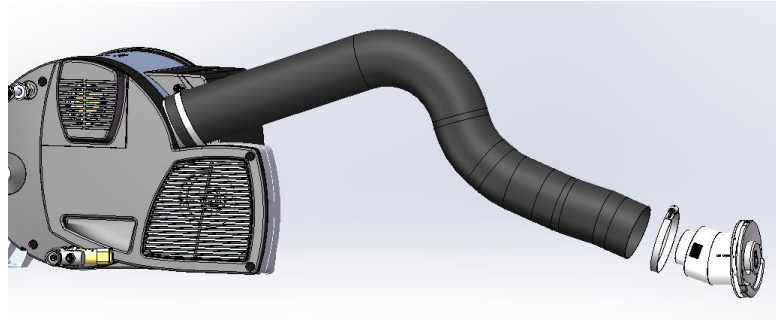


Fig 8

For the SILENT model exhaust pipe, the only difference is the heater side exhaust pipe connection. The exhaust pipe could not be shortened. Refer below:



3. The intake and exhaust port body is installed on the vehicle wall, and it is prohibited to be installed on the vehicle floor. As shown in Figure 9 and Figure 10.

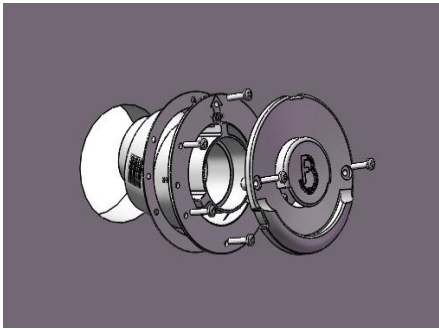


Figure 9

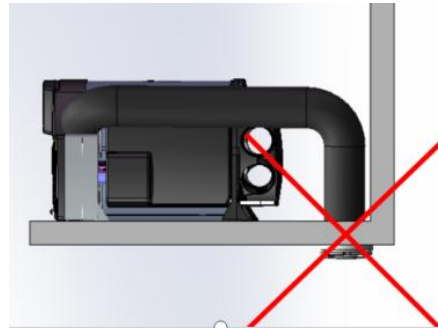


Figure 10

● Warm/Hot Air Outlet Installation

As per Figure 11 shows. You can install more vents in each single air outlet pipe. Please pay attention to the tips below:

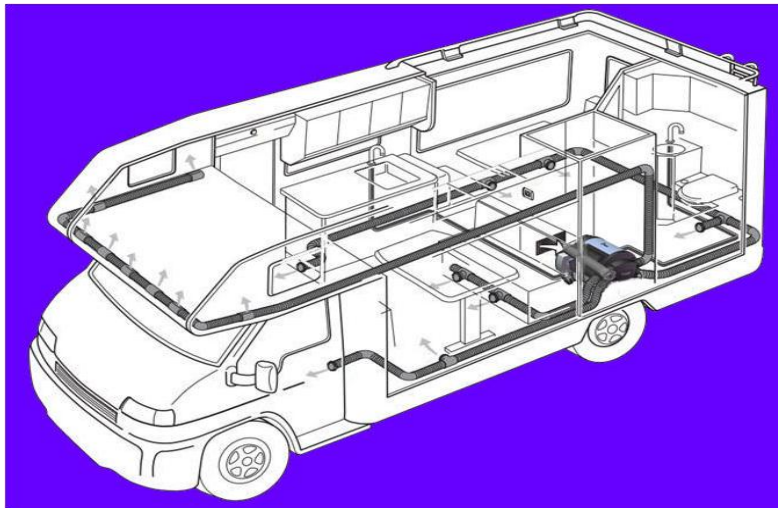


Figure 11

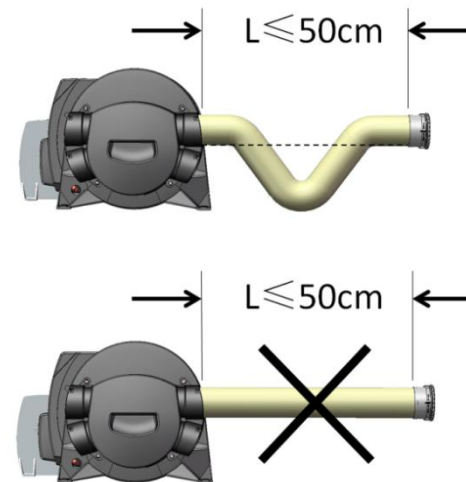


Figure 12

1. The Boiler must be connected to 4 independent heating pipes, and each heating pipe must be connected to **at least** one air outlet.
2. If **ONLY** one air outlet is connected to each heating pipe, when the Boiler is in the heating mode, **ALL** the four air outlets must be fully opened to avoid overheating of the boiler.
3. When the length of the warm air pipe is less than 50 cm, the warm air pipe must be folded into a "U" shape and cannot be straightened. As shown in Figure 12.