

INSTALLATION & USER INSTRUCTIONS

Thank you for purchasing this Whale® product.

For over 70 years Whale has led the way in the design and manufacturer of water and waste systems including:- plumbing, faucets, showers, pumps and heating for mobile applications. Today's range features space and water heaters for caravans and motorhomes.

The company and its products have built a reputation for quality, reliability and innovation backed up by excellent customer service.

For information on our full product range visit: www.whalepumps.com

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All Whale gas products must be installed by a **Qualified Gas Engineer** in accordance with the installation instructions and BS EN 1949-2011.



All work must be carried out by a **competent person** as defined by BS7671 PART2.



Please note if incorrectly installed a risk of electrocution exists.

1. PRINCIPLES OF OPERATION

The Whale® 8 Litre Water Heater is a gas and electric storage Water Heater. The unique design has a 8.5L capacity hot water tank and incorporates versatile controls for low current draw or fast heat up settings. With robust insulation and no removable flue cover the Whale® Water Heater only requires minimal maintenance. The Water Heater has been designed to be operated by a bespoke Control Panel for your vehicle.

2. SPECIFICATION

Read the following carefully before installation

Model: **WL0802B**

Maximum dimensions inside RV: Height: 258mm, Width: 330mm, Length: 330mm.

Dry Weight: 8.0kg

Nominal Water Capacity 8.5L

Gas: Butane 28-30mbar, Propane 37mbar - CAT I₃₊ (29/37)

Butane/Propane 30mbar - CAT I_{3B/P} (30)

Classification of Storage Water heater: Type: C11 (Natural draft)

Nominal Heat Input: Gas 1.25kW

Standby Consumption Gas 98W

Nominal Heat Input Electric 1.5kW

Electric: 230V a.c. 50 Hz 750/1500W

Maximum Current a.c.: 6.5 Amps

Nominal Voltage: 12V d.c. (10.0V d.c. min. to 15V d.c. max.)

Maximum Current d.c.: 0.36Amps (0.01Amps on standby)

Maximum Water Supply Pressure: 190kPa (1.9 Bar)

Rated Pressure 300kPa (3.0 Bar)

Pressure Relief Valve Setting: 300kPa (3.0 Bar)

Maximum Caravan Side Wall Thickness: 47mm

Ingress Protection Rating: IPX1

Note: If connecting to mains water supply, a suitable water pressure regulator **must be** connected to ensure that the maximum supply water pressure does not exceed 190kPa (1.9 Bar).

Dry Storage Temperature: -20°C to 70°C

Maximum Water Temperature: Approx. 70°C

Typical heating up times from 15°C to 70°C: Gas and both electric elements approx. 15 minutes.

Two electric elements only approx. 24 minutes, Gas only approx. 33 minutes.

For use only in road vehicles i.e. caravans and motorhomes only. Not suitable for caravan holiday homes i.e. mobile homes or static caravans.

The Water Heater position **must** allow access for servicing and to the reset button.

Whale's policy is one of continuous improvement and we reserve the right to change specifications without prior notice.

3. APPLICATION

The Whale® Water Heater has been designed for caravan, motorhome and mobile applications, and is suitable for use with a typical recreational vehicle shower. It is only suitable for use in recreational vehicles e.g. caravans and motorhomes, but is not suitable for use in caravan holiday homes e.g. mobile homes and static caravans. The compact and lightweight 8L tank fits in confined spaces and has a greater power input for rapid heat up times.



This symbol indicates that this appliance is suitable for use in Leisure Accommodation Vehicles.



This symbol indicates that this appliance is **not** suitable for use in boats.

4. WARNINGS



Observe all warnings.

In the unlikely event of leaks in the gas system, or if there is a smell of gas:

- Extinguish all naked flames
- Switch off all appliances and do not operate any electrical switches
- Turn off all gas appliances and do not operate any electrical switches
- Open windows and doors for ventilation
- Do not smoke
- Shut off gas connection

The system must be thoroughly checked by a Whale® Service Engineer or Whale Approved Service Centre or by a member of the Whale Service Engineer Network.

The Water Heater must not be operated in the following situations:

- When refuelling the vehicle or refuelling the vehicle towing the caravan or any other appliance.
- When the vehicle in which the Water Heater is installed is in motion.
- When the vehicle in which the Water Heater is installed in a confined space (such as a garage).

This appliance is **not intended** for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children **must be** supervised to ensure that they do not play with the appliance.

Before operating the Water Heater, the user **must** ensure that the caravan water system, including Water Heater is full of water, and that the vehicle is level.

This appliance **must be** fully drained if there is a risk of frost. Frost damage **will not** be covered by warranty.

The water temperature cannot be adjusted. It is automatically set to approximately 70°C and controlled by the PCB to prevent bacteria growth. To avoid scalding, the temperature of the hot water supplied to the taps and showers **must be** controlled. **Do not** use the water as drinking water.

Any alteration to the appliance, including flue plate, use of non-Whale® spare parts/accessories and non-observation of the installation and operation instructions will lead to cancellation of the warranty and exclusion of liability claims and results in it becoming illegal to use the appliance.

Please note: That incorrect installation or use of non-original Whale® parts may invalidate the warranty. It also becomes illegal to use the appliance if incorrectly installed, and in some countries this even makes it illegal to use the vehicle.

5. PARTS LIST

WL0802B contains:

	Quantity
Water Heater	1
Flue Assembly inc. 6 screws	1
Pressure Relief / Drain Valve	1
Warranty Registration Card	1
Instruction Manual including Installation Templates	1

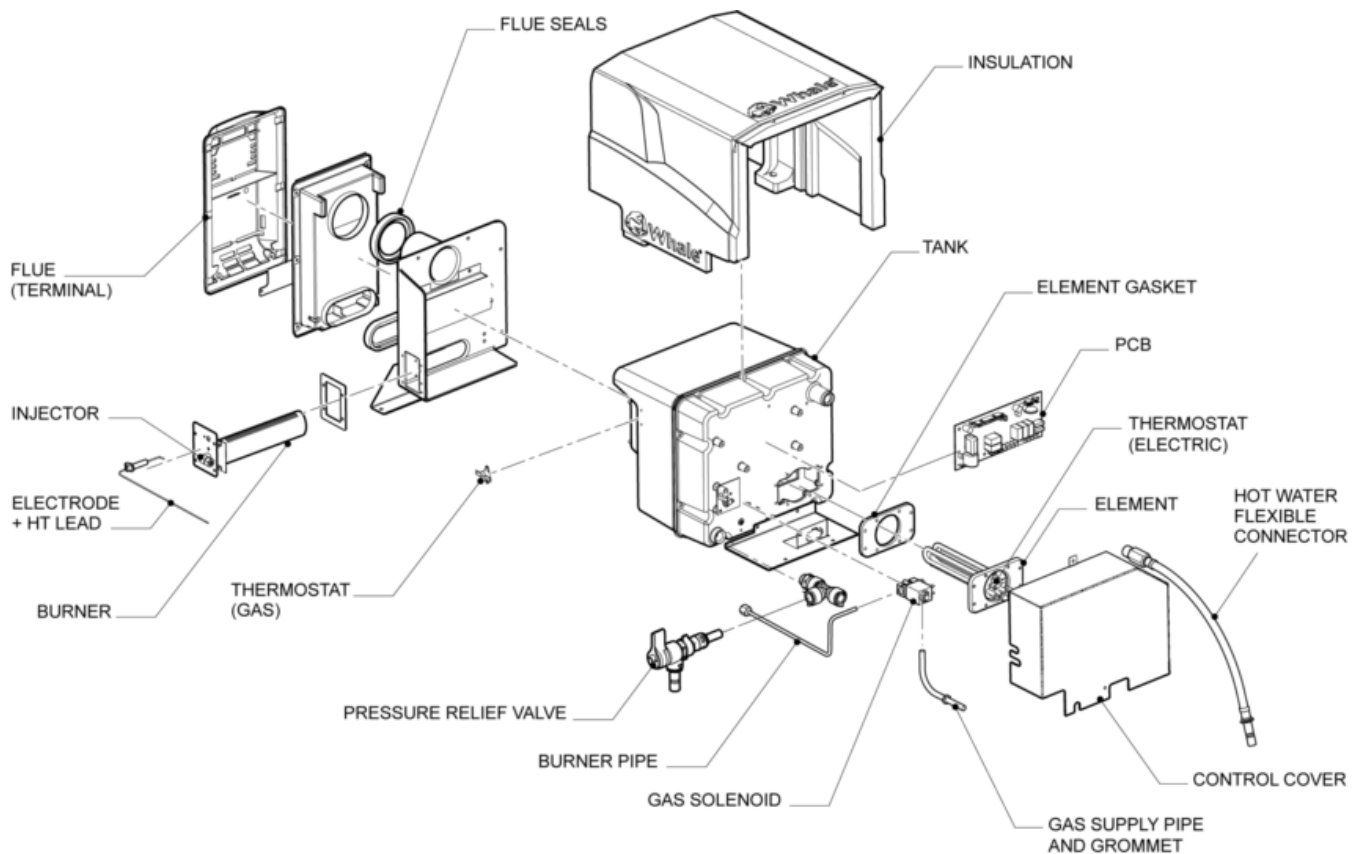


Fig.1 Components Drawing

6. INSTRUCTIONS FOR INSTALLATION

To the Fitter:

Before installation, **you must** ensure the appliance has been supplied in good condition and **if damaged, do not install and contact Whale® Support +44 (0)345 9090 911.**

A competent person must install the appliance in accordance with the appliance installation instructions. This appliance is for use with LPG (see appliance data plate) and mains electricity (230V a.c.). Check that the product is suitable for the intended application. In particular, the installer must check the compatibility of the data plate information with the LPG supply requirements of the vehicle. Follow these installation instructions and ensure all relevant personnel read the points listed below. Also ensure that these operating instructions are passed on to the end user.

Please note: The appliance **must be** installed in accordance with any relevant regulations in the country where the appliance is installed. For this appliance in Europe the standard is BS EN 1949:2011 "Specification for the Installation of LPG Systems for Habitation Purposes in Leisure Accommodation Vehicles and in Other Road Vehicles".

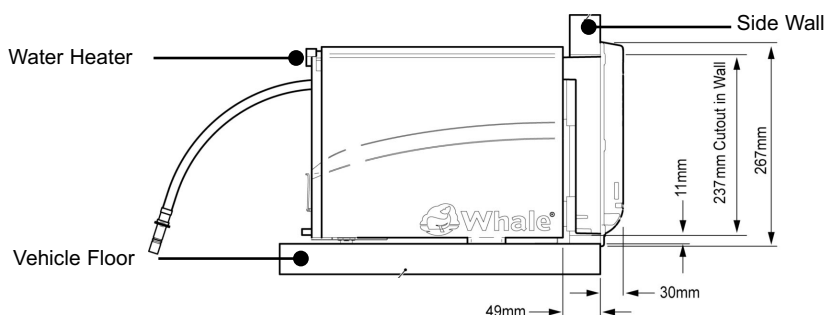


Fig. 2 Dimensions - Side View

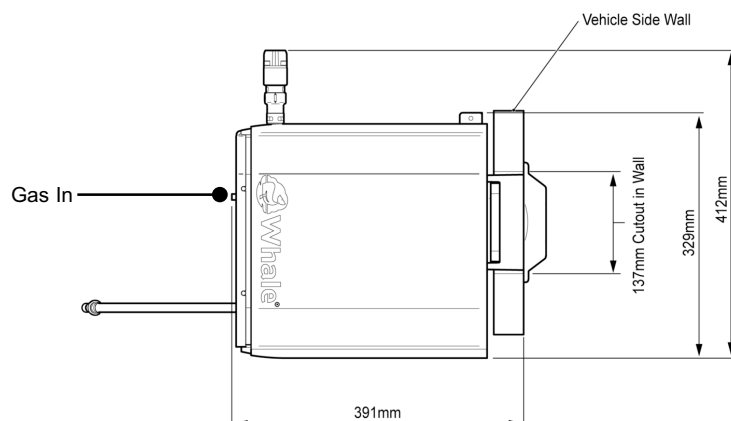


Fig. 3 Dimensions - Plan View

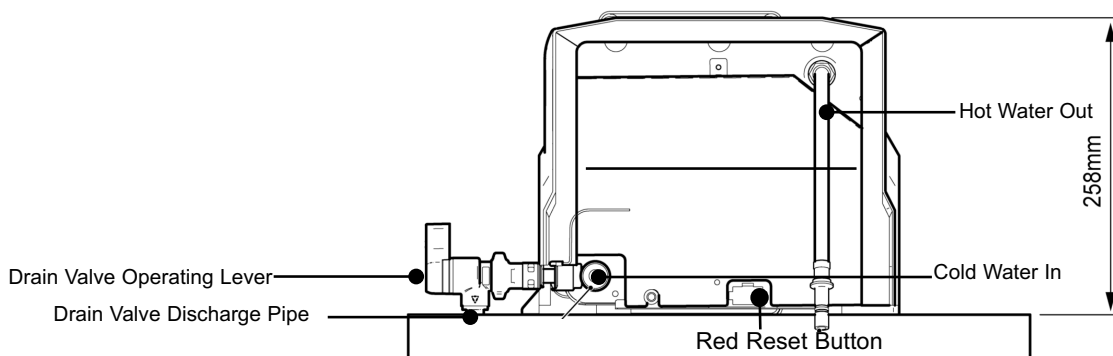


Fig. 4 Dimensions - Plan View

Step 1 Find Suitable Location For Water Heater Installation

Consider the following 9 points:

- i. For weight distribution in caravans, the Water Heater **must be** positioned as close to the axle as possible. The installer **must** avoid locating the Water Heater at the very rear and the very front of the vehicle.
- ii. Ensure the pressure relief valve / discharge pipe can be located through the floor without fouling chassis members etc.
- iii. Ensure that any surfaces in contact with the Water Heater are rated to at least 70 degrees C.
- iv. Ensure that the location allows access for servicing the Water Heater.
- v. In selecting the Water Heater location, ensure that the flue terminal will be located on a flat and exposed outside surface, avoiding trim strips.
- vi. Ensure that the flue terminal can be positioned at the side of the vehicle that an awning will never be fitted to.
- vii. Only the supplied flue terminal is permitted to be used in conjunction with this Water Heater. This flue **must not** be positioned within 500mm of a refuelling point or fuel tank breather outlet or any ventilator from the fuel system(s). The flue terminal **must not** be fitted within 300mm of a ventilator for the living space or an opening part of a window.

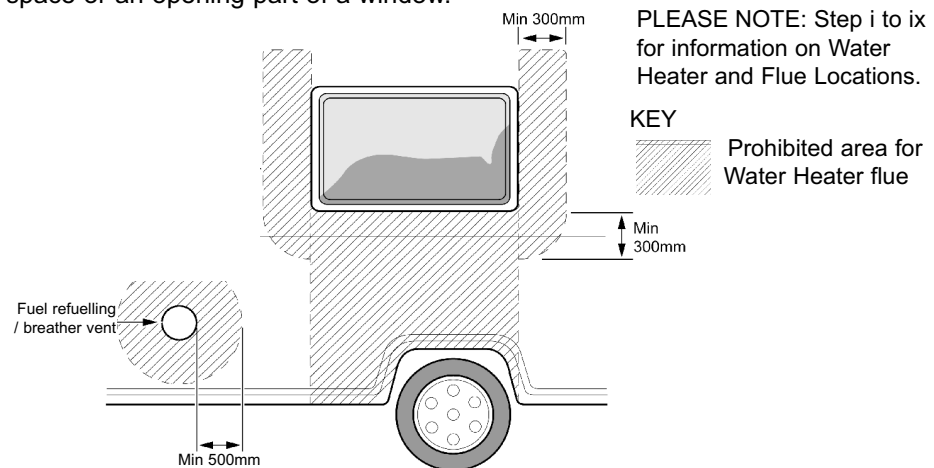


Fig. 5 Installation Locating Diagram

- viii. The flue terminal **must only** be positioned vertically below an opening part of a window if the appliance is fitted with an automatic shut-off device to prevent operation when the window is open. The flue terminal **must** still be a minimum of 300mm below the window.
- ix. The user **must have** access to the reset button.

Step 2 Cut Out Hole For Flue

See the flue template supplied with this Water Heater.

- i) Position template on the inside of the wall with side 'A' visible, then drill hole at centre position marked 'X' on the template.
- ii) Position the template on the outside of the wall with side B visible, locate over the drilled position hole 'X', and ensure the template is level. Ensure that the flue outline is flat to the wall and level, avoiding trim strips etc. If the flue needs to be mounted higher, the Water Heater mounting board can be raised to suit if there is sufficient height available.
- iii) Drill four 6mm corner holes and cut aperture using flue template (provided) as a guide.

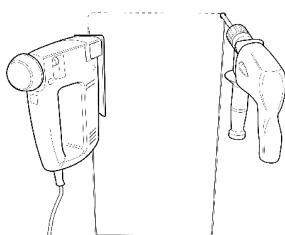


Fig. 6 Cut Out Hole For Flue

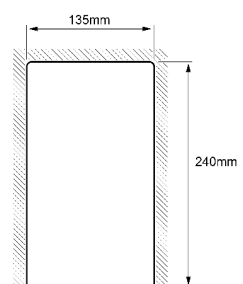


Fig. 7 Flue Dimensions

iv) Reinforce the cut out with wooden batons (minimum 20mm wide). This may require insulation in the wall to be removed.

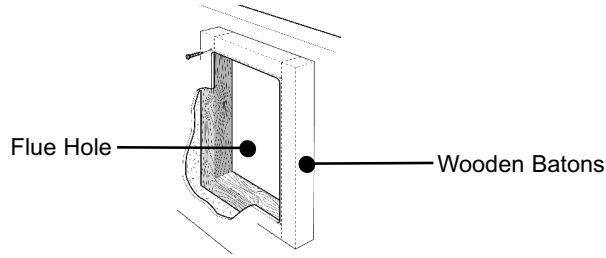


Fig. 8 Reinforce Flue Hole

Step 3 Attaching Flue to The Caravan

Apply sealant to seal the flue on the caravan side wall of the flue sealing face, ensuring each screw hole is surrounded by sealant. Secure flue with the 6 screws (No. 8 x 3/4") provided and remove excess sealant.

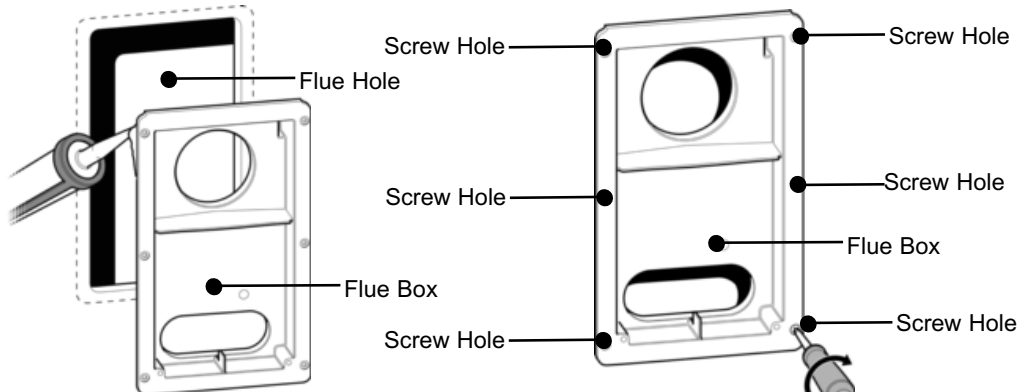


Fig. 9 Sealing the Flue to Caravan

Fig. 10 Attaching Flue Box

Step 4 Attaching The Flue Cover

Clip the top of the flue cover onto the back box and secure with two screws (No. 6 x 1/2") provided.

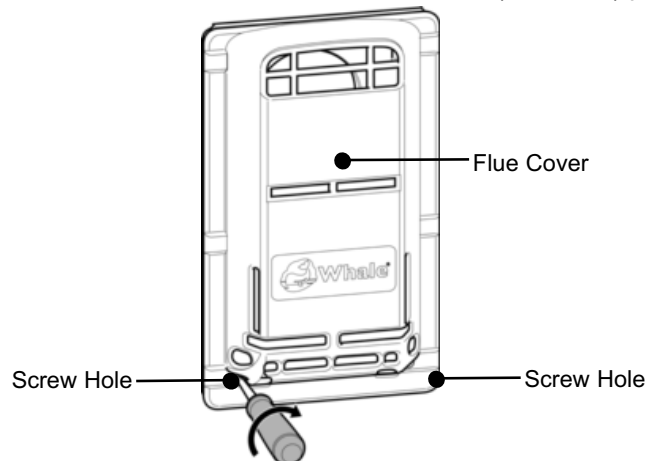


Fig. 11 Installation and Securing of Flue Cover

Step 5 Connect Water Heater to Flue

Set Water Heater on the floor and slide fully into flue as shown (see Fig. 12).

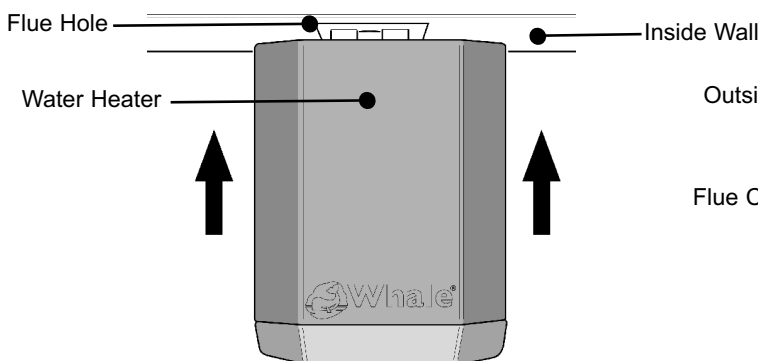


Fig. 12 Connect Water Heater to Flue (Plan View)

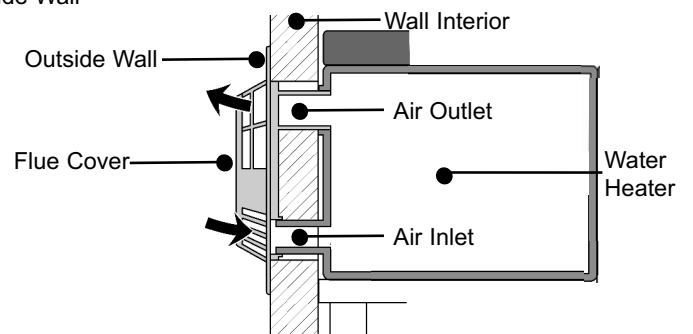


Fig. 13 Water Heater Position

Step 6 Fitting the Drain Pipe (see Fig. 14)

When the Water Heater is in place on the floor, mark a location for where the pressure relief / drain valve discharge pipe will come through the floor. Carefully remove the Water Heater and drill a hole in the floor, minimum diameter 20mm, ensuring that there are no obstructions on the underside of the vehicle i.e. gas pipes, chassis members etc. Refit the Water Heater, inserting the discharge pipe in the hole and ensure that it is left open to the atmosphere at all times.

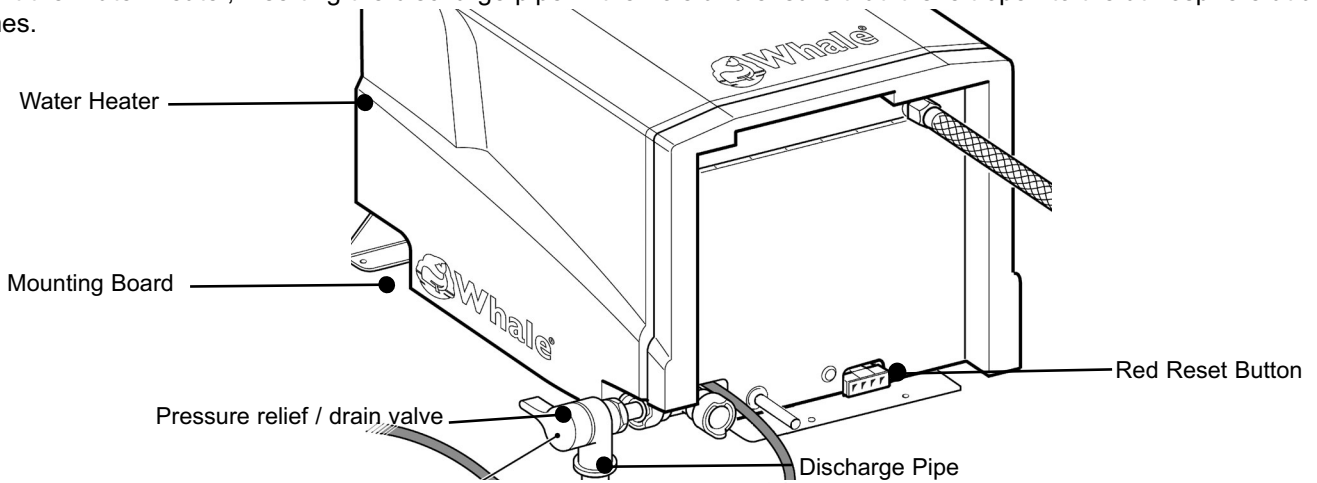


Fig. 14 Fitting the Pressure Relief / Drain Valve

Step 7 Secure Water Heater to Floor

To secure the Water Heater to the floor, use 4 screws (No. 8 x 1 ¼") provided (see Fig. 15).

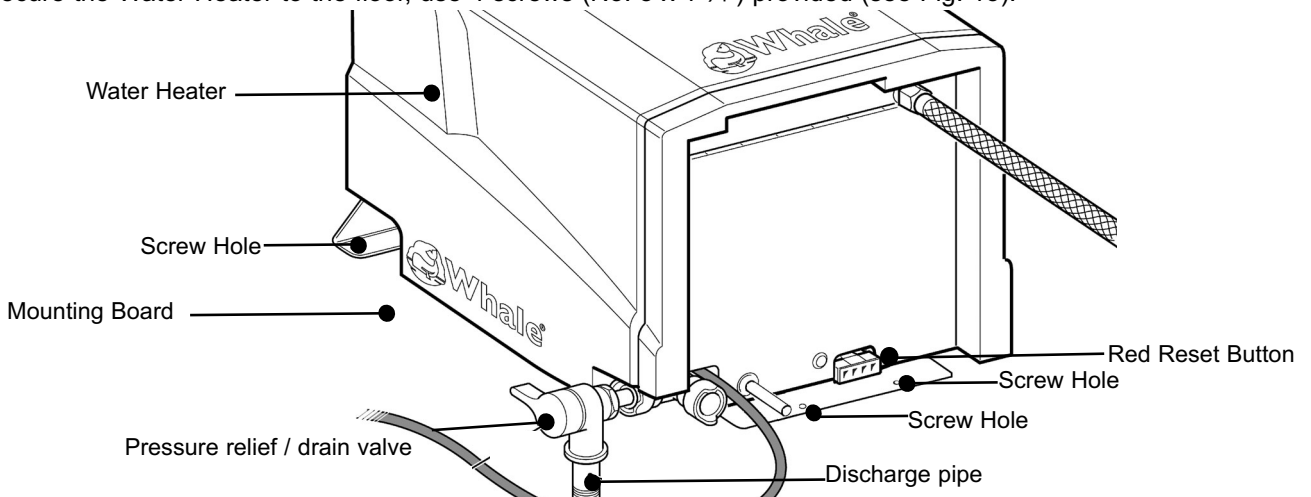


Fig. 15 Secure Water Heater to Floor

Step 8 Connect to Gas Supply (see Fig. 16)

Ventilation **must** comply with relevant local requirements e.g. EN 721.

Please note: Valve and connection (shown in Fig. 16) are not included with this Water Heater.

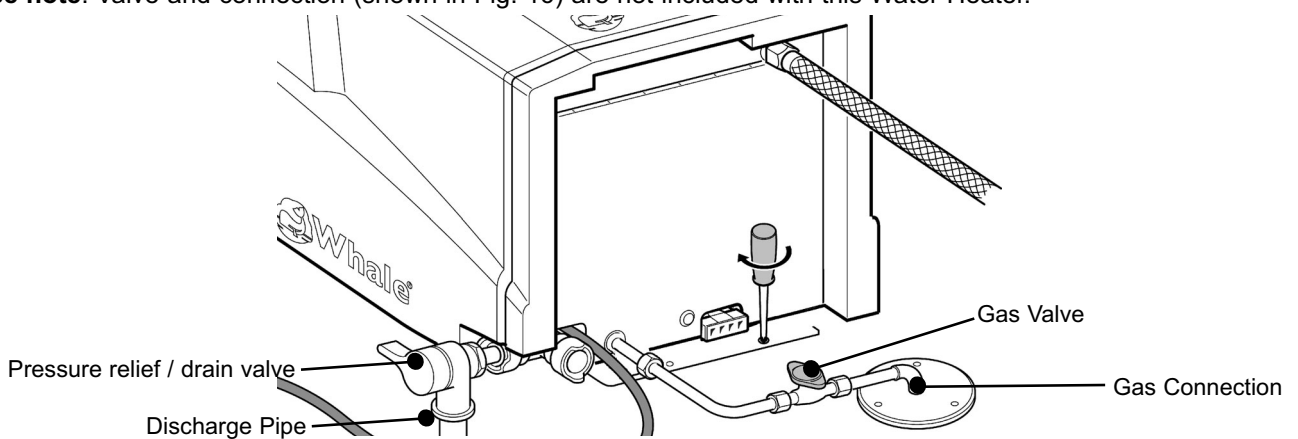


Fig. 16 Connect to Gas Supply

The appliance **must be** installed in accordance with the installation instructions and **must comply** with any relevant regulations in the country where the appliance is installed.

Both the gas pipe of the Water Heater and the main gas supply pipe **must be** checked to ensure that it is clear from dirt or other particles. A compression fitting **must be** used to fit the gas supply to the copper gas pipe of the Water Heater. The supply pipe **must be** positioned to ensure the Water Heater can be removed for servicing.

A gas shut- off valve **must be** located in the vicinity of the Water Heater and all connections **must be** kept to a minimum.



WARNING: The operating pressure for the gas supply **must be** either 28-30mBar Butane or 30mBar/37mBar Propane.

Step 9 Installing Control Panel

Your vehicle is fitted with a bespoke control panel, please refer to the control panel manufacturer's instructions or your vehicle handbook.

Step 10 Electrical connections 12V d.c. Vehicle Manufacturer Installation Only



WARNING: Always disconnect the appliance from the power supply prior to working on electrical components.

The Whale Water Heater and Control Panel come complete with electrical connectors fitted.

The Whale® Water Heater and control panel are designed to be integrated into the caravan's wiring loom. The Water Heater is provided with a JST VL series 8 way socket, and the control panel with a JST VL 6 way socket. 6 wires are required to connect the water heater to the control panel, and 12V and 0V power supply are to be connected to the 8 way socket.

Please note: Whale recommends that a 5 amp fuse is fitted in the 12V supply.

Table 1: Connections at Water Heater

Wire Number	Description	Wire Colour
1	Switch common	Brown
2	Burner switch	Blue
3	Immersion 1 switch	Green
4	Immersion 2 switch	Grey
5	Burner LED	Orange
6	Lockout LED	Violet
7	12v supply	Red
8	0v supply	White

Connect the 8 way electrical connector to the 8 way connector on the Water Heater, then route the wire to the control panel and connect the 6 way electrical connector to the 6 way connector at the control panel. Secure the 6 way wire close to the control panel ensuring that there is no strain on the wires at the switches. Connect the red flying lead coming from the 8 way connector to a 12V supply; then connect the white flying lead to the caravan 0V.

Step 11 Electrical connection 230V. Vehicle Manufacturer Only

The appliance **must be** installed in accordance with the installation instructions and **must comply** with any relevant regulations in the country where the appliance is installed. Electrical installation **must be** carried out by a suitably qualified electrician. The electrical supply **must be** connected to a 10 amp fused spur provided with an all-pole disconnection and the appliance **must be** earthed.

If the supply cord is damaged, it **must be** replaced by Whale, a Whale Approved Service Engineer or a Whale Approved Service Centre.

Manufacturer Installation Example (see Fig. 17)

The mains supply cable is supplied with a JST LP series socket (terminal pins are JST slm-61T-2.0) and must be mounted in a housing with strain relief to prevent accidental disconnection and prevent access to the connector.

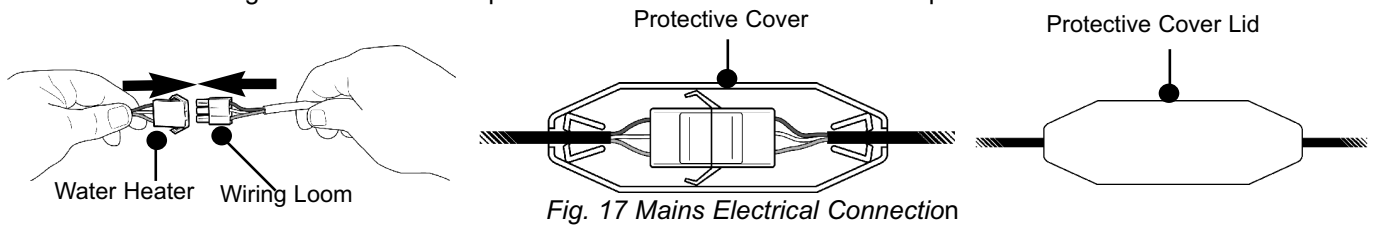


Fig. 17 Mains Electrical Connection

Step 12 Connection to Cold Water Supply (see Figs. 18 & 19)

The Whale® Water Heater is fitted with a Whale® 12mm Quick Connect fitting on the cold water inlet to fit to Whale® semi rigid tubing. Various plumbing adaptors are included to assist with these connections as follows:-

Flexible Tubing	Adaptor	Whale Part Number	Additional Information
10mm (3/8")	3/8" Stem Adaptor	WU1280	Secure with a hose clip
13mm (1/2")	1/2" Stem Adaptor	WU1282	Secure with a hose clip

For any other plumbing systems, contact Whale® Support for further information.

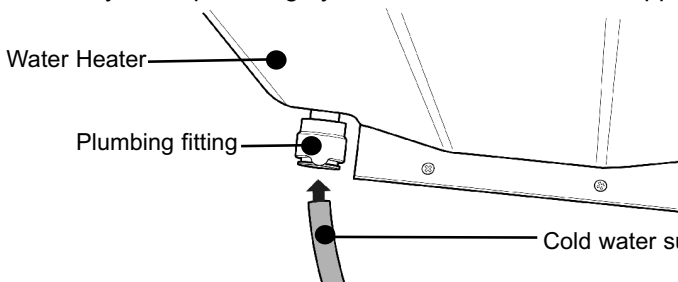


Fig. 18 Connect Cold Water Supply

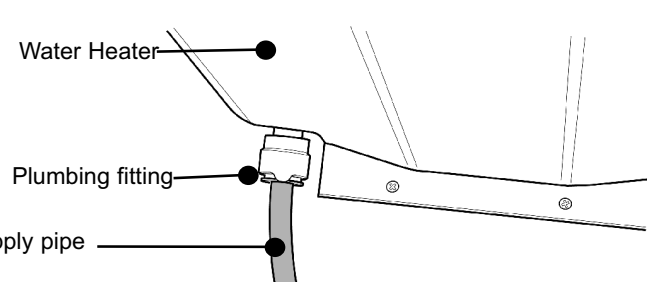


Fig. 19 Installed Cold Water Supply

Important: Do not operate the appliance without the installed pressure relief device attached to the Water Heater.

Please note: A Non-Return Valve (not supplied) can be fitted before the Pressure Relief Valve to prevent back flow of hot water to cold water taps.

Step 13 Connect Hot Water Supply (see Figs. 20 & 21)

Screw in the braided hose supplied into the hot water outlet and tighten with a 19mm spanner. The outlet of the braided hose has a 12mm stem which can be connected to a number of different pipe systems with the included fittings as follows:-

Pipework	Adaptor	Whale Part Number	Additional Information
12mm	12mm Equal Straight	WU1204	Push in twice to ensure the fitting is fully home and watertight. (See Fig. 22)
10mm (3/8")	None	N/A	Push the hose over the 12mm nipple on the end of the braided hose and secure with a hose clip.
13mm (1/2")	12mm Equal Straight 1/2" Stem Adaptor	WU1204 WU1282	Secure with a hose clip

If you have any other plumbing system, queries, contact Whale® Support for further information.

Please note: The hot water flexible braided hose **must always** be used to ensure safe operation.

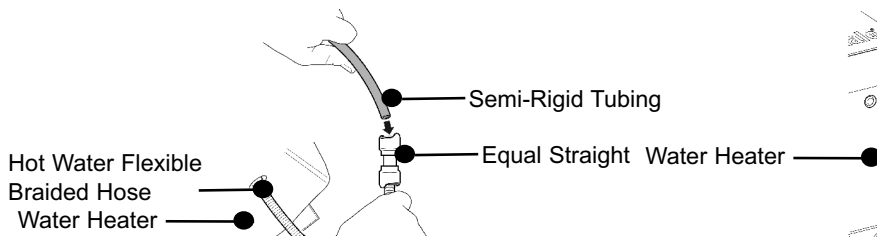


Fig. 20 Connect Braided Hose

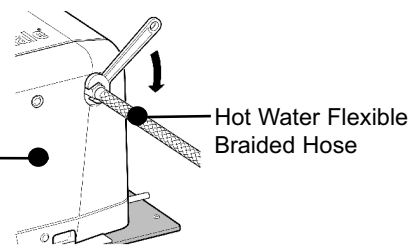


Fig. 21 Connect Hot Water Supply

Step 14 Typical Vehicle Manufacturer's Installation (see Fig 22)

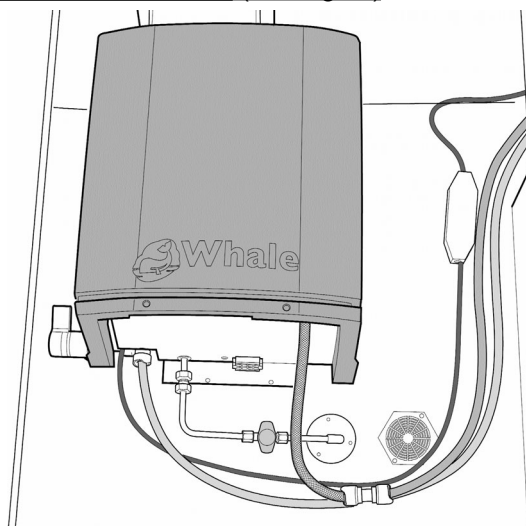


Fig. 22 Typical Vehicle Manufacturer's Installation

Please note: After completing installation, carry out a full function check including gas soundness to ensure the appliance has been installed and operates correctly. The gas soundness check must be carried out by an accredited LPG gas engineer and a test certificate issued.

7. INSTRUCTIONS FOR USE

To the User: Read the following instructions carefully.

Observe all warnings.

Never operate the Water Heater without water in it. This appliance **must not** be connected directly to the mains water supply without a pressure regulator fitted, or any water supply greater than 190 kPa (1.9 bar). Ensure the caravan water system including Water Heater is full of water, and the vehicle is level before operating.

When using operating switches provided by the installer or manufacturer, they are responsible for providing user instructions and identification of symbols on the control panel.

OPERATING INSTRUCTIONS

For operation of the heater, a 12V d.c. supply **must be** connected at all times. To operate the heater's electric elements, it **must also** be connected to a suitable 230V a.c. supply.

Upon initial operation, or to refill after the system has been drained, check the drain valve is closed then fill the system with clean fresh water. To fill, open one hot tap and switch on the Water Pump. Leave the tap open to allow air to escape while the water heater is filling. Once water flows smoothly out of the hot tap, the Water Heater is filled. To allow the remainder of air to escape from the system open each hot water tap in turn until water flows smoothly.

Please note: In cold temperatures, the water in the supply pipework may freeze and prevent filling.

Check that all the gas and/or electricity supplies are turned on.

8. MAINTENANCE

To clean and sterilise inside the water heater use diluted sterilising fluid and fully rinse through with clean water afterwards. The outside of the appliance should not normally require cleaning. If it does, isolate the electrical supplies and wipe down with a soft, damp cloth only. Allow to fully dry before reconnecting the electrical supplies. If descaling of this appliance is required, this can be done using a domestic liquid de-scaling product and fully rinse through with clean water afterwards.

The Whale® Water Heater should be checked periodically by a Whale® Authorised service engineer, or competent person, at least annually. This should be completed according to the practice in the country where it is used and according to the Whale® instructions. We recommend annual testing of gas soundness and combustion by an accredited LPG gas engineer.

Please Note: The water may drip from the discharge pipe of the pressure-relief valve during heating up. This pipe must be left open to the atmosphere, must be installed in a continuously downward direction and in a frost free environment. The pressure relief valve must be operated regularly (at least twice a year) by turning the yellow lever in the anti-clock wise direction, to remove lime deposits and to verify that it is not blocked.

General safety notes: The operating pressure of the gas supply to the water heater should be 28-30mBar Butane or 30-37mBbar Propane.

9. TROUBLE SHOOTING

Number of flashes	Fault	Remedy
1	No flame detected	Check gas supply making sure there is gas in the bottle and no blockage in the gas line. Ensure that if the temperature is below 5°C, only propane gas is used. Clear lockout as described below.
2	Overheat	Check there is water in the appliance. We recommend you wait at least 5 to 10 minutes to allow the heater to cool before clearing lockout as described below.
3	Low/high supply voltage	Minimum operating voltage is 10V d.c., maximum is 15V d.c., when measured at the heater. Check battery voltage. If between 10V d.c. and 15V d.c., check connections between heater and battery. Check alternator or external battery charging. Clear lockout as described below.
5	Other / internal fault	Attempt to clear lockout as shown below. If this fails, contact a Whale Support on +44 (0)345 9090 911
Solid light	General fault	Two faults have occurred at the same time or at least five lock out clearing attempts have been unsuccessful. Clear lockout by pressing the red Reset button on the water heater as described below.

The heater is equipped with an electronic diagnostic system which will detect fault conditions ranging from poor gas or d.c. supply to internal heater malfunctions. In the event of a failure, the red light on the control panel will flash a number of times, pause, and repeat until switched off. Count the number of flashes and refer to the table below.

Option 1 - Whale Water Heater Control Panel

In the unlikely event of a failure, the red LED on the Control Panel will flash a number of times, pause, and repeat until switched off. Count the number of flashes and refer to the table above.

Option 2 - Vehicle Manufacturer Control Panel

If your vehicle is fitted with an alternative control panel, please refer to the information provided by the control panel manufacturer or your vehicle manual.

Lockout Clearing Procedure

If the Water Heater lockout condition has been identified by **3 or 5 flashes**, the lockout **must be** cleared by turning the d.c. power 'off' and then 'on' again at the master switch in the vehicle. If the first attempt is unsuccessful, you can retry an additional 4 times. If the lockout still will not clear (identified by a solid LED), please press the red

Reset Button on the Water Heater (see Fig. 23).

If the Water Heater lockout condition has been identified by **1 or 2 flashes**, the lockout **must be** cleared by pressing the red Reset Button on the Water Heater (see Fig. 23).

If the Water Heater lockout condition has been identified by a **solid red LED** and / or five or more unsuccessful attempts to clear a lockout have been made, the lockout **must be** cleared by pressing the red Reset Button on the Water Heater once (see Fig. 23).

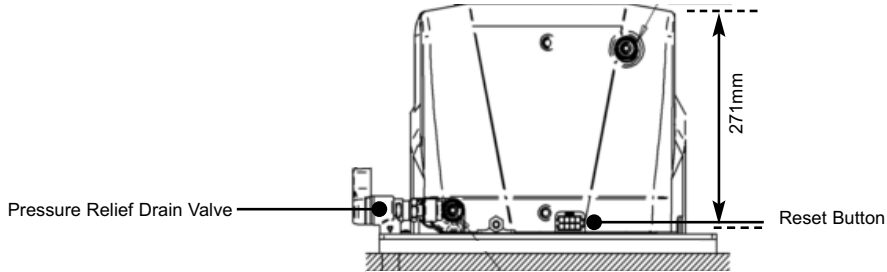


Fig. 23 Reset Button Location

For any queries in relation to the water heater please contact Whale® Support +44 (0)345 9090 911.

10. WINTERISING / DRAINING



When using the heater in winter ensure the flue is not blocked by snow or fallen leaves etc. When not in use, ensure the heater is drained. This is particularly important during the winter months as a precaution against freezing. To drain, switch off the water pump at either the pump switch or main switch. Open all the hot water taps in the vehicle and operate the drain valve fitted in the system. The drain valve should be left in the open position to ensure all the water drains out.

11. SERVICE SUPPORT DETAILS

For installation or serviceable parts advice please contact Whale® Customer Support:

Tel: +44 (0)345 9090 911

Email: info@whalepumps.com

12. EU DECLARATION OF CONFORMITY

Description of Equipment: **Gas and Electric Storage Water Heater**

Manufacturer's Declaration

We hereby declare, under our sole responsibility, that the above equipment complies with the provisions of the following EC Directives:

Gas Appliance Regulation (EU) 2016/426 (GAR) on the approximation of the laws of the Member States relating to appliances burning gaseous fuels.

Low Voltage Directive 2014/35/EC on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits.

Electromagnetic Compatibility Directive 2014/30/EC, on the approximation of the laws of the Member States relating to electromagnetic compatibility.

CE mark first affixed: August 2011

Basis on which conformity is declared

The above equipment meets the protection requirements of the EMC Directive and the principal elements of the safety objectives of the Low Voltage Directive.

Please contact Whale® if further details are required.

Richard Bovill
Engineering Director

13. PATENTS AND TRADEMARKS

The Whale® Water Heater is protected by the following patent and design registration applications:

UK Patent application number: 0902533.9

14. WARRANTY

The Whale® Water Heater is covered by a 3 year warranty. Please complete the enclosed warranty card and return to Whale.

For warranty details, please see the enclosed warranty statement.

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Neither the accuracy nor completeness of the information contained in this or any product literature is guaranteed by the Company and may be subject to change at its sole discretion.

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