

Challenger

Continuous Flow Hot Water Heaters

Operating Manual



For Challenger LPG Water Heaters:

- Challenger 5L Portable
- Challenger 5L
- Challenger 5L Stainless Steel
- Challenger 6L
- Challenger 7L
- Challenger 8L
- Challenger 10L
- Challenger 12L
- Challenger 16L

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Limited Warranty

Challenge Yachts Ltd offers a 12-month warranty on parts and labour. This warranty applies to all Challenger LPG continuous flow hot water heaters. If you are claiming a warranty then you must return the water heater to the place of purchase, or, to Challenge Yachts Ltd Auckland. This warranty does not include return shipping costs. Warranty work must only be carried out at Challenge Yachts Ltd Service Centre. The warranty is effective from the date of purchase. Proof of purchase (copy of invoice) is required for warranty. From time to time Challenge Yachts Ltd may appoint an authorised agent to carry out the warranty work.

Proof of Purchase

Please complete your purchase details and attach your proof of purchase below.

Date of Purchase Date _____ Month _____ Year _____

Purchased from _____ Inv No. _____

Name _____

Address _____

Phone _____

*Congratulations on purchasing a
Challenger LPG continuous flow hot water heater!
Please keep this manual in a safe place
together with your proof of purchase.*



CHALLENGER APPLIANCES

Alternative Energy Appliances

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Important

Installation Safety:

To comply with New Zealand Gas Safety Standards you are required to have a licensed gas worker or a gas Fitter to install or certify your installation. A licensed gas worker will ensure that your gas appliance or installation is connected correctly, has adequate ventilation, is appropriately flued and is in good working order.

Improper Installations

Improper installation, repairs, servicing, or interfering with designed components internally or electronically to gas appliances and fittings may cause personal injury, loss of life, or damage to property. Use a qualified gas fitter for installation and repair.

Hot Water Temperature Warning

Use the control knobs provided on the front of the water heater to make the correct adjustments for water flow and gas supply so you arrive to a safe water temperature. Some water heaters have three adjustment knobs; the middle control knob is designated for summer and winter adjustment

If the appliance is not fitted to the appropriate specifications this could increase the water temperature dramatically and make the appliance unsafe. So please ensure the appliance is fitted to the current New Zealand Gas Safety Authority Standards and Regulations.

Frost Protection

If your water heater installation is subject to frost or freezing please ensure that the water is drained when not in use. This will prevent internal mechanical damage to your water heater. Each water heater is provided with a frost drain plug which is situated on the left side of the water inlet at the bottom of the appliance. See page 12, diagram1.

How the Challenger Water Heater Works

By turning on the hot tap the water will flow through the water heater turning the water heater on. As the water circulates through the water heater the water is heated.

By turning off the hot tap the water stops circulating through the water heater, and the water heater turns off automatically.

The built in automatic safety features within the water heater ensure that the gas is turned off immediately the flame is extinguished.

Information about your Challenger LPG Water Heater

- The Challenger LPG continuous flow water heater provides an energy efficient method of heating water.
- For Challenger LPG Water Heater installations, please refer to the New Zealand Gas Safety Regulations or consult with your registered gas worker or installer.
- Challenger Water Heaters operate on low pressure LPG. They require a low pressure gas regulator and can be used with a portable LPG gas cylinder.
- The Challenger 5,6,7,8,10,12 & 16 litre models do not require a power point (240 volt) and can be installed internally with a flue system to vent the emissions to the outside. Internal installation must comply with current New Zealand Gas Safety Installation Standards & Regulations. The 5,6,7,8,10,12 & 16 litre models can be installed externally provided the unit has adequate shelter to prevent water from entering the unit and damaging the electronics within the water heater.

- There are minimum and maximum water flow requirements for each of the Challenger water heater models. If there is not enough water flow to the water heater the gas will not ignite and the water will not heat up. If the water supply is more than is specified for the water heater the water will not be heated to the water heaters specified temperature range. Please ensure that your water supply complements the particular water heater model that you are installing. Please refer to the specifications displayed on the side of your water heater.

Safety Features

- Flame failure safety device
- Battery operated automatic IC ignition
- Incomplete combustion safety device
- Over water temperature protection device.
- Water-gas safety device mechanism
- 20 minute built-in timer.
- Pressure release and drain valve.
- Draught protection
- Gas volume regulator knob
- Water volume regulator knob
- Manufactured by ISO 9001 certified company

Commissioning your Water Heater

Important

- Before using the water heater please read the instructions thoroughly.
- Always retain the user manual for future use.
- It is not only the quality of the water heater but also correct installation that will ensure that your heater works to your satisfaction
- The heater must be installed and checked only by a qualified and authorized gas worker.

Location

- It is always advisable to install a gas water heater externally.
- In the rare case the water heater is to be installed internally ensure that there is sufficient ventilation and the heater is exhausted to the outside (do not install in confined areas). Consult an authorised gas worker for such installations.
- The heater requires air supply for efficient operation. Fixed vents or air inlets near the heater should never be obstructed or blocked.
- There should be adequate ventilation in the room with an external air supply (either open door or window)
- There must be a minimum of 300mm clearance above the water heater to allow for appropriate exhausting as well as the fitting of ventilation or exhaust kits.

Precaution

Before installation please check the following:

- Check that the gas supply meets the specified requirement displayed on the specification plate on the water heater and that the gas supply complies with New Zealand LPG Gas Safety Standards.
- Ensure the water supply meets the specified requirement displayed on the specification plate on the water heater
- Do not install the gas water heater near inflammable, combustible, explosive or acidic environments.

**For all of the instructions above please consult with your licensed installer.*

Installation

See page 13 diagrams 2 & 3

- The water heater must be a permanent fixture.
- The water heater must be mounted on a true vertical surface (cannot be mounted on angled or leaning walls).
- Drill two holes on the wall and fix the screws into the wall. Mount the gas water heater onto the screws.
- Ensure that the gas and water connection pipes are free of dirt or waste material and clean thoroughly. (Please ensure that you use thread seal or Loctite, materials for the gas and water connections).
- Connect the gas pipe inlet connection.
- Connect the water inlet and outlet connections.
- Before starting please check for gas leaks.
- Check all connections.
- Battery recommendations: Insert two dry batteries of 1.5V in the battery box with correct polarities. We recommend using alkaline LR20 D Batteries or IECR20 Batteries.
- Close battery box

Your heater is now ready to be tested and operated.

Operating Instructions

- Adjust control knobs located on the front of the heater.
Gas Knob (left) Water Knob (Right) set to mid position. See page 13, diagram 4.
- Turn on LPG gas bottle.
- Open hot water tap. As soon as the water starts flowing the electronic ignition will start your heater.
- If the burners do not ignite then close the tap and repeat the operation. This may happen due to air in the gas line.
- Gas Regulator and Control Knob on your water heater:
 - Turn the gas (left) knob clockwise to increase the flame and anti-clockwise to decrease the flame.
- Water Regulator Control Knob:
 - To get hotter water; reduce the water flow rate by turning the right knob clockwise. If you turn the right knob anti-clockwise water flow rate will increase and the temperature of the water will decrease.
 - The temperature of the hot water can be controlled by turning the gas control knob and/or the water flow control knob accordingly.
 - To turn off the gas water heater turn off the tap.

If you are not using your water heater regularly it is recommended that you turn off the gas supply.

Temperature limit 45 degrees Celsius (Please note califont-type water heaters will not produce boiling or near boiling water).

Safety Measures

- To prevent gas leakage always close the gas supply to the heater.
- Do not have any flammable materials on or near the water heater.
- If you find any gas leakage immediately close the gas supply and ventilate the area. DO NOT switch electrical appliances on/off. Immediately. Call a qualified service technician.
- Freezing Prevention
 - In winter if water temperature goes below 4°C drain out the water completely from the gas water heater through the drain valve to avoid any damage to the heater due to freezing. Drain valve provided on the heater situated left of water inlet pipe. See page 12 diagram 1
- If the water heater is not required to be used for a long time do the following:
 - Turn off the gas.
 - Remove batteries from the battery box.
 - Drain water from the heater.
- Please avoid touching the burner viewing window while the heater is on.
- Check the gas pipe and fittings regularly for corrosion, cracks, damage etc. as this may cause gas leakage
- If the heater is not used on a regular basis please check and ensure that foreign materials, creepy crawlies, birds and rodents have not chosen to nest in your water heater. These obstacles could create a fire.

Maintenance

- If the heater has been shut down for any length of time please ensure that no residue or debris deposits have accumulated inside the heater from bugs, birds, spiders etc.
- The heater must be checked for safe operation annually regardless of frequency of use. This refers principally to the correct combustion of the main burners. Service and maintenance should be carried out by a qualified and authorised technician only.
- If the heater is installed in a hard water area in time the following may occur:
 - Fall in hot water temperature
 - A reduction of the water flowThis happens due to scale formation.

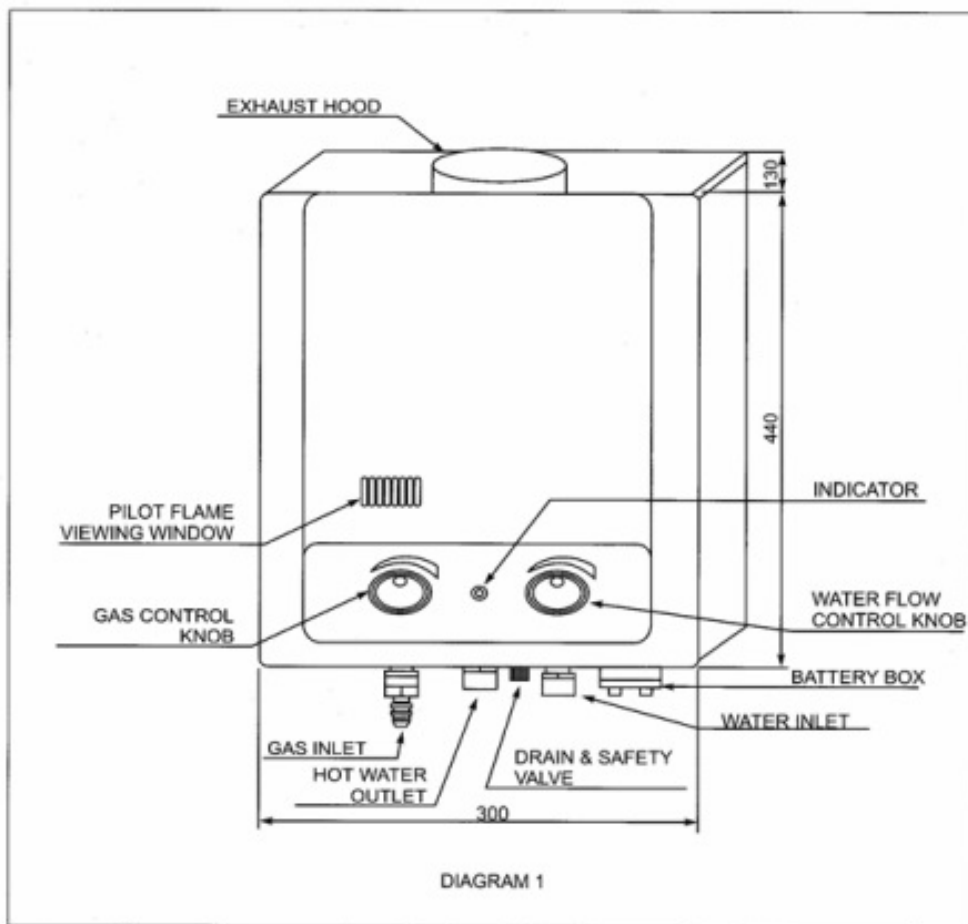
Since scale formation is proportionate to the outlet water temperature to reduce scaling it is recommended to use the water and gas control knob to obtain the desired water temperature instead of mixing cold water with hot water.

The scaling should be removed by authorized technicians only.

Trouble Shooting

Fault	Causes	Remedies
Unsuccessful ignition	Lack of water flow, or Lack of gas supply, or Insufficient power	Open cold water tap And/or turn on gas supply And/or replace batteries.
	Flat batteries	Replace the batteries
	Gas pipe is full of air	Turn tap off and on.
	Lack of gas supply (less than 0.3 bar)	Replace the LPG bottle or regulator on bottle.
Heater does not start	Water inlet filter is clogged	Clean the filter
Flame goes out during operation	Gas cock is half open. Gas pressure is too low. Batteries are flat. Lack of water flow and pressure.	Turn the gas bottle on fully. Replace battery Check your water supply.
If water heater lights and is immediately extinguished	Lack of water pressure and supply.	Check your water supply. Check water filter. Ensure your water supply is to the specifications displayed on data label on water heater or in the manual.
Abnormal flame and smell	Blocked burners caused by creepy crawlies.	Deliver it to the nearest authorised service center.
	Lack of air supply.	
	Blocked exhaust outlet.	Check your flu system.
<i>For any other issues please contact your water heater supplier.</i>		

Diagram 1



- | | |
|------------------------|---------------------|
| 1 Gas Control Knob | 5 Water Inlet |
| 2 Water Control Knob | 6 Hot Water Outlet |
| 3 Viewing Window | 7 Battery Indicator |
| 4 Gas Connection Inlet | 8 Exhaust Hood |

Diagram 2

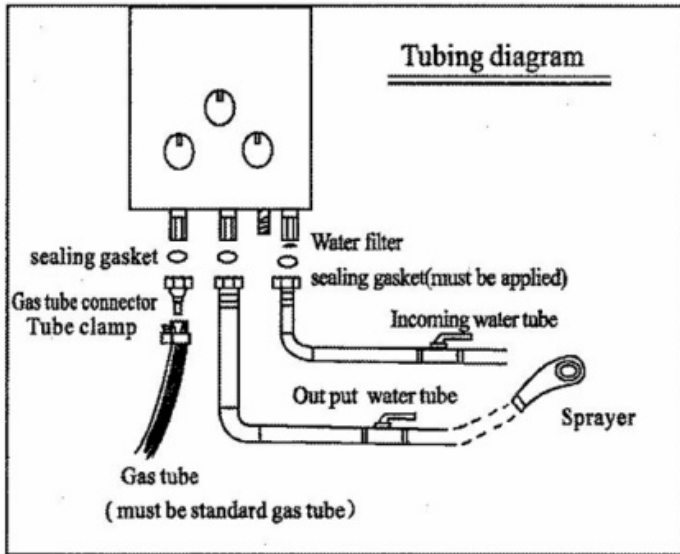


Diagram 3

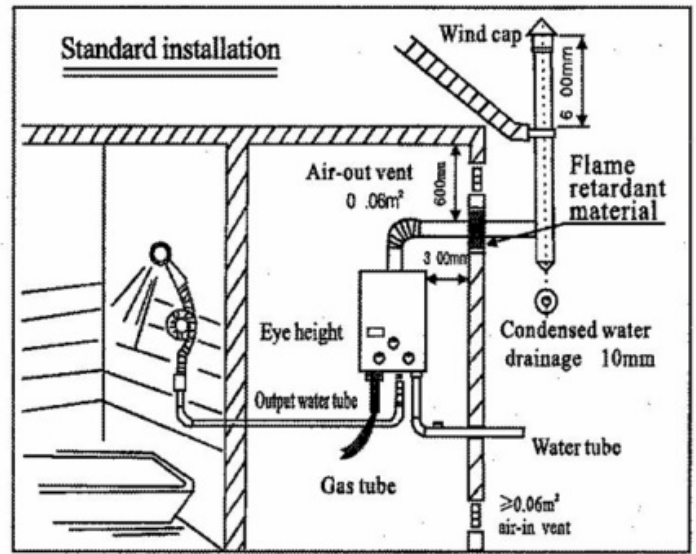
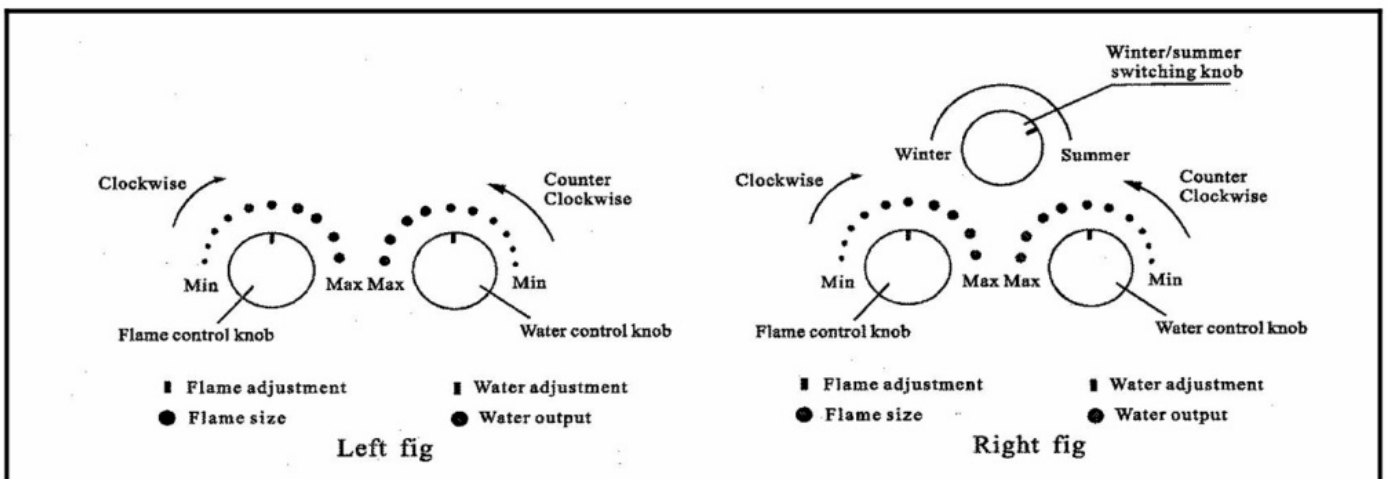


Diagram 4



WATER HEATER ACCESSORIES

Flue kits | Gas Hose & Regulator | Weather Covers
Pumps | Conversion Kits

Flue Kits



90° Elbow Adjustable



90° Elbow Fixed

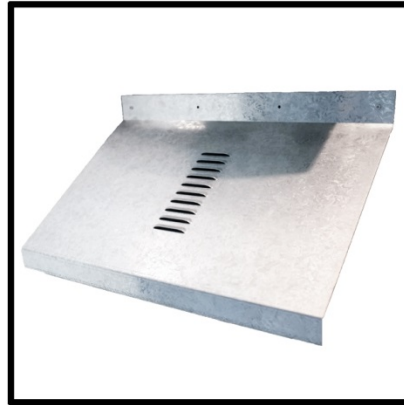


Fan Flued Flue

Covers & Gas Regulator



Weather Cover
(for internal installation)



Louvered Cover
(for external installation)



Gas Regulator & Hose Kit

Pumps & Pressure Systems - 12v | 24v | 240v



Pumps - 12v | 24v | 240v



Pump Kits
(Pump + Accumulator)



Quick Connect Fittings

