



Read these instructions carefully before installing and using the appliance, and retain them for future reference

Camping type 5 litre Gas Water Heater Model No: 13/GWH5LC



**FOR OUTDOOR INSTALLATION
AND USE ONLY**

Connecting the low pressure regulator to the cylinder valve

This information is only for cylinders with a gas capacity of less than 9 kg

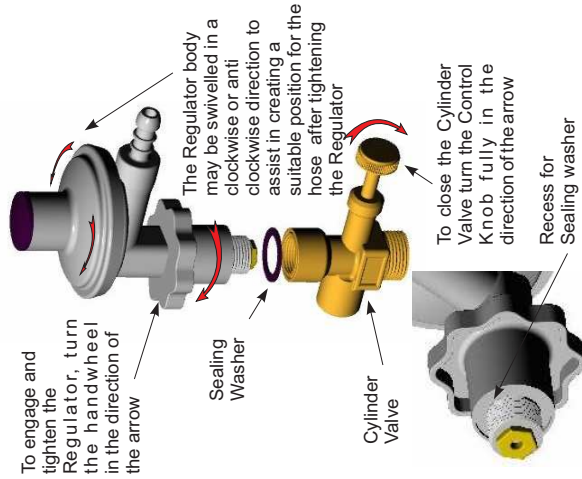


Fig. 6

This information is only for cylinders with a gas capacity of 9 kg or greater

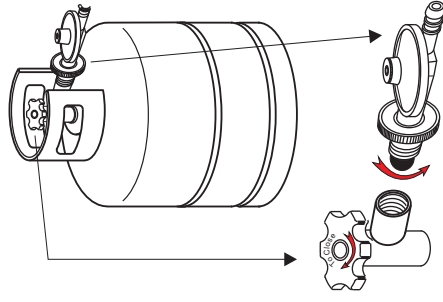


Fig. 7

1. Introduction

Thank you for purchasing your new Total portable Gas Instantaneous Water Heater manufactured to the highest standards and fully tested in South Africa to ensure compliance with the South African Standard. This appliance is designed to give the user years of trouble free and efficient service. Please read the following instructions carefully. The manufacturer and /or its agents and distributors will not be held responsible for injuries or damages caused by faulty or incorrect installation or use of the appliance.

Important information for the user

Read these instructions carefully before using the appliance and retain them for future reference. This appliance consumes oxygen when in use and it is important that it is only used in a well ventilated area for the efficient performance of the appliance and for the safety of the occupants of the area. **Note that this water heater may only be installed outdoors.**

The heater is designed only for use only as a camping unit. It is not intended to be installed as a part of a fixed installation. It may be mounted on the outside of a caravan or motor vehicle e.g. a motor home such that it can easily be removed if the vehicle is to used as a means of transport or the caravan is to be towed by a moving vehicle.
The hot water outlet e.g. a shower head must be outside and the hot water pipe or hose may not be routed to the inside of a caravan or vehicle.
If installed as a fixed installation the installation shall be in accordance with the requirements of SANS 10087-1 or SANS 10087-2 (as applicable) and may only be undertaken by a registered gas installer.

This appliance is fitted the following Safety Devices

Water Filter	Filters water within the unit
Flame Failure Safety Device	The Gas supply will automatically shut down when the flame extinguishes due to strong winds or other causes
Over Heat Limiter	The gas supply will automatically shut down when the temperature inside the appliance becomes too high
Pressure Relief Safety Device	This feature protects the appliance in case of excessive pressure build up within the appliance
Timer	20 mins. auto shut off

WHEN THE SAFETY DEVICES HAVE BEEN ACTIVATED

Perform the following action:

1. Close the water valve immediately
2. Close the Gas Valve immediately
3. Once the Oxygen Depletion device has been activated wait one minute before restarting the appliance
4. Contact your local service technician if the appliance shuts down frequently

Fault finding chart

Please check and apply the remedies in accordance with the following chart. If this action does not solve the problem call a qualified service technician.

FAILURE	CAUSE	REMEDY	
NO IGNITION	There is water outflow	Open the valve fully	
	NO IGNITION	The gas valve is not opened enough	Open the valve fully
		The gas valve is not opened enough	Refer to instructions on using the appliance
		Ignition operation is incorrect	Repeat the Ignition operation
		Air is trapped in the gas pipe	Tighten the drain plug
		The drain plug is not securely tightened	Replace the gas cylinder
		Gas cylinder is nearly empty	Open the valve fully
	NO IGNITION	The water valve is closed	Refer to instructions on using the appliance
		Ignition operation is incorrect	Suspend the operation/refill water tank
		Water supply tank is empty	wait until it thaws
Water is frozen		Open the valve fully	
THE FLAME GOES OUT DURING USE	Reduced water flow	Open the valve fully	
	The gas valve is not opened enough	Open the valve fully	
	The water valve is not opened enough	Open the hot water valve more	
	Hot water flow rate is too slow	Repeat the ignition operation	
	Air is trapped in the gas pipe	Refer to instruction re safety device	
	Safety device has been activated	Replace the cylinder	
	Gas cylinder is nearly empty	Suspend the operation/	
	No water flow	Replace the gas cylinder	
	Yellow flames	Open the valve fully	
	Hot water temperature not high enough	The gas valve is not opened enough	Refer to instructions on using the appliance
Temperature setting is incorrect		Tighten the drain plug	
The drain plug is not securely tightened		Replace the cylinder	
The gas cylinder is nearly empty		Open the valve fully	
Warm water flow too low	The water valve is not opened enough	Refer to instructions on using the appliance	
	Temperature setting is incorrect	Open the valve fully	
Ignition fails at Position 1	The water valve is not opened enough	Open the valve fully	
	The water pressure is not high enough	Turn the Operation knob to MAX	
The battery light	Batteries are running out	Replace the batteries	
	Water dripping from the drain plug	Water may drip from the drain plug due to excessive pressure inside the product. This is not water leakage. Drain the water with hose	
Abnormal sound in product after use	Heat expansion and shrinkage causes the noise. This is normal		

3. Safety Information

- The Totai Gas Instantaneous Water heater must be securely affixed to a solid external non combustible mounting point. Do not hang the unit from a tree branch or other wooden structure.
- Do not use this appliance if it is leaking gas (see notes below on how to check for a gas leak).
- Keep young children away from the appliance when in use.
- In the event of a burnback, where the flame burns back to the jets, immediately turn off the gas supply at the isolation valve on the gas line. After ensuring the flame is extinguished, re-light the appliance in the normal manner. Should the appliance again burn back, close the isolation valve and call a service technician to examine the appliance. Do not use the appliance again until the service technician has declared that it is safe to do so.
- If there is an apparent gas leak, (smell of gas) close the isolation valve on the appliance. Make sure that there are no naked flames within 5 metres of the appliance and check for leaks as described below.
- Never check for gas leaks with a naked flame as this is extremely dangerous.
- To check for a gas leak, use a brush dipped in a soapy water solution (e.g. water with dishwashing liquid added) and apply the solution to all the joints in the system. If there is a leak then turn off the gas supply at the isolation valve which the installer will provide as a part of the installation. Call a service technician to examine the appliance and do not use the appliance until the service technician has declared that it is safe to do so.
- Should you suspect a leak at the cylinder connections then apply the soapy water solution to the visible joints such as where the regulator fits into the cylinder or where the regulator fits into the flexible hose, or the joints on the manifold, if fitted. If there is a leak, then a bubble or bubbles will form. If you are unable to stop a leak at this point then turn off the cylinder valve or valves and call a service technician to correct the fault. As with leaks inside the premises do not use the appliance until the service technician has declared that it is safe to do so.
- Ensure that the appliance is used away from flammable materials.
- Do not remove the model rating plate that is attached to your appliance. This contains important information in addition to the serial number of the unit which the manufacturer will require should you need to make a service call.
- Only use this appliance outdoors in a well ventilated area for the efficient operation of the appliance and the safety of the occupants of the area in which it is used.

4. Setting up the Water Heater prior to use

4.1 Mounting the Water Heater

- Before mounting the water heater check that the selected position will provide the minimum clearances of 500mm at the sides and 700mm on the top of the heater as shown.
- The water heater should be not closer than 500 mm to any flammable materials, or electrical plug points or appliances.
- It is particularly important not to obstruct the flue deflector outlet on the top of the water heater
- The mounted position of the water heater should be such that the viewing window is between 1.4m & 1.6 m from the floor level. This will make it easy for users to check that the burners are alight. (See Fig. 3)
- The Totai water heater is designed to be hung on a secure horizontally orientated hook or rod mounted in a fixed position on an outside surface of a vehicle or caravan. The hook or rod must be of such design that the water heater cannot slide off from its mounting when connecting the water and gas hoses, or when it is in use.
- The appliance may be hung using the swivel handle or the mounting tab at the top rear face of the appliance.

4.2 Gas supply, piping and connections

- This water heater requires a gas supply at an operating pressure of 2,8 kPa. Never connect the gas hose directly to the cylinder.

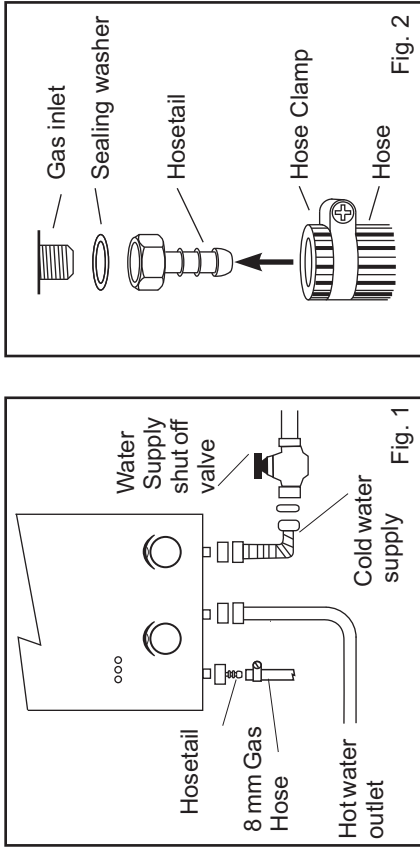


Fig. 1

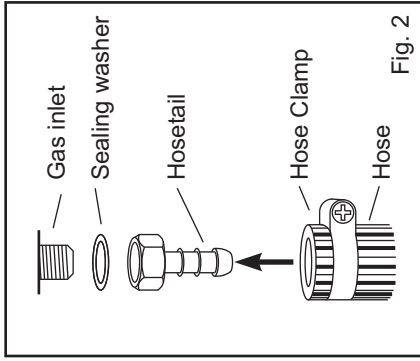


Fig. 2

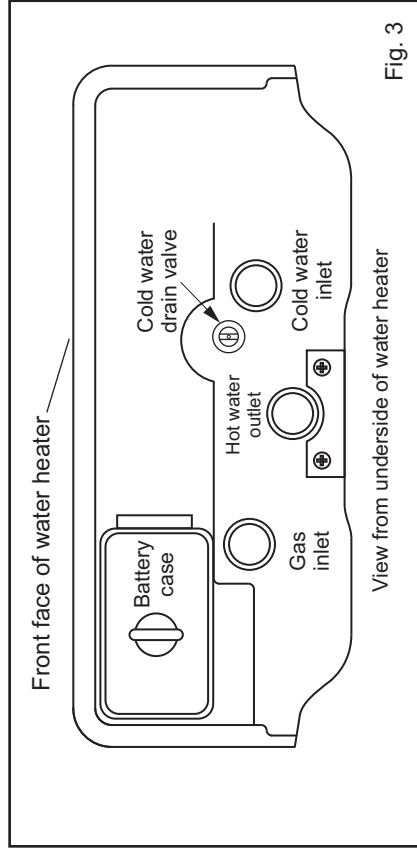


Fig. 3

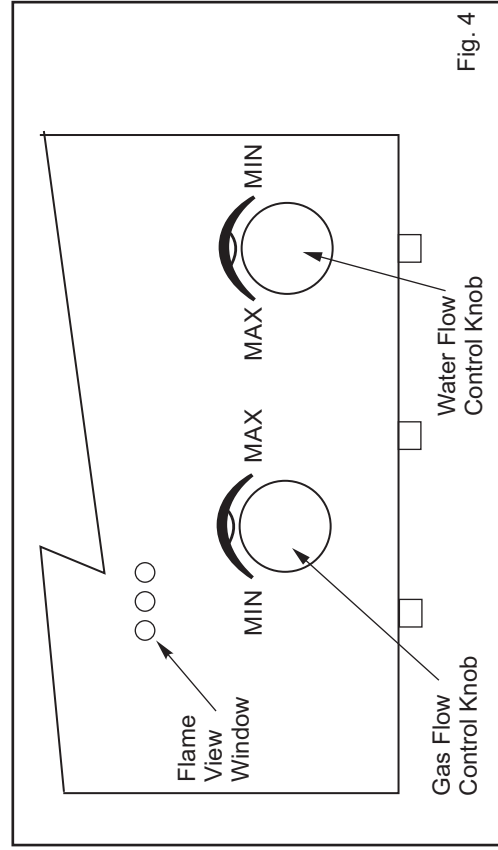


Fig. 4

- A low pressure LPG regulator that complies with the requirements of SANS 1237 must be fitted to the gas cylinder valve outlet, and the gas hose fitted to the outlet of the regulator
- The gas hose requires is an orange hose with an internal diameter of 8 mm and must comply with the requirements of SANS 1156-2. It must be of sufficient length that when connected to the regulator and the water heater no strain is placed on the hose or its connections.
- For details of the hose connection at the water heater refer to Figs. 1 & 2. Note that the hose must be securely clamped to the regulator outlet using a metal hose clamp. Do not use plastic hose clamps or cable ties for this purpose.
- **Note:** The Totaj Gas water heater is not supplied with a regulator or gas hose. Only a regulator that complies with SANS 1237 may be used in the installation. See the notes below regarding the cylinder valve connection thread. Make sure to purchase the correct regulator as the connection thread on the regulators are specific to a particular cylinder valve outlet type. Never use an adaptor to change from one thread type to another. The regulator must be fitted directly into the cylinder valve without the use of an adaptor.
- A normal 1 kg bullnose regulator will be capable of providing sufficient gas for the amount of time it takes to have a shower.
- If using a gas cylinder with less than 9 kg gas capacity, it will be fitted with gas control valve with a vertical outlet. This has a G3/8 right hand thread. See Fig.6 for connection details
- When using a cylinder with a gas capacity of 9 kg or greater the cylinder valve will have a horizontal outlet. This has a G5/8 left hand thread. See Fig.7 for connection details
- The burners on the water heater have a high heat output and therefore the gas consumption is quite high. It is recommended that gas cylinders with a gas capacity less than 6 kg are not used.
- **If during use the cylinder shows signs of ice or frost forming on the top, immediately shut off the water heater.** For the time taken to shower this should not happen.
- Never try to fill a bath using the water heater as it is not designed for this type of use.
- For details of the gas connection points to the appliance, refer to Fig.1. Note that the gas supply must be connected to the left hand connection point on the bottom of the heater.

4.3 Water Supply and connections

- The water supply to the water heater should be clean and free of anything that could block the water passages in the heat exchanger. If in any doubt a water filter should be fitted in the supply line.
- A water isolation valve must be installed in the water supply line to enable the water heater to be isolated from the water supply so that the water hose can be connected and disconnected when required.
- The water supply to the water heater is by connecting a normal garden hose with a G½" threaded connector supplied with a flat rubber sealing washer.
- **Note:** The water heater needs a minimum water supply pressure of 20 kPa. This is equivalent to 0,2 bar
- **Caution:** If using a water supply storage vessel or container, instead of a piped supply, ensure that the bottom of the container is placed high enough above the water heater to provide sufficient water pressure. Failure to observe this requirement may result in the appliance not working correctly

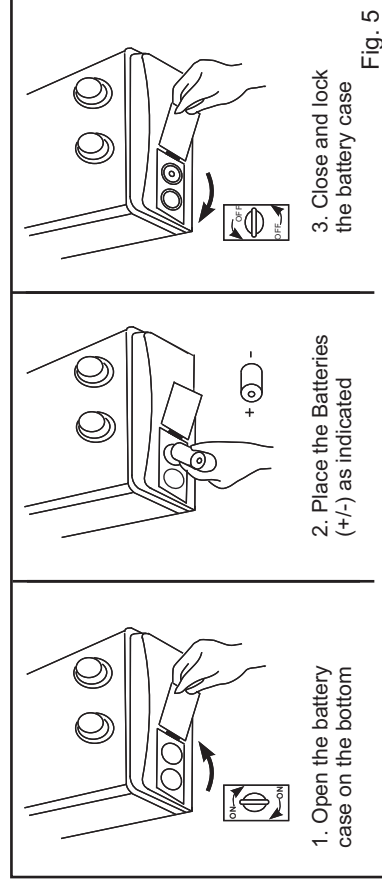
5. Lighting and operating the appliance

- If at anytime during the igniting process, or during use, you smell gas, immediately turn off the gas supply to the appliance at both the gas flow knob and the gas system shut off or isolation valve and do not use the appliance until it has been checked for gas leaks as described above in section 3 above. It is preferable that this be done by a qualified gas service technician.
- This appliance is fitted with a battery powered electronic ignition device for lighting the burners. Two 1,5v batteries are required - Type D (R20). (See Fig. 4)
- To light the burners first ensure the ignition batteries are in place and correctly orientated regarding the +/- indicators on the appliance and the batteries (See Fig.4). Set the gas flow control on the front panel to the medium position. Turn on the water flow control valve. This will ignite the

- burners. Use the burner viewing window to check that the burners are alight. (see Fig. 3)
- Once the burners are lit and water is flowing, adjust the water flow adjusting knob to the required flow rate and then adjust the rotary gas control to achieve the required water temperature. (See Fig. 3). By experiment, and by adjusting the water and gas flow settings, users will soon establish the optimum settings.
- Be aware that where the temperature of the cold water is very low, e.g. in winter conditions, then an increased gas flow setting will be required to achieve the desired hot water temperature.

5. Turning off the appliance

- To turn off the appliance simply turn off the water flow control valve and this will automatically shut down the burners.
 - It is important to note that when shutting down the water heater, if for just a short period, the water in the heater will still be hot. Take care when restarting the water heater to avoid the possibility of scalding due to the retained heat in the water that is still in the water heater.
 - When shutting down the appliance for more than a short time, always turn off the water and the gas supply.
 - **Important note:** As this heater is only to be installed outside, it is important in very cold conditions to first shut off the gas supply and then the water to allow the water to run out of the heater. Failure to do this could cause the water inside the heater to freeze up which may result in damage to the heater. To ensure that there is no water left in the heater open the excess water drain valve at the bottom of the heater and drain off the water. (see Fig 2). Don't forget to close the drain valve after the water has stopped draining from the water heater.
 - **Caution** DK Gas Appliances (Pty) Ltd will not be responsible for incorrect installation or use of this appliance.
- #### 7. Maintenance and Servicing
- There are no preset service intervals for this appliance, however it is recommended that the appliance be checked by a qualified service technician on an annual basis.
 - Servicing of the appliance may not be carried out by unqualified persons. This may result in the creation of unsafe operating conditions.
 - Do not modify the appliance in any way as to do so may make it unsafe.
- #### 8. Spares
- Use only spares supplied by the official distributor. The use of spares from other sources may result in unsafe operating conditions and will invalidate the supplier's warranty.



1. Open the battery case on the bottom
2. Place the Batteries (+/-) as indicated
3. Close and lock the battery case

Fig. 5