

Gas & Electric Water Heater

Whale® Expanse™

WL8212, WL8202

Operating Instructions



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1. Safety



For safe installation and use carefully read, understand and keep these Operating Instructions provided. Observe applicable laws, directives and standards.



Not following the information in these Operating Instructions provided with this appliance can result in serious material damage and serious risk to health or life of persons. Only install and operate this appliance and its control panel if they are all in perfect condition. If damaged, contact Whale® Support immediately.


It is the sole responsibility of the vehicle owner to ensure that the appliance is in a safe operating condition and is operated correctly.

- Before commencing work, ensure that the vehicle is isolated from any power source.
- Improper installation or repair of Whale® heating systems can cause fire or the leakage of deadly carbon monoxide leading to serious injury or death.

Before installation, ensure the appliance is in good condition. If damaged, **do not** install and contact Whale® Support on +44 (0)345 9090 911.

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

  All work must be carried out by a competent person as defined by BS7671 PART 2

 Please note that if incorrectly installed a risk of electrocution exists.

If the electrical supply cord is damaged, it must be replaced by the manufacturer, its service agents or similarly qualified persons in order to avoid a hazard (BS EN 60335-1).

2. 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
- Leave the vehicle

Immediately ensure that the system is thoroughly checked by a registered gas engineer at a Whale® Approved Service Centre or by a member of the Whale® Service Engineer Network. For Europe, please see enclosed Webasto-Service information.

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 in is in a confined space (such as a garage).

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

Before Operation: Ensure the caravan water system, including the Water Heater is full of water, and that the vehicle is level before operating the Water Heater.

This appliance **must be** fully drained if there is a risk of frost. Only when the Frost Protection setting is turned on and activated, the Water Heater does not have to be drained.

Please note: The Frost Protection setting is only recommended for a period of 3 days or less. If the vehicle will not be in use for longer than 3 days, the water system **must be** fully drained.




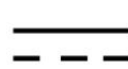


Please note: The user **must ensure** that Frost Protection is turned on, activated and remains in operation for the duration for its period of use. Frost damage will not be covered by warranty.

The water temperature cannot be adjusted. It is automatically set to approximately 70°C (or 55°C if eco mode is available and set) and controlled by the heaters control system to prevent bacteria growth. To avoid scalding, the temperature of the hot water supplied to the taps and showers **must be** controlled at the tap or shower. **Do not** use the water as drinking water.

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

3. Specification

| | |
|--------------------------------------|--|
| Flue Type | Type C ₁₃ & C ₅₃ (fanned) |
| Destination Countries | AT, BE, BG, CH, CY, CZ, DE, DK, EE, FI, FR, GB, GR, HU, HR, IS, IT, LT, LU, LV, MT, NL, NO, PL, RO, SE, SI, SK, TR |
| Dry Storage Temperature | -20°C to 70°C |
| Maximum Water Temperature | Approx 72°C |
| Battery Supply | 10.5 - 15.9V |
| Gas Supply | LPG: Butane/Propane 30mbar - CAT I _{3B/P(30)} |
| IP Rating | IP45 |
| Nominal Water Capacity | 8 Litre |
| Max Water Supply Pressure | 190kPa (1.9 Bar) |
| Rated Pressure | 300kPa (3.0 Bar) |
| Pressure Relief Valve Setting | 300kPa (3.0 Bar) |
| Storage Heater Classification | C13 |

| | Qn [kW]  | Qn [kW]  | M [g/hr]  | Fuse size [A]  | 230 V ~ 50Hz [A] | [kg] (Dry)  | [kg] (Full)  |
|----------------|--|--|---|---|------------------------|---|--|
| DW/ WL8212x | 2.85 | 1.35 | 100 | 5 | 6.5 | 4.5 | 12.5 |
| DW/ WL8202x | 2.85 | 1.35 | 100 | 5 | 6.5 | 4.5 | 12.5 |

4. Application

The Whale® Expanse™ Water Heater has been designed for caravan, motorhome and mobile applications, and is suitable for small and medium sized recreational vehicles only. It is only suitable for use in recreational vehicles i.e. 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 can be fitted under the floor or internally and has a variety of power inputs 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.

5. Whale® Water Heater Operating Instructions

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 that the caravan water system, including this Water Heater is full of water and that the vehicle is level before operating.

When using operating switches provided by the Installer or Vehicle Manufacturer, the Installer or Vehicle Manufacturer are responsible for providing user instructions and identification of symbols on the Control Panel.

When using the Water Heater in winter, ensure the flue is not blocked by snow or fallen leaves etc.

Step One: Upon initial operation or to refill after the system has been drained, check that the drain valve is closed, (see Fig. 1) then fill the system with clean fresh water.

Step Two: To fill, open one hot tap and switch on the water pump.

Step Three: Leave the tap open to allow air to escape while the Water Heater is filling. When 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 from each tap.

Protection Against Frost

If temperatures are likely to fall below zero degree celsius, you **must ensure** that water is drained from the Water Heater. (Unless Frost Protection is in operation). To drain the Water Heater open the drain valve on the Expanse interface to the open position (see Fig. 2). At the same time the taps **must be** open in the hot position to allow air entering the system to aid with the draining process.

Alternatively, if the system is kept active (12V d.c. supply maintained, electrical mains / gas supply available) frost protection can be ensured by enabling frost protection on the control panel.

Periods of Disuse

If the Water Heater is not going to be used for more than 3 days, disable the Water Heater on the control panel, isolate the gas supply by ensuring the gas shut off valve to the Water Heater is closed and that the gas supply is turned off (if no other gas appliances require a continued supply).

Please note: Frost damage will not be covered by warranty.

WARNING OPERATING INSTRUCTIONS - DRAIN VALVE

The drain valve is located at the top of the Water Heater, beside the cold and hot water inlet. To operate the drain valve, turn the yellow lever clockwise 90 degrees to the open position (see Fig. 2). If the plumbing arrangement in the vehicle causes air locking preventing the water heater from draining, consideration should be given to fitting a vacuum relief valve, Whale® Part # AK1228.

Please Note: Water will drip from the discharge pipe of the pressure-relief valve during heating up. The pressure relief valve **must be** operated regularly (at least twice a year) by turning the yellow lever from the closed to open position, to remove lime deposits and to ensure that it is not blocked.

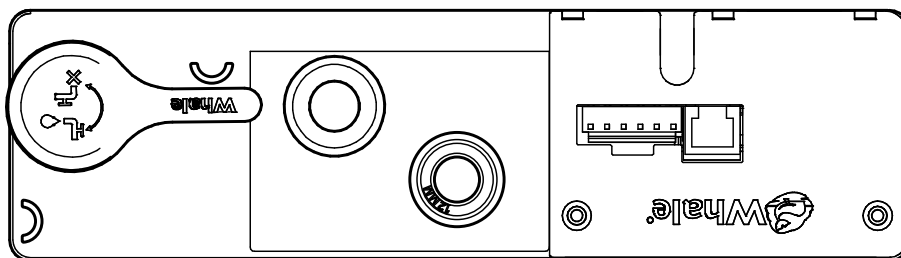


Figure 1. Drain Valve Operation - Closed Position

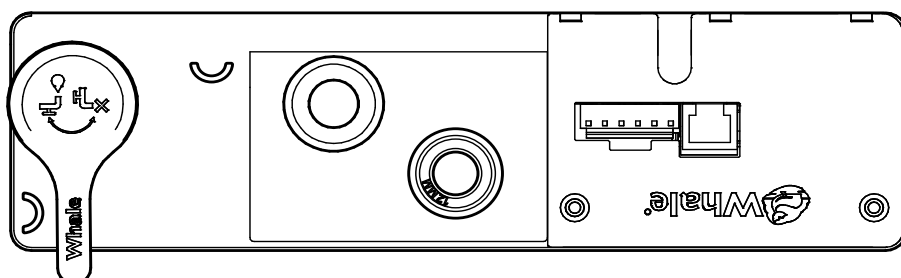


Figure 2. Drain Valve Operation - Open Position

6.1. Whale® Duo Control Panel Operation

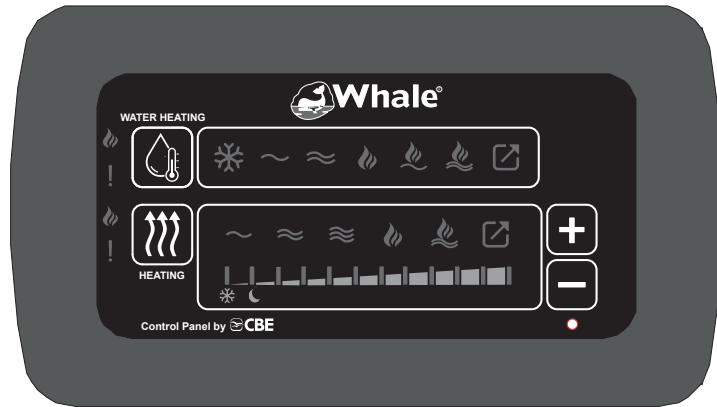
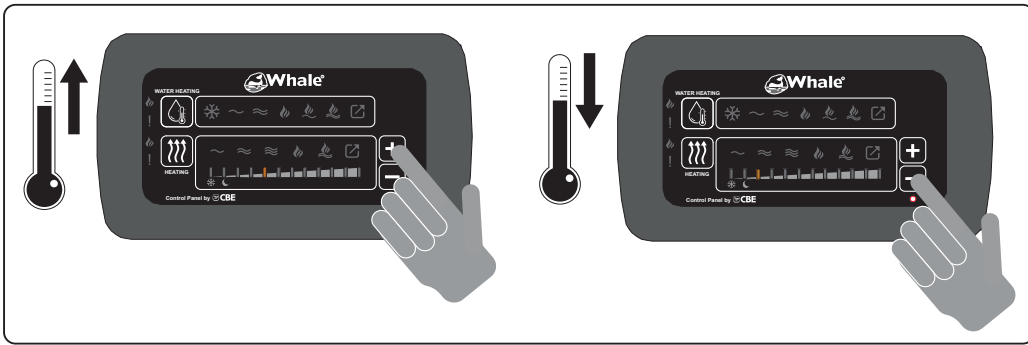


Figure 3. Whale Duo Control Panel

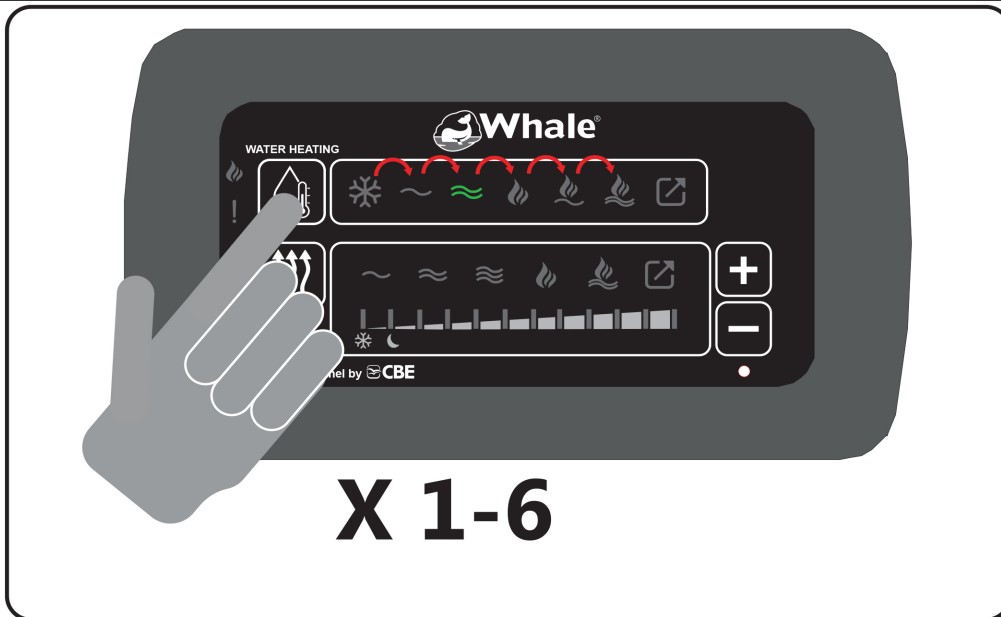
| Icon | Description |
|-----------------------------|---|
| | Water heater on/off & power source selection button |
| | 0.75kW electric selected |
| | 1.50kW electric selected |
| | Gas selected |
| | Gas + electric 0.75kW selected |
| | Gas + electric 1.50kW selected |
| | External control from alternative source* |
| | Increase temperature button |
| | Decrease temperature button |
| | Gas lit indicator |
| | Lockout indicator |
| | Frost protection mode |
| Temperature settings | |
| | |

*Not available on all models. External control will allow control of the heater via an alternative source. Please refer to your vehicle handbook for more information.

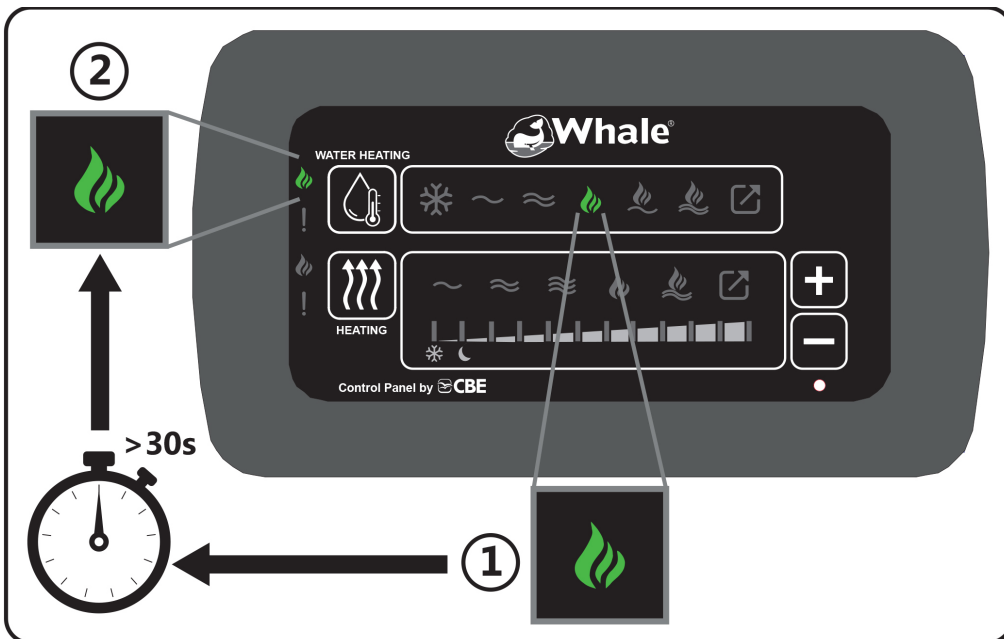
6.1.1. Select Temperature



6.1.2. Select Power Setting



6.1.3. Gas Power On





Electric Power Management

When selecting a high electric setting on the space or water heater, the control panel may automatically step down the other Whale® space / water heater to a lower electric setting or turn off if at risk of exceeding 16A. The last heater selected has AC mains priority.

6.2. Whale® Heat Control Panel Operation

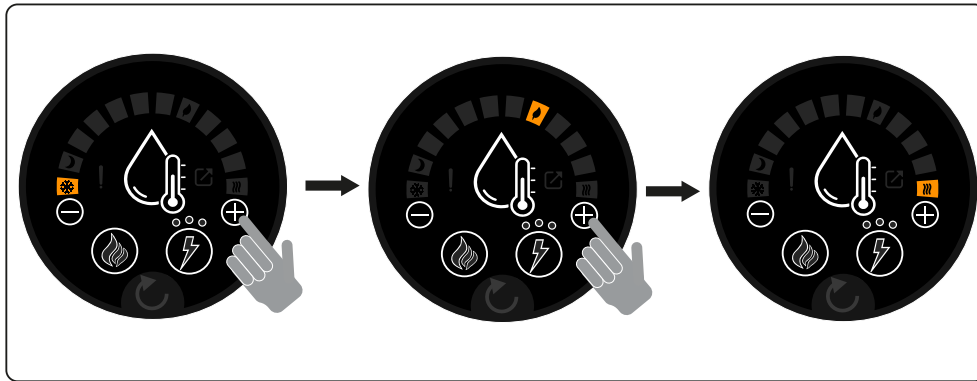


Figure 4. Whale Heat Control Panel

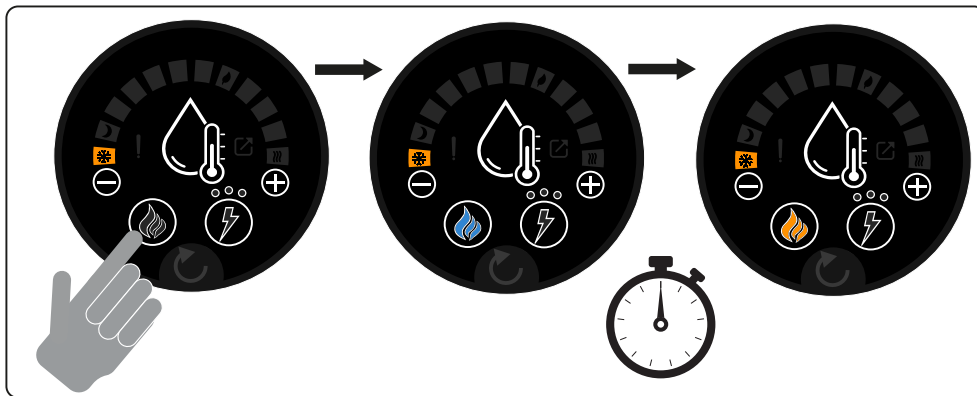
| Icon | Description |
|---|---|
|  | Gas heating button |
|  | Gas heating standby indicator |
|  | Gas heating on |
|  | Frost protection mode |
|  | Eco Mode |
|  | Max temp |
|  | Increase temperature button |
|  | Decrease temperature button |
|  | Lockout indicator |
|  | Electric heating button |
|  | Electric heating standby indicator |
|  | 0.38kW electric |
|  | 0.75kW electric |
|  | 1.50kW electric |
|  | External control from alternative source available* |
|  | External control from alternative source active* |
|  | Reset button |

*Not available on all models. External control will allow control of the heater via an alternative source. Please refer to your vehicle handbook for more information.

6.2.1. Select Temperature

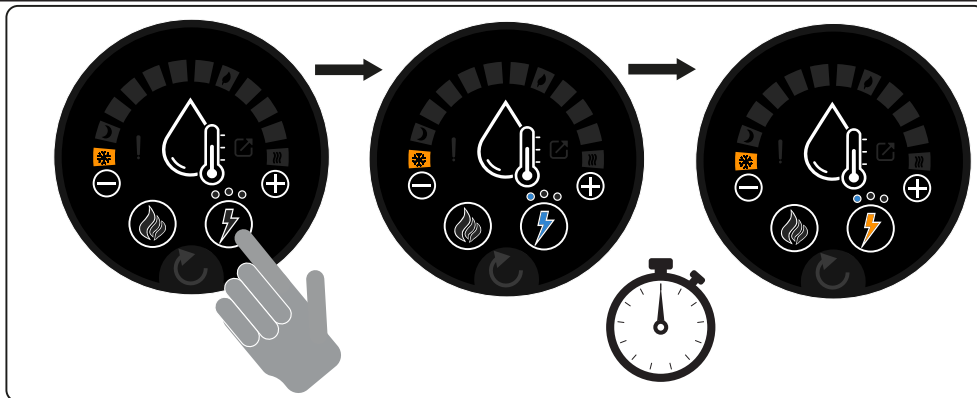


6.2.2. Activate Gas Power

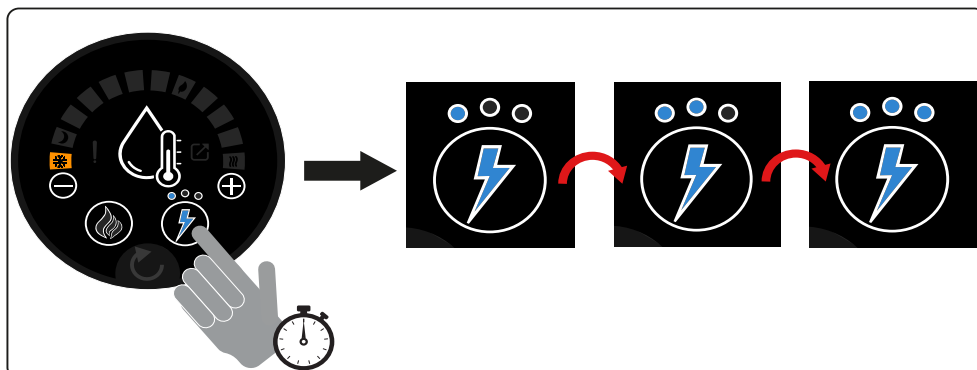


And/Or

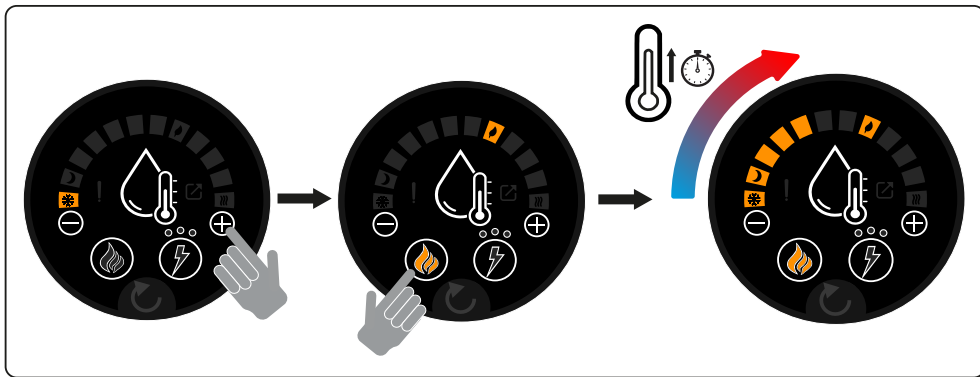
6.2.3a. Activate Electric Power *








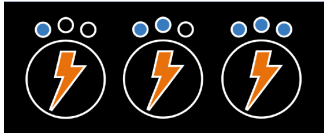
6.2.3b. Select Electric Setting *



6.2.4. Water Temperature Display



*Not available on all models. Electric settings only available on Gas & Electric Heat Control Panel models.

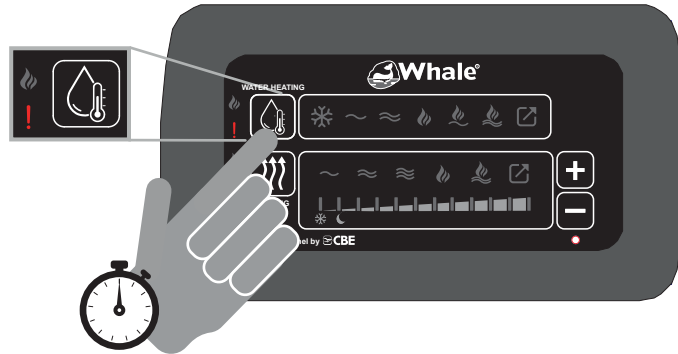
| Usable Electric Settings * | | |
|-----------------------------|---|--|
| 1.6A 0.4kW 230V a.c. |  |  |
| 3.3A 0.75kW 230V a.c. |  |  |
| 6.5A 1.50kW 230V a.c. |  |  |

*Electric Power Management

For dual Heat Control Panel variants, when selecting a high electric setting on the space or water heater, the control panel may automatically step down the other Heat Control Panel to a lower electric setting or turn off if at risk of exceeding 16A. The last heater selected has AC mains priority

7.1. Whale® Duo Control Panel Troubleshooting

Step 1 - Show Lockout

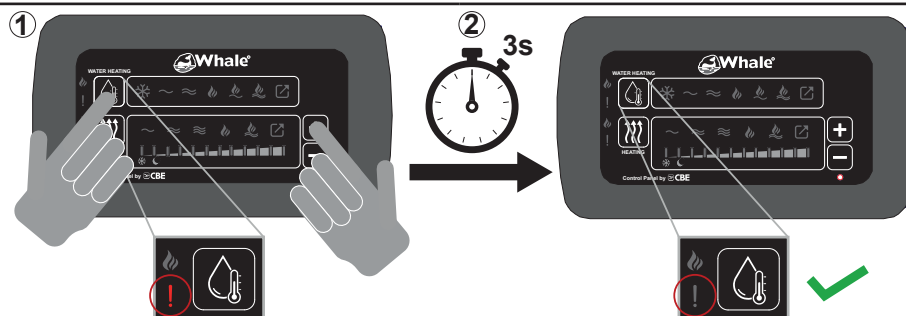


Step 2 - Identify Lockout

Step 3 - Recommended Action

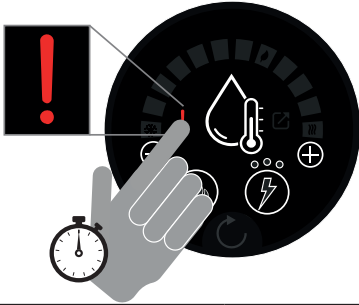
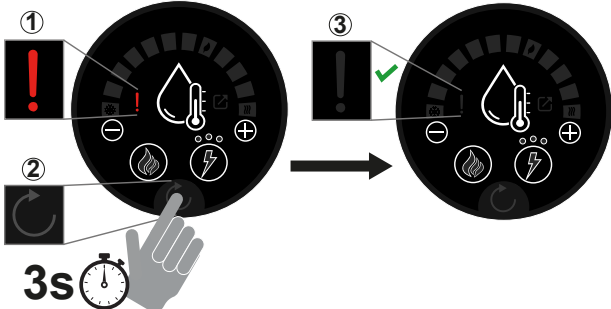
| | | |
|----|--|--|
| 1 | | Inadequate gas supply 1. Check gas 2. 30mbar LPG 3. Go to step 4 |
| 2 | | Overheat 1. Check air vents and ducts are not restricted 2. Wait 10 mins for heater to cool down 3. Go to step 4 |
| 3 | | Inadequate supply voltage ≥ 10.5 / ≤ 15.9V d.c. ✓ < 10.5 / >15.9V d.c. ✗ Go to step 4 |
| 4 | | Flue blockage 1. Check flues for blockages 2. Go to step 4 |
| 5 | | Internal fault 1. Call Whale® Support + 44 (0)345 9090 911. For Europe, please see enclosed Webasto-Service information 2. Go to step 4 |
| 12 | | Multiple faults 1. Power off 2. Check heater for recurring faults 3. Power on 4. Go to step 4 |

Step 4 - Clear Lockout



If problems persist please contact Whale® Support on + 44 (0)345 9090 911. For Europe, please see enclosed Webasto-Service information.

7.2. Whale® Heat Control Panel Troubleshooting

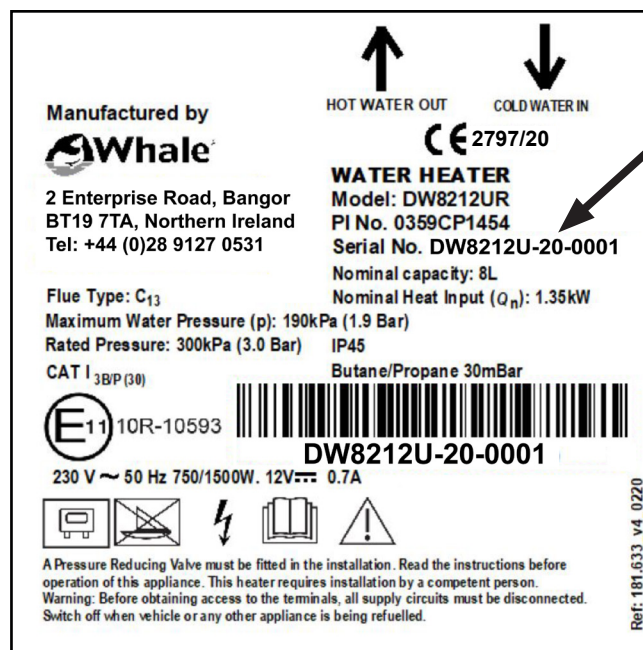
| Step 1 - Show Lockout | |
|--|--|
|  | |
| Step 2 - Identify Lockout | Step 3 - Recommended Action |
| 1 | Fault type #1 - Inadequate gas supply <ol style="list-style-type: none"> 1. Check gas 2. Temp <5°C, use Propane rather than Butane 3. Check flue for blockages 4. Go to Step 4 |
| 2-3 | Fault Type #2-3 Overheat Fault <ol style="list-style-type: none"> 1. Check heater is completely full of water 2. Run pump with one hot tap open until water flows smoothly 3. Go to Step 4 |
| 4 | Fault Type #4 - Low Voltage Fault ≥ 10.5 / ≤ 15.9V d.c. ✓ < 10.5 / >15.9V d.c. ✗ Go to step 4 |
| 5 | Fault Type #5 - Air Pressure Fault <ol style="list-style-type: none"> 1. Check flues for blockages 2. Go to step 4 |
| 6-11 | Fault Type #6-11 - Internal Fault <ol style="list-style-type: none"> 3. Go to step 4 4. Call Whale® Support +44 (0)345 9090 911 |
| 12 | Fault Type #12 <ol style="list-style-type: none"> 1. Power off 2. Check Heater for recurring faults 3. Power On 4. Go to step 4 |
| Step 4 - Clear Lockout | |
|  | |

If problems persist please contact Whale® Support on +44 (0)345 9090 911. For Europe, please see enclosed Webasto-Service information.

8. Maintenance / Repairs

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 de-scaling of this appliance is required, this can be done using a domestic liquid de-scaling product and fully rinse through with clean water afterwards. Cleaning and user maintenance must not be carried out by children without supervision.

The Whale® Water Heater **must be** checked periodically by a Whale® Approved Service Centre / Technician, 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. The appliance contains ESD sensitive components and therefore **must only** be opened by a Whale® Approved Service Centre / Technician. To contact Whale® Support, telephone +44 (0)345 9090 911.



This number '20' indicates year of registration (e.g. 2020)

Figure 5. Heater Data Label Example

9. 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 2014/30/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 2014/108/EC, on the approximation of the laws of the Member States relating to electromagnetic compatibility.

CE mark first affixed: 2018.

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

10. Patents and Trademarks

The Whale® Expanse Water Heater is protected by the following patent and design registrations: - Patent number: EP 2438364, WO 2010091836, GB2529231, GB2529232 and GB2529233. WHALE® and IVAN® are registered trademarks and EXPANSE™ is an unregistered trademark of Munster Simms Engineering Limited, Bangor, Northern Ireland.

11. Warranty

The Whale® Water Heater is covered by a 2 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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