

INSTALLATION & USER INSTRUCTIONS

Thank you for purchasing this Whale® product.

For over 60 years Whale has led the way in the design and manufacture 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.

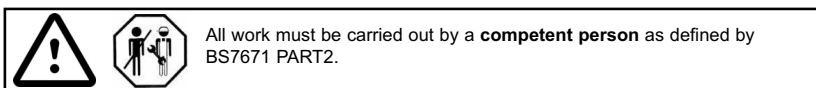
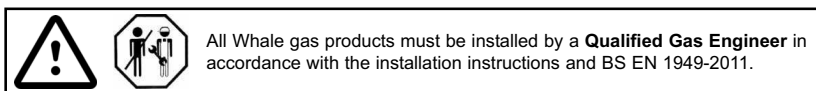
For information on our full product range visit: www.whalepumps.com

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Please note if incorrectly installed a risk of electrocution exists.

1. PRINCIPLES OF OPERATION

The Whale® 8L 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.

Read the following carefully before installation

2. SPECIFICATION

Model: **WH0802 or WH0802B or WI0802B**

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 I 3+ (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 small and medium sized recreational vehicles. It is only suitable for use in road vehicles i.e. caravans and motorhomes but is not suitable for use in caravan holiday homes i.e. 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.



Do not operate the appliance while the vehicle is in motion.



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
- Open windows and doors for ventilation
- Do not smoke
- Shut off gas connection

Immediately ensure that the system is 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 when not in use. 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

The Whale Water Heater contains:

	WH0802	WH0802B	WI0802B
Water heater	1	1	1
Flue assembly inc. 6 screws	1	1	1
Control panel inc. 4 screws	1	1	1
3.5m control panel extension cable	1		
Pressure relief / Drain valve	1	1	1
1 Male adaptor 3/8" flexible hose plumbing fitting	1		
2 Male adaptor 1/2" flexible hose plumbing fitting	1		
Warranty registration card	1	1	1
Instruction manual including installation templates	1	1	1
Instruction manual storage pocket, with adhesive fixing strip	1		

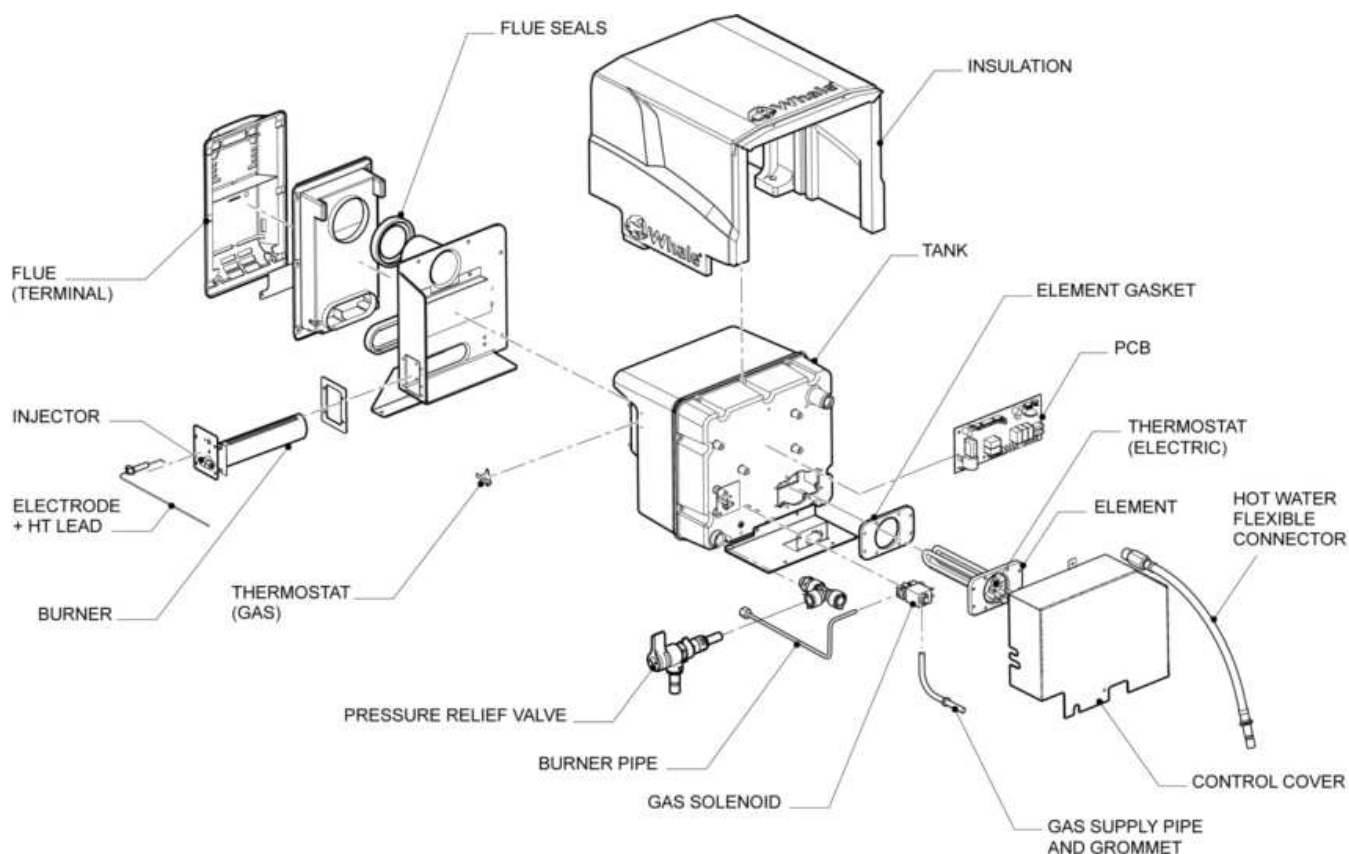


Fig.1 Components Drawing

6. INSTRUCTIONS FOR INSTALLATION

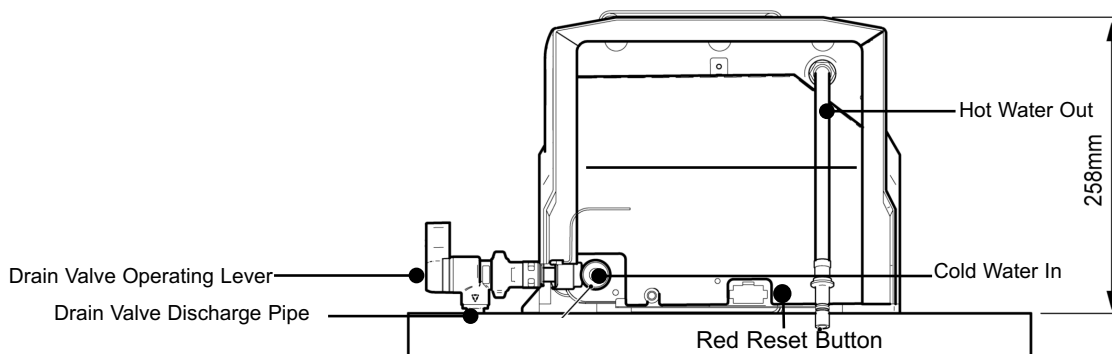
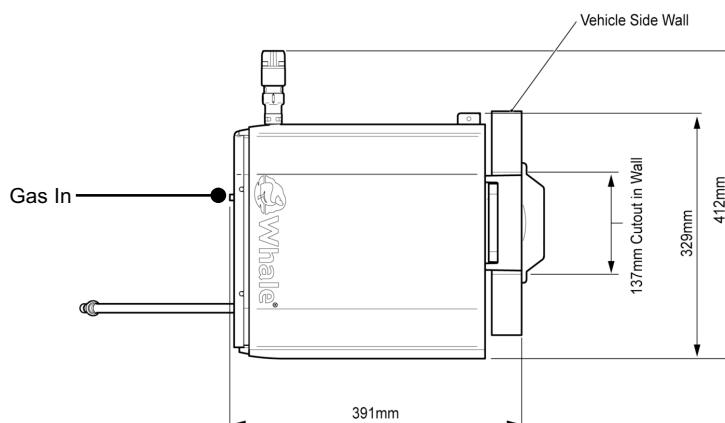
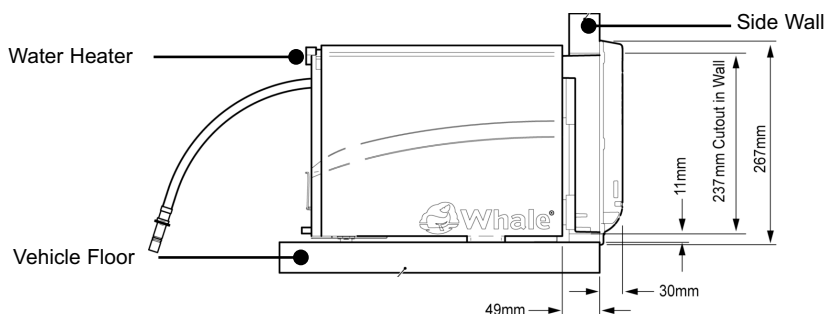
To the Fitter:

Installation and servicing of this appliance **must only** be carried out by competent persons registered with the Gas Safe Register (GB) or the relevant national organisation, in accordance with the relevant regulatory and safety requirements.

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)845 217 2933**.

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".



Step 1 Find Suitable Location For Water Heater Installation

Consider the following 10 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. If the Water Heater is installed in a raised position, the drain valve **must be** installed at the lowest position in the water system, to achieve effective draining. To achieve this, remove the drain valve from the Water Heater and relocate it, near the Water Heater in the lowest position between the Water Heater and the non-return valve (if one is fitted), in the water system. Make sure the water system cannot create air locks that would prevent the Water Heater and the full system from draining.
- iv. Ensure that any surfaces in contact with the Water Heater are rated to at least 70 degrees C.
- v. Ensure that the location allows access for servicing the Water Heater.
- vi. In selecting the Water Heater location, ensure that the flue terminal will be located on a flat and exposed outside surface, avoiding trim strips.
- vii. Ensure that the flue terminal can be positioned at the side of the vehicle that an awning will never be fitted to.
- viii. 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.

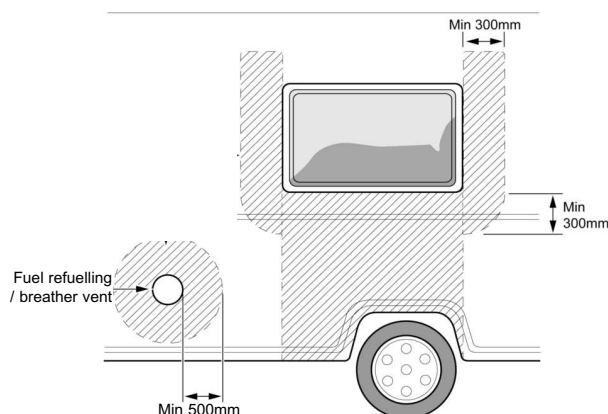


Fig. 5 Installation Locating Diagram

PLEASE NOTE: Steps i to x for information on Water Heater and Flue Locations.

- ix. 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.
- x. The user **must have** access to the reset button.

Step 2 Cut Out Hole For Flue

See the flue template supplied with the 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 on a flat surface avoiding trim strips etc. If the flue needs mounted in a higher position, 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.

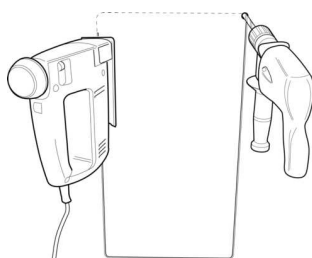


Fig. 6 Cut Out Hole For Flue

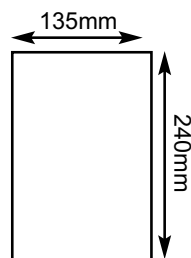


Fig. 7 Flue Dimensions

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

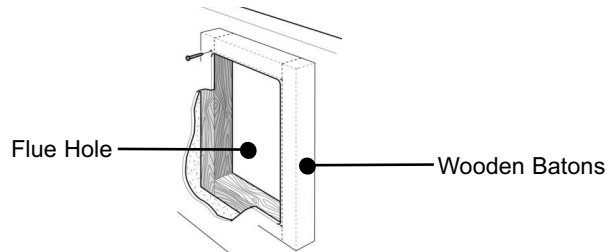


Fig. 8 Reinforce Flue Hole

Step 3 Attaching The Flue To The Caravan

Apply sealant to seal flue box 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 ¾") provided and remove excess sealant.

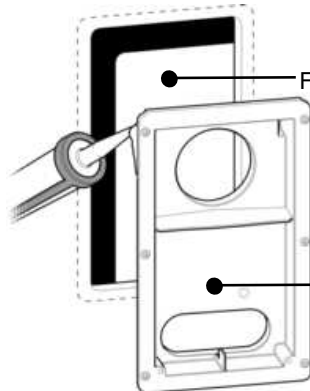


Fig. 9 Sealing the Flue to Caravan

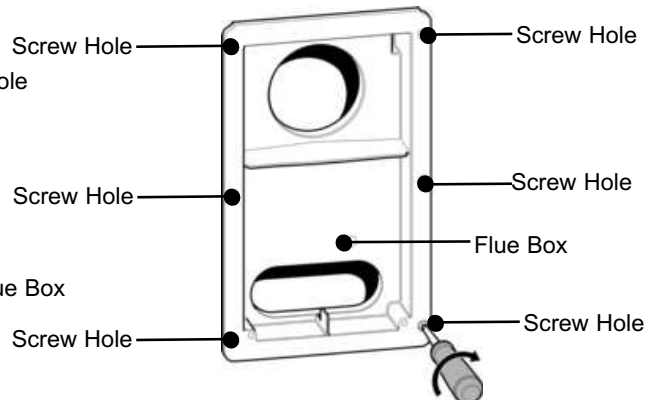


Fig. 10 Attaching Flue Box

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 ½") provided.

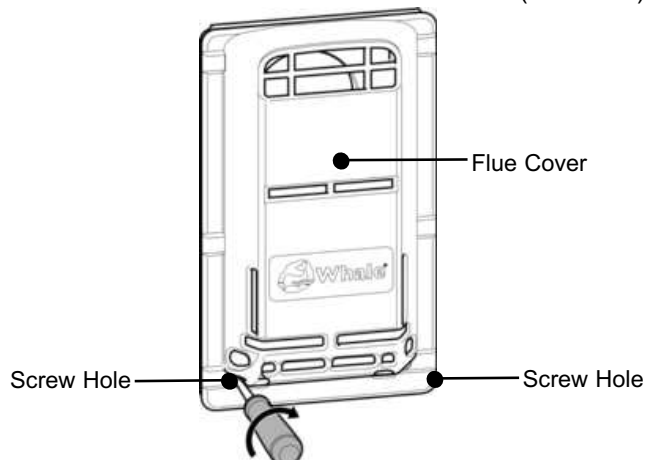


Fig. 11 Installation and Securing of Flue Cover

Step 5 Connect Water Heater to Flue

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

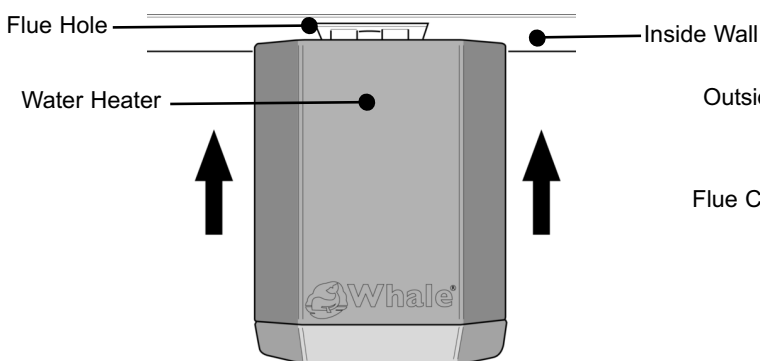


Fig. 12 Connect Water Heater to Flue (Plan View)

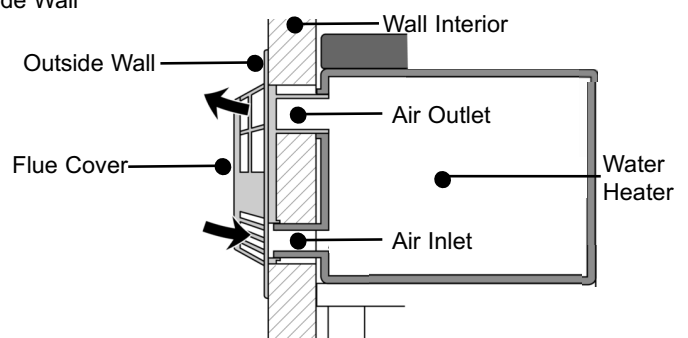


Fig. 13 Water Heater Position

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.

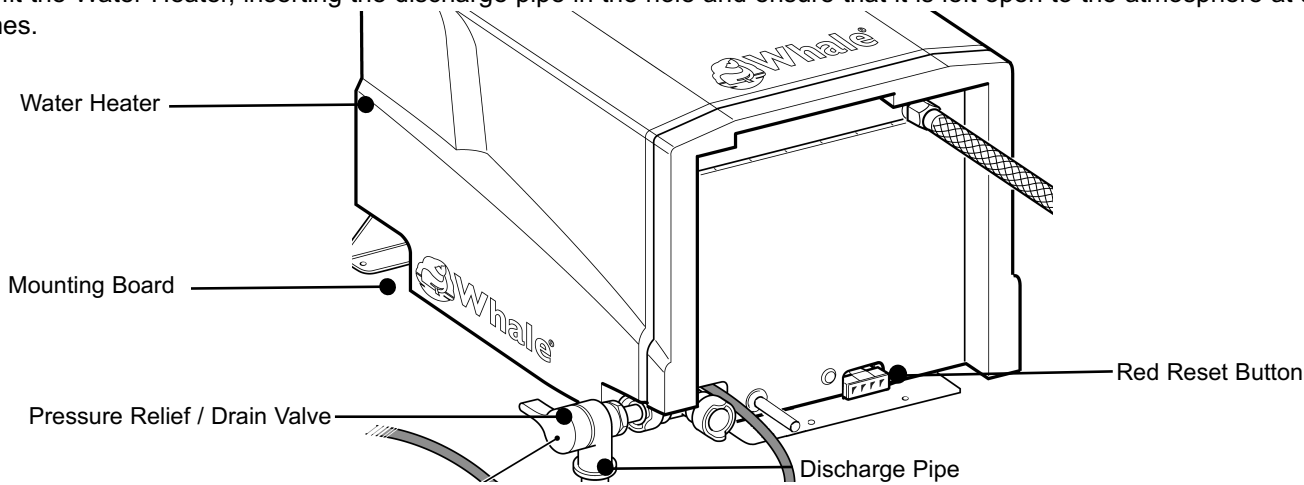


Fig. 14 Fitting the Pressure Relief / Drain Valve

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).

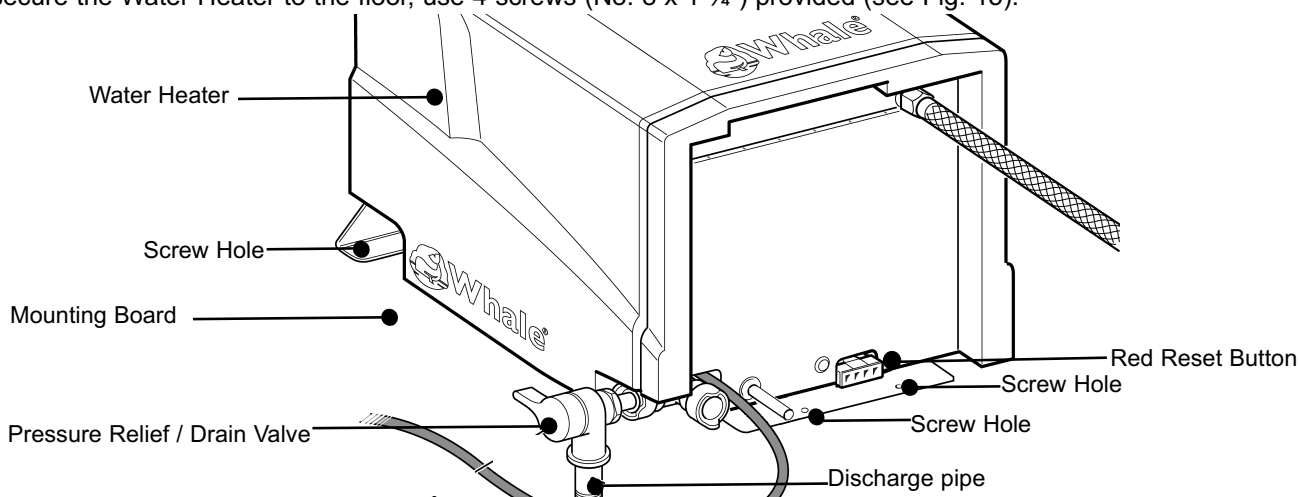


Fig. 15 Secure Water Heater to Floor

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.

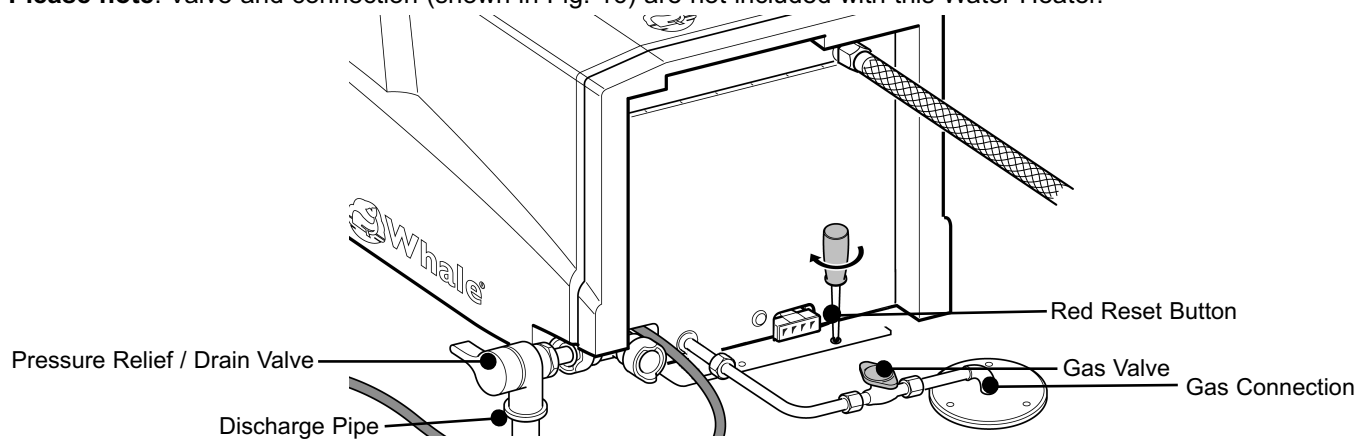


Fig. 16 Connect to Gas Supply

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 they are 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 Panels

Option 1 - Installing Whale® Water Heater Control Panel (see Figs. 17-19)

Option 2 - Installing Whale® Duo Control Panel

Option 3 - Installing Whale iVan® Wireless Control Panel

Option 4 - Installing Vehicle Manufacturer Control Panel

When mounting the Whale® Control Panel find a suitable convenient and accessible position. Ensure suitable access for wiring loom connection and cable. Note that the cable supplied to connect the Control Panel to the Water Heater is 3.5 metres long. The minimum depth behind the Panel for wiring **must be** 50mm. If using a Control Panel specific to the vehicle manufacturer or the vehicle, the electrical connections **must be** made in accordance with Step 10.

Option 1 - Installing Whale® Water Heater Control Panel

The Whale Water Heater Control Panel requires a cut out 45mm high x 35mm wide. Feed the wires through the Control Panel mounting frame (see Fig.17) and line up the holes with the Control Panel. Feed the wires through the cut out in the wall and locate into desired position. Secure with 2 screws (No.4 x ¾) provided, then clip on the surround frame.

In some instances, it may be necessary to make the wiring connections in Step 10 before securing the Control Panel to the wall. **Please note:** It may be possible to retrofit the Whale® control panel into existing frames.



Fig. 17 Insert Control Panel



Fig. 18 Secure Control Panel



Fig. 19 Installed Control Panel

Option 2 - Installing Whale® Duo Control Panel

The Whale Duo Control Panel requires a cut out 118mm wide x 64mm high. Feed the wires through the cut out in the wall and locate into desired position. Secure with 2 screws (No.4 x ¾) provided, then clip on the surround frame.

In some instances, it may be necessary to make the wiring connections in Step 11 before securing the Whale® Duo Control Panel to the wall.

Option 3 - Installing Whale iVan® Wireless Control Panel

When installing the Whale iVan® Control Panel, find a suitable convenient and accessible position. For good temperature control, select a central position away from draughts, direct sunlight and approximately 1.5 metres above the floor. Ensure suitable access for connecting to the 12V d.c. supply. The minimum panel cut out depth for the controller and wiring **must be** 15mm.

- i. Position the supplied cutting template in the chosen location and temporarily secure with low tack adhesive. Using a suitable 10mm drill bit, drill through the template and the panelling behind, in the four corners marked on the template. Then cut out the rectangular shape by cutting along the dotted lines. Finally, drill the 4 screw holes with a 2mm drill bit. Discard the remains of the cutting template.
- ii. Feed the wires through the newly cut hole, and position the controller so that the screw holes line up with those that have been drilled. Secure in place with the 4 small screws supplied (No.6 × 5/8" pan head screws).
- iii. Connect the positive and negative wires from the back of the controller into the vehicle's electrical system and iVan Control Panel **must be** protected through a 1 Amp automotive fuse.

Please Note: The manufacturer cannot be held responsible for claims arising from incorrect installation, unauthorised modification or misuse of this product.

- iv. Reconnect / turn on the power supply. The iVan® Control Panel will turn on. You will be asked to set the time.

To Set the Time:

- Press and hold the Home Button to enter the 'Setup and Options' screen
- Touch 'Set Clock'
- Adjust the time with the + and - keys, and select to adjust hours or minutes with the left and right arrows.
- Press the 'Home' button to return to the 'Home' screen.

Connecting iVan® to the Heaters:

Turn on the Water Heater, Space Heater and Control Panel at the **same time** by using the master switch in the vehicle. When the Water Heater, Space Heater and Control Panel are switched on (it is important that they turn on at the same time), within a few seconds **"A Water Heater has been found"** and **"A Space Heater has been found"** message will appear on the screen. Press OK both times and the Water and Space Heater will be paired to the Control Panel.

Option 4 - Vehicle Manufacturer Control Panel

If your vehicle is fitted with an alternative Control Panel, please refer to the Control Panel manufacturer's instructions or your vehicle handbook.

Step 10 Electrical Connections 12V d.c.



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 Panels 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 Panels with a JST VL 6 way socket. 6 wires are required to connect the Water Heater to the Control Panel. The 12V d.c. and 0V d.c. power supply **must 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

Please note: 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 clockwise direction, to remove lime deposits and to verify that it is not blocked.

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 so 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 d.c. supply; then connect the white flying lead to the caravan 0V d.c.

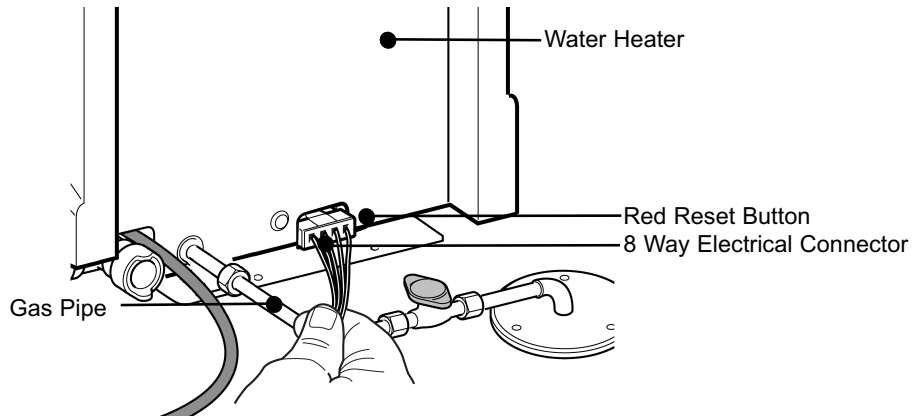


Fig. 20 Connect 12V d.c. Connector

Step 11 Electrical Connection 230V

Vehicle Manufacturer Installation (Whale Part Number: WH0802B or WI0802B) (see Fig. 21)

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.

Vehicle Manufacturer Installation Example (see Fig. 21)

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.

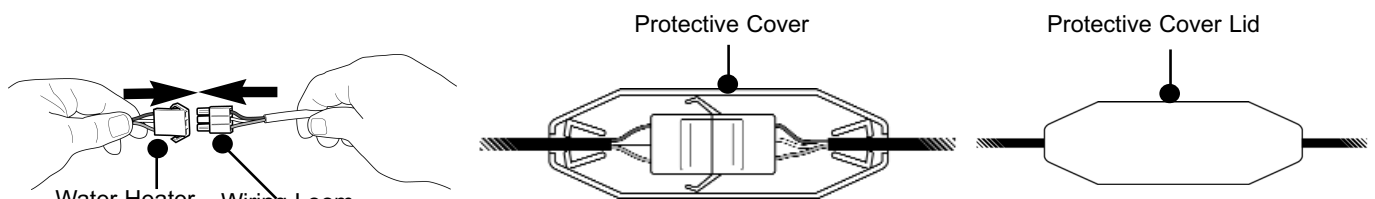


Fig. 21 Mains Electrical Connection

Retail Installation (Whale Part Number: WH0802) (see Fig. 22)

The Whale® Water Heater comes fitted with a 3 pin plug. Whale recommends that the socket **must be** mounted vertically and away from potential exposure to water. If installation of an electrical socket is required, this **must be** carried out by an approved electrician. The plug is fitted with a 13 amp fuse.

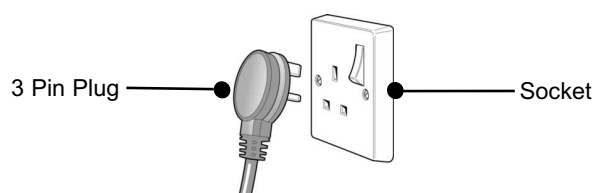


Fig. 22 Mains Connection

Step 12 Connection to Cold Water Supply (see Figs. 23 & 24)

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 ($\frac{3}{8}$ ")	$\frac{3}{8}$ " Stem Adaptor	WU1280	Secure with a hose clip
13mm ($\frac{1}{2}$ ")	$\frac{1}{2}$ " Stem Adaptor	WU1282	Secure with a hose clip

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

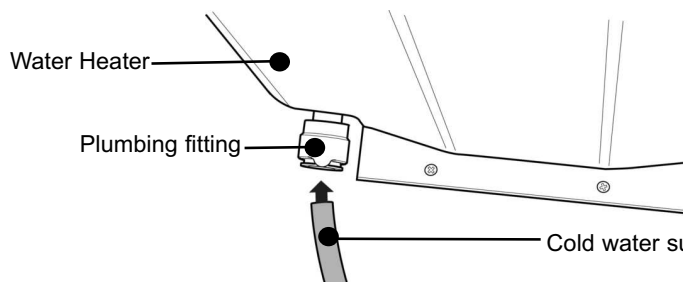


Fig. 23 Connect Cold Water Supply

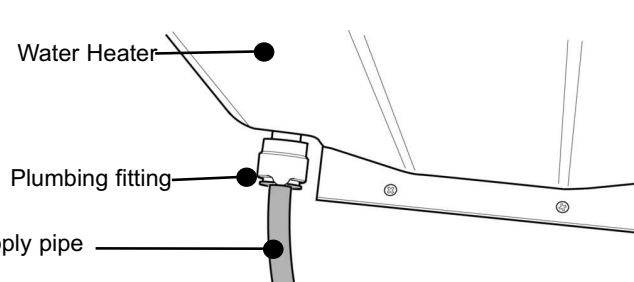


Fig. 24 Installed Cold Water Supply

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. 25 & 26)

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. 23)
10mm ($\frac{3}{8}$ ")	None	N/A	Push the hose over the 12mm nipple on the end of the braided hose and secure with a hose clip.
13mm ($\frac{1}{2}$ ")	12mm Equal Straight $\frac{1}{2}$ " 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 (included) must always be used to ensure safe operation.

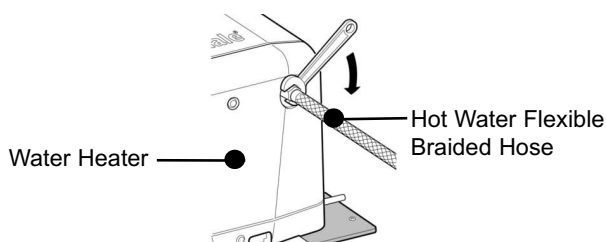


Fig. 25 Connect Braided Hose

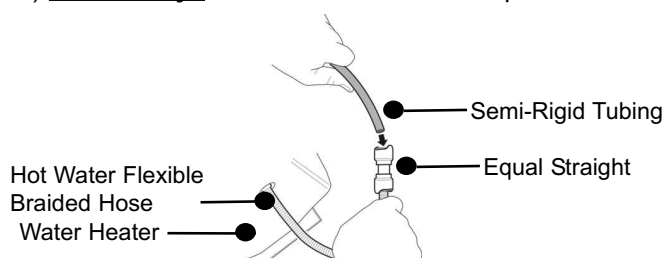


Fig. 26 Connect Hot Water Supply

Step 14 Completed installation (see Figs. 27 & 28)

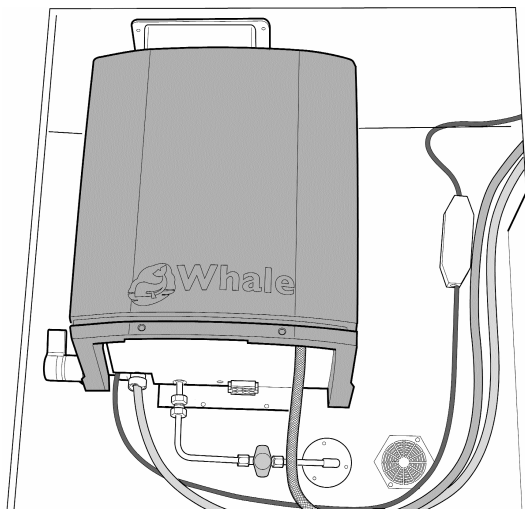


Fig. 27 Typical Vehicle Manufacturer's Installation
WH0802B or WI0802B

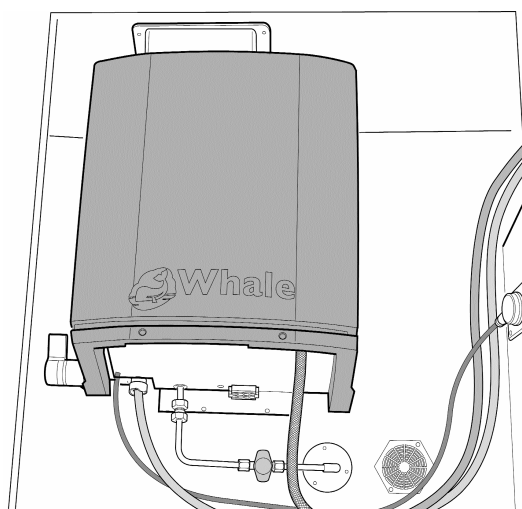


Fig. 28 Typical Retail Installation WH0802

Please note: After completing installation, a full function check including gas soundness **must be** carried out, to ensure that the appliance has been installed and operates correctly. The gas soundness check **must be** carried out by an accredited LPG 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 Water Heater, a 12V d.c. supply **must be** connected at all times. To operate the Water 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.

Option 1 - Whale® Water Heater Control Panel

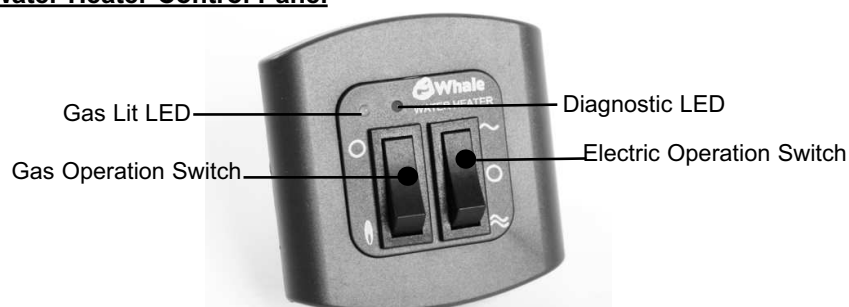




Fig. 29 Whale Water Heater Control Panel

For Gas Operation: Operate the left-hand switch to the 'on' (flame) position. There will be a pre-purge pause of approximately 5 seconds to allow any un-burnt gas to leave the flue and will extinguish when the water is up to temperature. A green LED will light upon successful flame ignition. If there is air in the gas supply line, it may take a few attempts for the gas to ignite. See Section 9 for gas lockout re-setting. If the ignition is not satisfactory, the red diagnostic LED will flash - refer to the Trouble Shooting Guide (see Section 9).

For Electric Operation: The Water Heater is equipped with twin 750W / 1500 W immersion heater elements offering operation at 750W or 1500W. Operate the right-hand rocker switch to the top position  to turn on one electric. To turn on both electric elements, operate the right-hand rocker switch to the bottom position. 

Note: The electric elements will still operate if the appliance is in gas ignition lock-out.

Gas and Electric Operation: For faster heating, the appliance can be operated with both gas and electric.

Switching Appliance Off: Operate the left-hand gas switch to the 'Off' position (O) and the right-hand electric rocker switch to the centre position (O). If the Water Heater is not going to be used for some time, isolate the gas supply and drain water if there is a risk of freezing.

Option 2 - Whale® Duo Control Panel

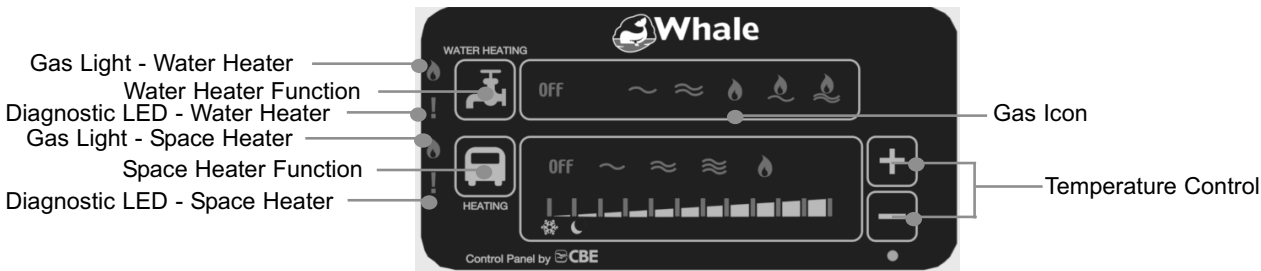



Fig. 30 Whale Duo Control Panel

For Gas Operation - Water Heater: Press the Water Heater Function key until the 'gas' icon is illuminated. There will be a pre-purge pause of approximately 5 seconds to allow any un-burnt gas to leave the flue and will extinguish when the water is up to temperature. A green LED will light upon successful flame ignition. If there is air in the gas supply line, it may take a few attempts for the gas to ignite. See Section 9 for gas lockout re-setting. If the ignition is not satisfactory, the red diagnostic LED will illuminate - refer to the Trouble Shooting Guide (see Section 9).

For Electric Operation - Water Heater: The Water Heater is equipped with twin 750W / 1500 W immersion heater elements offering operation at 750W or 1500W.


For 750W, press the Water Heater Function key until the 'low power setting' icon is illuminated. 


For 1500W, press the Water Heater Function key until the 'high power setting' icon is illuminated. 

Note: The electric elements will still operate if the appliance is in gas ignition lock-out.

Gas and Electric Operation: For faster heating, the appliance can be operated with both gas and electric.

Press the Water Heater Function key until the desired function is illuminated.

For 750W and Gas, press the Water Heater Function key until the desired setting is illuminated. 

For 1500W and Gas, press the Water Heater Function key until the desired setting is illuminated. 

Switching Appliance Off: Press the Water Heater Function key until 'Off' is illuminated.

Option 3 - Operating Whale iVan Wireless Control Panel

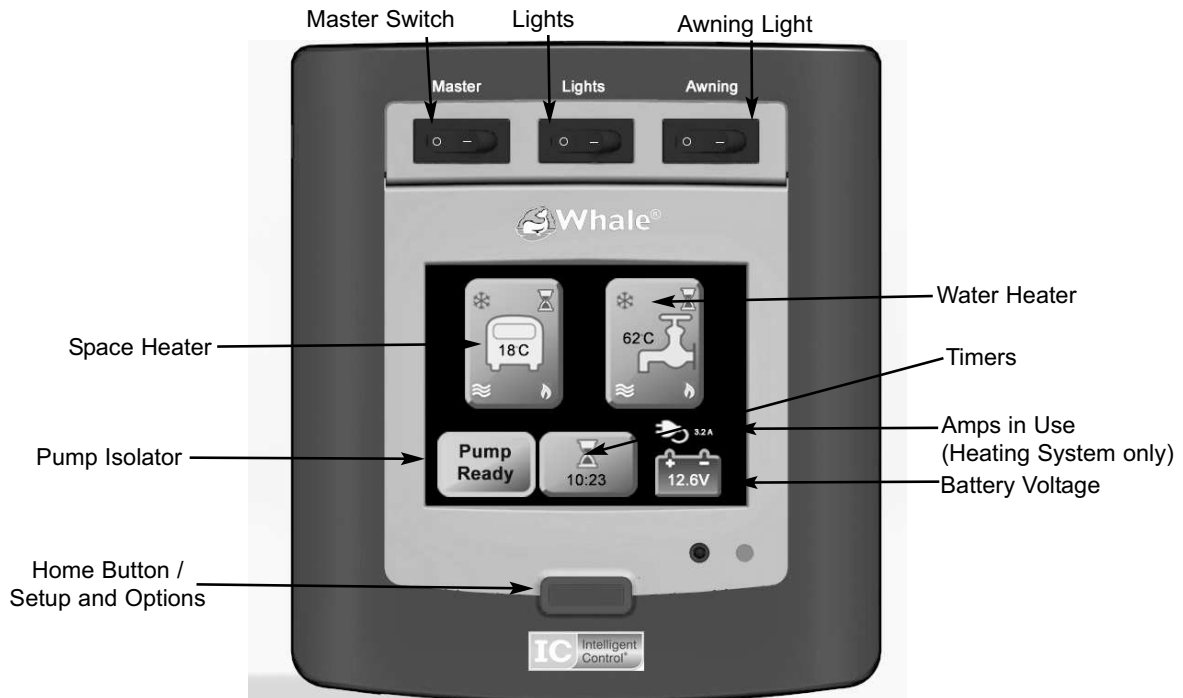


Fig. 31 - Whale iVan® Control Panel

Operating the Space Heater

1. From the home screen, touch the 'van' icon:



2. The following screen will appear:



3. Select the desired heat setting by tapping one of the icons; the icon will turn green to show it has been activated.

Note: The Space Heater will not operate if the desired temperature is below the current room temperature.

Operating the Water Heater

1. From the home screen, touch the 'tap' icon



2. The following screen will appear:



3. Select the desired setting by touching one of the icons. The icon will turn green to show it has been activated.

Operating the Pump

The Whale Watermaster® Exterior Pump works on a pressurised system. This means it will pump up the system until working pressure is reached and then switch itself off. When the pressure drops when a tap is opened, the pump will start to run and will continue to run until the pressure builds up again after the tap is closed.

To turn the water pump on, touch the 'Pump Off' icon.



A yellow frame indicates that the pump is ready.

When the pump is running, the icon will turn green and state 'Pump Running.'

Option 4 - Vehicle Manufacturer Control Panel

If your vehicle is fitted with an alternative Control Panel, please refer to the Control Panel manufacturer's instructions or your vehicle handbook.

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. **Do not** use abrasive cleaners. Allow to fully dry before reconnecting the electrical supplies. If descaling of this appliance is required, this can be done using 'Kettle Klear' or an equivalent product and fully rinse through with clean water afterwards.

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

General Safety Notes: The operating pressure of the gas supply to the Water Heater **must be** 28-30mBar Butane or 30mBar -37mBar Propane.

Please Note: 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 clockwise direction, to remove lime deposits and to check that it is not blocked.

9. TROUBLE SHOOTING

The Water Heater is equipped with an electronic diagnostic system which will detect fault conditions ranging from poor gas or d.c. supply to internal Water Heater malfunctions.

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 on page 17.

Option 2 - Whale Duo Control Panel

In the unlikely event of a failure, the red '!' LED on the Control Panel will light. To identify the lockout, press and hold the Water Heater Function Button. The temperature control bars will light to indicate the fault code e.g if 1 bar lights, the fault code is 1, if 2 bars lights, the fault code is 2 etc. Identify the fault code and refer to the table on page 17.

Option 3 - Whale iVan® Control Panel

In the unlikely event of a failure, a pop-up screen will appear with either a tap icon to indicate there is a problem with the Water Heater, or a van icon to indicate there is a problem with the Space Heater. Follow the instructions on screen as outlined in the table on pages 18 - 19.

Option 4 - Vehicle Manufacturer Control Panel

If your vehicle is fitted with an alternative Control Panel, please refer to the Control Panel manufacturer's instructions or your vehicle handbook.

Table 2: Water Heater Fault Finding

Flashes / bars lit	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 that there is water in the appliance. Whale recommends that you wait at least 5 to 10 minutes to allow the Water Heater to cool before clearing the 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 Water Heater. Check battery voltage. If between 10V d.c. and 15V d.c., check connections between Water Heater and battery. Check alternator or external battery charging. Clear lockout as described below.
5	Other / Internal Fault	Attempt to clear lockout as described below. If this fails, contact Whale Support on +44 (0)845 217 2933 .
Solid / all bars lit	General Fault	Two faults have occurred at the same time OR at least five lockout clearing attempts have been unsuccessful. Clear lockout by pressing the red Reset Button on the Water Heater as described below.

Lockout Clearing Procedure

Option 1 - Whale Water Heater Control Panel and Option 2 - Whale Duo Control Panel

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 or all bars lit), please press the red Reset Button on the Water Heater once (see Fig. 32).

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 once (see Fig. 32).

If the Water Heater lockout condition has been identified by a **solid red LED or all bars lit** 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. 32).

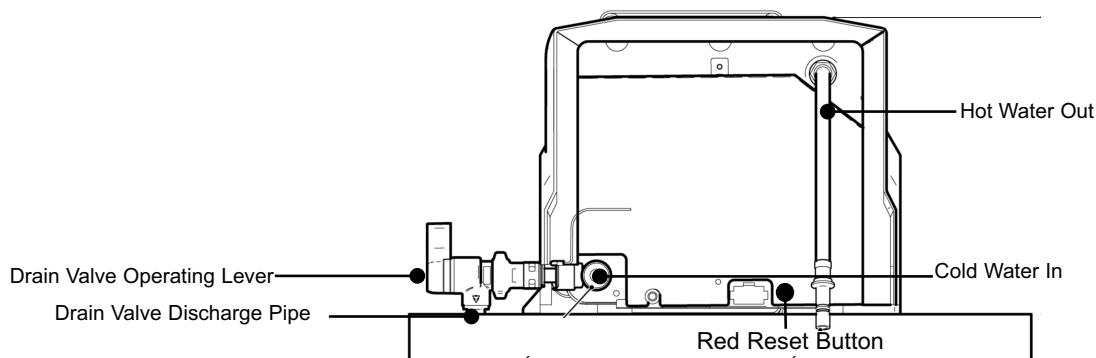


Fig. 32. Reset Button Location

Option 3 - Whale iVan® Control Panel

iVan® is equipped with an electronic diagnostic system which will detect fault conditions ranging from poor gas or d.c. supply to internal Water or Space Heater malfunctions. In the unlikely event of a fault, this will be indicated by a red '!' on the Water or Space Heater icon on the Home Screen.



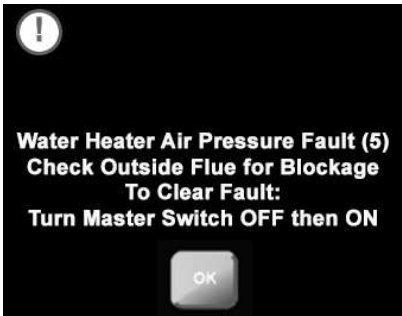
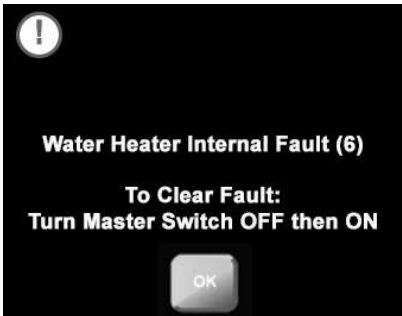

The Water Heater will not operate when a fault is indicated on the home screen. A pop-up screen will appear when you attempt to operate the Water Heater. The pop-up screen identifies the fault. As soon as you have completed the suggested actions on the fault screens below, you **must** clear the fault code by following the instructions on screen. Follow the instructions on screen and then press 'OK' OR press the red Reset Button once. (The red Reset Button can be found at the front of the Water Heater, see Fig. 32).

When the lockout has been cleared successfully, the Water Heater will default to 'Off'. The user **must** select the desired power operation to operate the Water Heater. Please follow the advice on screen, as outlined in the table below.

Table 3: Water Heater Fault Screens

Fault	Fault Screen	Solution
"Check gas supply" (1)		Ensure that there is gas in the gas bottle and that there is no blockage in the gas line. At temperatures below 5°C, use Propane gas rather than Butane. Once the checks are complete, press the red Reset Button on the front of the Water Heater once, then press OK on the iVan® Control Panel. This will clear the fault code. If there is a problem with the gas supply which cannot be dealt with immediately, select an electric heating option. If the fault does not clear, please contact Whale Support on +44(0)845 217 2933 .
"Gas overheat fault" (2) OR "Electric overheat fault" (3)		Check that the Water Heater is completely full of water. Run the pump with one hot tap open until water flows smoothly out of the tap. Wait at least 10 minutes to allow the Water Heater to cool, press the red Reset Button on the front of the Water Heater once, then press OK on the iVan® Control Panel. This will clear the fault code. If the fault does not clear, please contact Whale Support on +44(0)845 217 2933 .
"Voltage Supply fault" (4)		Minimum operating voltage is 10V d.c., maximum is 15V d.c., when measured at the Water Heater. Check battery voltage. If between 10V d.c. and 15V d.c., check connections between Water Heater and battery. Check alternator or external battery charging. Clear lockout by turning the Master Switch 'off' then 'on', then press OK on the iVan® Control Panel. This will clear the fault code. If this does not clear the fault, please press the Reset button located on the Heater. If the fault still does not clear, please contact Whale Support on +44(0)845 217 2933 .

Table 3: Water Heater Fault Screens (Continued)

Fault	Fault Screen	Solution
“Air pressure fault” (5)		<p>The Water Heater is not getting enough air through the flues - check the flue ends (outside the vehicle) and clear any obstructions away from them. When the check is complete, turn the Master Switch ‘off’ then ‘on’ again, then press OK on the iVan® Control Panel. If this does not clear the fault, please press the Reset button located on the Heater. If the fault still does not clear, please contact Whale Support on +44(0)845 217 2933.</p>
“Thermistor fault” (6) OR “Flame simulation fault” (7) OR “Relay sense fault” (8) OR “Start-up fault” (9) OR “Configuration fault” (10) OR “Switch fault” (11)		<p>An internal fault has occurred, to clear the lockout turn the Master Switch ‘off’ then ‘on’ again, then press OK on the iVan® Control Panel. This will clear the fault code. If this does not clear the fault, please press the Reset button located on the Heater. If the fault still does not clear, please contact Whale Support on +44(0)845 217 2933.</p>
“General fault” (15)		<p>Two faults have occurred at the same time OR at least five or more lockout clearing attempts have been unsuccessful. Clear lockout by pressing the red Reset Button on the Water Heater once. If the fault does not clear, please contact Whale Support on +44(0)845 217 2933.</p>

10. WINTERISING / DRAINING

When using the Water Heater in winter, ensure the flue is not blocked by snow or fallen leaves etc. When not in use, the Water Heater **must be** fully 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, and then operate the Drain Valve which is fitted in the system.

For effective draining, air **must be** allowed into the system, this can usually be achieved by opening the taps. The Drain Valve **must be** left in the "open" position to ensure that all the water drains out. Open all the hot water taps in the vehicle and operate the drain valve fitted in the system. The drain valve **must 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)845 217 2933 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/EU 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/EU, on the approximation of the laws of the Member States relating to electromagnetic compatibility.

CE mark first affixed: June 2009

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:

Patent Number: EP2438364

WHALE® and IVAN® are registered trademarks of Munster Simms Engineering Ltd trading as Whale.

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.

14. WARRANTY

©Copyright Whale 2018 - All rights reserved. Reproduction in whole or in part without permission is prohibited. WHALE®, is a registered trademark of Munster Simms Engineering Limited, Bangor, Northern Ireland trading as Whale. Whale's policy is one of continuous improvement and we reserve the right to change specifications without prior notice. Illustrations are for guidance purposes only.

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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