



# GAS HOT WATER SYSTEM USER MANUAL

○ SH-WGH-BUM-A / ● SH-WGH-BUM-BLK

V1.1

# ABOUT US

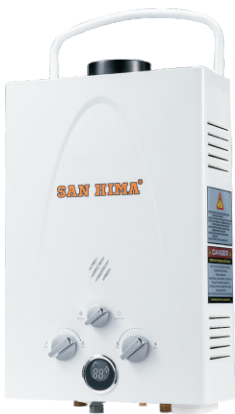
Founded in 2018, the San Hima brand stands for passion and enthusiasm for exploring the spectacular nature of the great outdoors. Since its inception, the trusted solutions and proven designs that San Hima offers to the market have made adventure and travelling flexible and enjoyable!

Based in Australia, San Hima has under its umbrella a wide selection of outdoor solutions, including cargo systems, vehicle protection accessories and tow & trailer parts, that are designed to help you carry your gear wherever your passion takes you and boost your performance when conquering the peaks!

At San Hima, we have wild souls and we are committed to designing products that are tough enough to take on any adventures and at the same time, making them safe and easy to use. These values in our conviction are what drive us to make innovations. Since pursuit your passion shouldn't be complicated.

Live the Peak, Conquer the Everest, San Hima is your brand of choice!

# PACKAGE CONTENTS



1 PC(s) SAN HIMA  
Gas Hot Water Heater



1 PC(s) Shower Head  
1 PC(s) Shower Hose



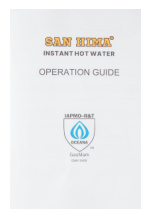
1 PC(s) Gas Regulator  
with Gas Hose



1 PC(s) Hose Adaptor



1 PC(s) Installation Kit



1 PC(s) User Manual



1 PC(s) Portable  
12V Water Pump



# SAFETY INSTRUCTIONS

Read these instructions carefully. Familiarise yourself with the appliance before connecting it to the gas container. Keep these instructions for future reference.

## GENERAL WARNINGS

- This appliance is designed to be used with a source water temperature of 20°C or below. If the temperature of the outlet water exceeds  $45\pm 3^{\circ}\text{C}$  the burners will shut off. You will need to turn the water flow off and on again to reignite the burners.
- This appliance is designed to raise the outlet water temperature by a maximum (average) of 25°C above the source water temperature.
- This appliance is not intended for the supply of drinking water.
- Do not use as a cooking appliance or modify appliance for any other reason.
- This appliance is intended for the supply of heated water for the purposes of washing and cleaning only.
- Check and confirm safe water temperature before using this appliance. Water from this appliance may be very hot.
- This appliance must be protected from rain.
- This appliance shall only be used with a propane gas refillable container certified to AS 2469 or AS 2030. IT MAY BE HAZARDOUS TO ATTEMPT TO FIT OTHER TYPES OF GAS CONTAINERS.
- This portable hot water system is compatible with 4.3L/min pump that is the most suitable for daily use. If you would like to have a higher water flow, you'll need to purchase a pump with higher water flow rate.
- Avoid twisting or kinking the flexible gas hose.
- This appliance is to be stored in a dry and well-ventilated location away from direct sunlight. Do not store when still connected to the cylinder.
- Make sure that the cylinder is disconnected and is stored in a well-ventilated area, out of reach of children, and free from direct sunlight, heat and ignition sources. If being stored indoors, ensure that the location complies with AS/NZS1596.
- This appliance must only be serviced by an authorized person. It must be returned to its place of purchase for services and repairs.



## **Operational Safety**

- Use outdoors only.
- Only use in well-ventilated areas.
- The appliance is designed to be hung upright against a non-combustible vertical surface. Do not operate from a non-upright position, which can be dangerous and will damage the appliance.
- Do not operate the appliance in a dusty environment, or within 300mm of any electrical appliances or electrical wires.
- During operation, ensure that the combustion air inlets on the sides of the unit and the combustion air exhaust on the top of the unit are kept free from obstructions.
- Accessible parts may be very hot. Keep young children away.
- Do not use this appliance if it is leaking, damaged, or not operating properly.
- Do not use this appliance if it has worn seals.
- This appliance shall only be used with the approved 1200mm propane gas hose and regulator assembly that have been supplied. **DO NOT USE ADAPTORS.**
- Never leave appliance unattended when operating.
- Do not place water pump on hot surfaces.
- If there is a leak in your appliance (smell of gas), immediately attempt to turn off the cylinder valve. Remove the appliance to a well-ventilated location away from any ignition source.
- Check for leaks using soapy water. Do not try to detect leaks using a flame.
- Do not attempt to move or relocate the appliance when it is operating. Extinguish the burner and allow it to cool. Disconnect the gas cylinder then move the appliance using the handle.

## **CARBON MONOXIDE HAZARD**

USING THIS APPLIANCE IN AN ENCLOSED SPACE MAY CAUSE DEATH. DO NOT USE IN CARAVANS, TENTS, MARINE CRAFT, CARS, MOBILE HOMES, OR SIMILAR LOCATIONS.

## **CARE INSTRUCTIONS**

- Wipe down using a pH neutral soap solution, diluted in clean water.
- Only use non-abrasive fibre brushes or sponges while cleaning.
- Taking care not to allow water to enter the burner outlets.
- Before each use, check that the screen filter on the 'gas inlet' and 'water inlet' pipes is in place and clean and free from any particles or debris.
- **DO NOT** submerge the appliance in a sink or bowl.

# SPECIFICATIONS

Size (mm)	440 x 300 x 135
Weight (kg)	5.3
Gas Input Connection	G½
Water Input Connection	G½
Water Output Connection	G½
<b>Heat Exchanger</b>	
IAPMO	GMK10498
Injector Size (mm)	0.61
Total Nominal Gas Consumption (MJ/h)	28
Gas Pressure (kPa)	2.8
Min Water Pressure (MPa)	0.3
Max Water Pressure (MPa)	1.0
Power (kw)	7.7
Water Flow Rate (max) (l/m)	8
<b>Pump</b>	
Power Supply (V DC)	12
Power Demand (Amps)	3.3 Max
Pump Type	Diaphragm Pump
Pressure (PSI)	35
Flow Rate (l/m)	4.3
<b>Shower Hose &amp; Head</b>	
Hose Length (cm)	150
Max. Water Pressure (kPa)	500
Flow Restriction	On / Off Switch
Flow Variations	3
<b>Gas Hose and Regulator</b>	
Australian Standard	AS/NZS 1869 (Hose), AS 4621 (Regulator)
AGA Certificate No.	7787 (Hose), 8498 (Regulator)
Gas Type	LPG
Connection Type	LCC 27 Appliance Connection
Inlet Pressure (kPa)	250 ~ 1750
Outlet Pressure (kPa)	2.8
Flow Rate (kg/h)	2.0
Temperature Limit (°C)	-20 ~ 60
Mounting Preferences	Horizontal with conical face up

## CHECKING FOR GAS LEAKS

- Please use the supplied regulator and hose.
- NEVER check for leaks with a flame or pilot light.
- To safely check for leaks, use the 'soapy water' method. Coat the connections with a thin layer of soapy water. If you see bubbles appear, turn the cylinder gas control off and retighten the connection before re-testing.
- Please check connections between the gas bottle and the gas hose and connections between the rubber and brass parts of the gas hose.
- Inspect the appliance regularly for signs of wear, leaks, or incorrect operation. If symptoms such as burner flares, lighting issues, hose or connection damage, or leaks from the seals or gas controls are identified, do not attempt to repair, contact customer service as soon as possible.

## CHANGING GAS CYLINDER

- To check if gas remains in the cylinder, disconnect from the appliance and hold the cylinder in a vertical position, then shake from side to side. If there is a sound or feel of liquid movement inside, the cylinder contains gas.
- Gas containers shall be changed in a well-ventilated location, preferably outside away from people and any sources of ignition, such as naked flames, pilot flames, electric heaters/ equipment.

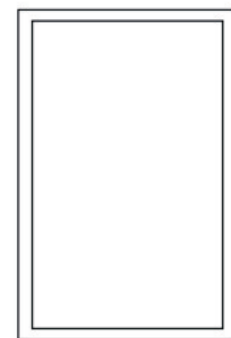
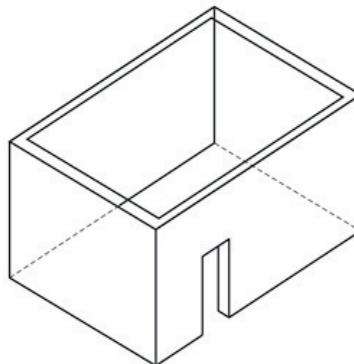
## CHOOSING LOCATION

This appliance must only be used in an above-ground open-air location with natural ventilation, without stagnant areas, where gas leakage can be rapidly dispersed by wind and natural convection.

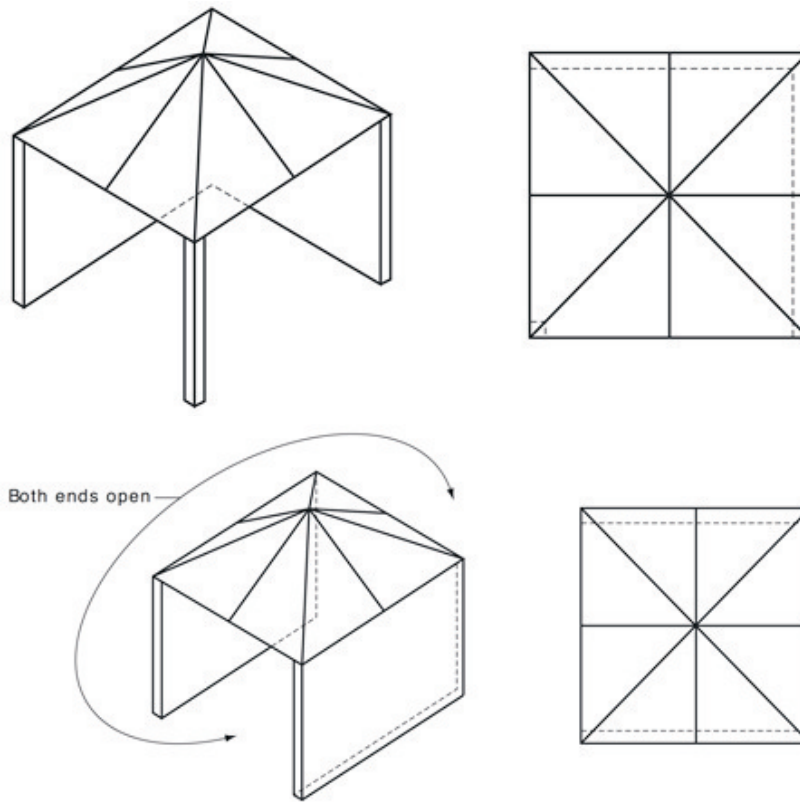
The following figures show outdoor areas suitable for use with this appliance. Rectangular areas have been used in these figures - the same principles apply to any other shaped areas.

Any enclosure in which the appliance is used shall comply with one of the following:

- a. An enclosure with walls on all sides, but with no overhead cover, such as:



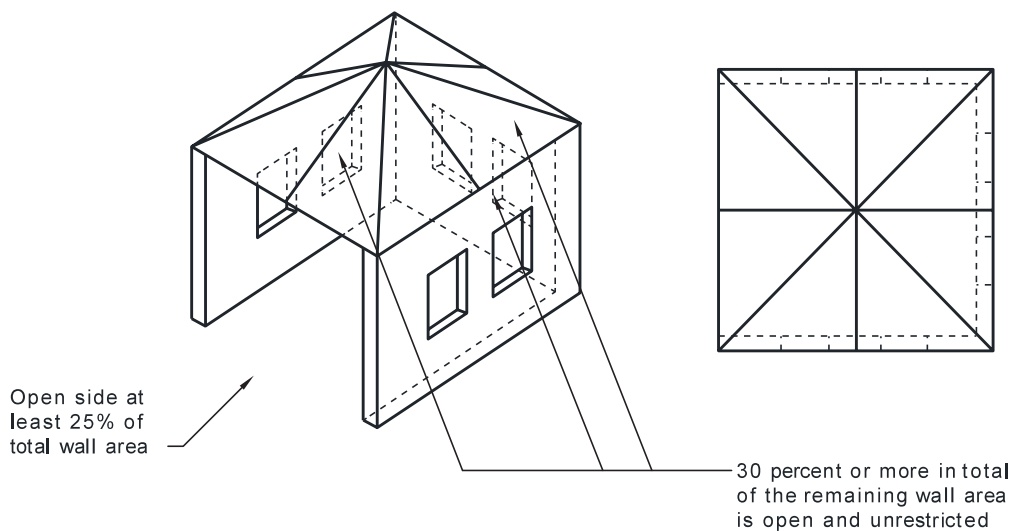
b. Within a partial enclosure that includes an overhead cover and no more than two walls, such as:



c. Within a partial enclosure that includes an overhead cover and more than two walls, the following shall apply:

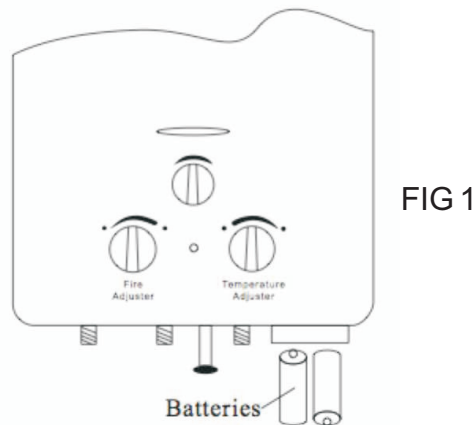
1. At least 25% of the total wall area is completely open.
2. 30% or more in total of the remaining wall area is open and unrestricted.
3. In the case of balconies, 20% or more of the total wall area shall remain open and unrestricted.

For example:

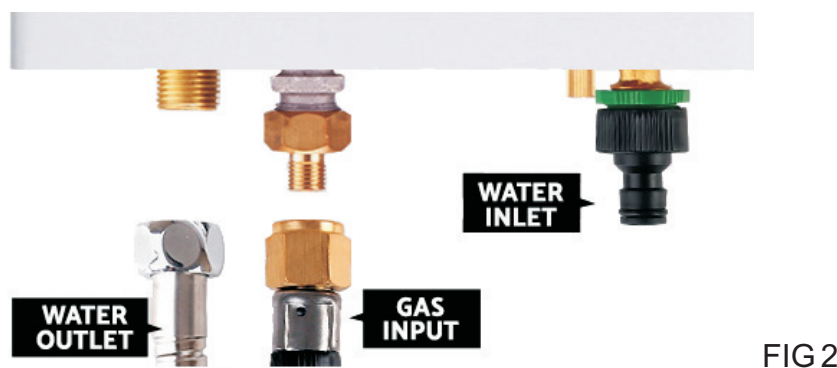


# PREPARING THE APPLIANCE

1. Find a sturdy, non-combustible vertical surface to hang the appliance with the handle attached to the back cover of the heater. The appliance should be no closer than 1000mm from the sides and 1000mm from above to all combustible surfaces, fabrics, flammable materials & people.
2. Insert two 'D' batteries into the battery box (FIG 1). Match the battery polarity as shown inside the battery box lid.



3. Attach the gas hose and gas regulator to the gas inlet (FIG 2). Tighten this connection with a spanner. Do not over tighten.



4. Connect the other end of the gas hose and gas regulator to the gas cylinder. Hand-tighten the connection.  
 Note: Never place the gas cylinder directly beside or above the appliance.
5. Turn the gas cylinder on (open) in an anti-clockwise direction one full turn, and then check the connections for leaks with soapy water. DO NOT use a flame. If a leak is detected, turn the cylinder valve off (close) and re-tighten all connections and retest.
6. Once you determine that there are no leaks present with the gas valve open, turn the cylinder valve to the off (close) position.
7. Attach the shower head to the shower hose and connect that assembly to the water output (FIG 2). Make sure the switch is set to the 'off' position.



8. Connect a water hose with the hose adaptor to the water input (FIG 2), attach the other end of the hose to the water output on the supplied water pump. The flow direction is shown with an arrow.
9. Connect another water hose to the water pump input and place the open end of the hose into your water source.

Note: Make sure the water pump is protected from any water. The pump is not waterproof.

10. Ensure the ignition switch located on the bottom of the unit is set to the 'on' position (FIG 3).



FIG 3

11. Connect the positive and negative wires of the water pump to the correct polarity on your car battery or battery box.

Note: The water will fill the Gas Hot Water System, the system may try to ignite when it senses water flowing through it. The system will not ignite until we turn the gas on in the next step.

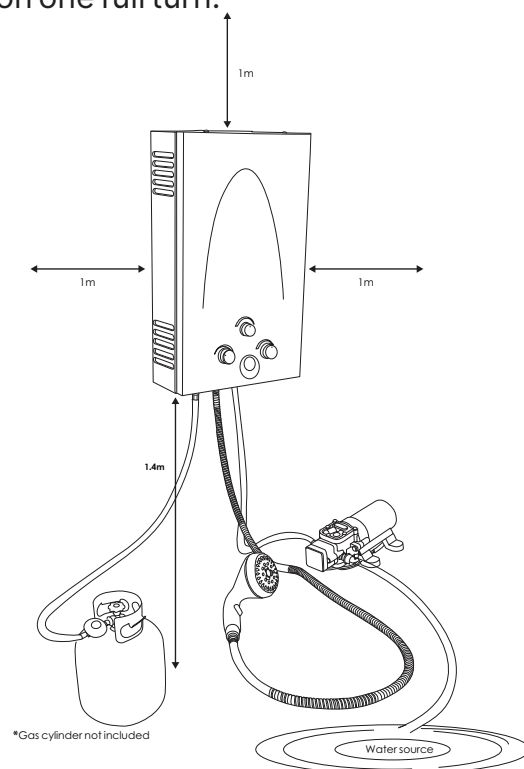
**IMPORTANT:** It is important that when starting the appliance that the gas control knob is set to the minimum position, fully to the left, indicated by the thin dotted end of the curved line.

**IMPORTANT:** It is important that when starting the appliance that the water regulator is set to the maximum position, fully to the left, indicated by the thick dotted end of the curved line.

12. Turn the gas cylinder on in an anticlockwise direction one full turn.

13. When you are ready to shower, simply press the switch on the shower head to the on position. Water will start to flow through the shower head within a few seconds.

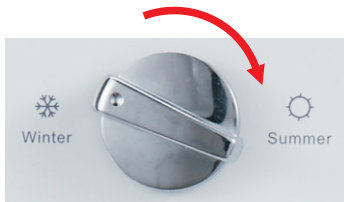
You should hear a series of clicks as the burners ignite. The burner flame can be seen through the viewing window located at the front of the appliance.



# OPERATION

It is IMPORTANT that the following steps are followed to ensure that the appliance will start correctly.

1. Turn Season Control to SUMMER.



2. Turn GAS Control to LOW.



3. Set WATER to HIGH.



4. Check that the SHOWER HEAD flow control switch to ON.



5. Turn POWER SWITCH ON.



6. Water will start to flow from the shower head and the burner will ignite. Allow the Water Temperature to stabilize before making any adjustments.

# ADJUSTING WATER TEMPERATURE

1. To increase Water Temperature turn GAS Control to HIGH and allow temperature to stabilise.



2. To increase Water Temperature turn WATER to LOW and allow temperature to stabilise.



If ideal temperature is not achieved with the SUMMER setting the following steps can be followed:

1. Turn GAS Control to LOW.



2. Set WATER FLOW to HIGH.



3. Turn Control to WINTER.



4. To increase Water Temperature, turn GAS Control to HIGH and set WATER FLOW to LOW.

Warning! Take care when testing the temperature of the water flowing from the shower head, as it may be hot enough to cause injury.

The water flow can be stopped at any time by pressing the switch on the shower head to the off position. The burner will extinguish.

To reignite the burner, press the switch on the shower head to the on position. The water will begin to flow, and the burner will ignite within 5 seconds.


## WATER CYCLING INSTRUCTIONS

To achieve maximum water temperature at higher flow rates you can 'cycle' the water. To do this, pump the water from a source reservoir (such as a bucket) through the heater and back into the reservoir. You can cycle the water as many times as required to reach your desired temperature, up to  $45\pm 3^{\circ}\text{C}$ .

## DRAINING THE HEATER WHEN STORING BELOW $0^{\circ}\text{C}$

When the ambient temperature is below freezing, it is essential to drain the water after using the heater. Failure to do so will void your warranty.

1. Ensure that the heater is disconnected from the gas supply.
2. Ensure that the heater is disconnected from the water supply.
3. Ensure that the shower hose is disconnected from the heater.

4. Turn the water flow knob to   
Min

5. Loosen the screw in the water drain valve located at the bottom of the appliance, allowing the appliance to drain. Gently re-tighten the water drain screw when all water has drained from the heater.



## STORING THE APPLIANCE

1. After use, turn the cylinder gas valve in a clockwise direction to the 'off' (close) position. The burner will continue to operate until all gas has been bled from the hose and regulator assembly.
2. Wait for the flame to go out, then press the switch on the shower head to the off position. The pump will automatically switch off.
3. Disconnect the water pump from the battery.
4. Disconnect the water hoses from the water pump and Gas Hot Water System and pack them away.
5. Disconnect the regulator and hose assembly from the appliance and gas cylinder and store away.
6. Disconnect the shower head and hose from the 'water outlet', hold the shower head approximately 1 metre from the ground and allow all water to drain out before rolling up and storing away.

# TROUBLESHOOTING

The appliance will not light at all	Make sure you have new batteries installed in the correct position. Check the cap of the battery case for instructions on how they should be installed. In high humidity conditions it may be necessary to clean and dry the battery box prior to operation.
	Check for sufficient water pressure. The unit must have a minimum of 0.03 MPa of sustained water pressure to activate the burners.
	There may be debris in the water inlet. Check that the water inlet filter screen is clean. To flush the system, you can reverse the flow by taking the water inlet pipe and connecting it to the water outlet.
	The gas line may need purging. Turn gas to maximum and burners to High on the unit and turn the water on/off a few times.
	Check that the shower flow water regulator is in the open position.
	Check that water is flowing through correctly. Make sure "Water In" and "Water Out" are in the correct position.
	Make sure the On/Off switch is turned on, do this by having the red dot pushed in.
Water flows through the unit, but is not hot	If the unit fails to ignite when LED display lights and ignition is clicking: <ol style="list-style-type: none"> <li>1. Disconnect all gas attachments from the unit and gas bottle.</li> <li>2. Re-connect your gas line to the unit including all tapes (do not turn the gas on).</li> <li>3. Turn your water supply on.</li> </ol> Once the unit starts to click, turn your gas bottle on slowly and watch for ignition through the window.
	New batteries may be required for the ignition switch. Check the cap of the battery case for instructions on how they should be installed. In high humidity conditions it may be necessary to clean and dry the battery box prior to operation.
	Check for sufficient water pressure. The unit must have a minimum of 0.03 MPa of sustained water pressure to activate the burners.
	Ensure that the liquid propane regulator is threaded all the way to the unit and that you have an adequate amount of gas in your propane bottle.
	Check that water is flowing through correctly. Make sure "Water In" and "Water Out" are in the correct position.
Water is not hot enough	Try the unit on mains water if possible, if this works, there is an issue with the pump.
	Adjust the gas regulator and water regulator to meet your desired temperature. To increase temperature, turn the gas regulator control from minimum to maximum and turn the water regulator control from maximum to minimum.
	Turn the burner control knob, in the centre of the unit, to the Winter setting. This will activate more burners.
	Check source water temperature. If the source water temperature is too cold then you can 'cycle' the water (see WATER CYCLING INSTRUCTIONS on page 11).
	Check the flame in the 'viewing window'. If you see a yellow flame it could mean a breakdown in the gas regulator. Please call us directly if this happens; do not attempt to use the heater.
The unit starts for a short amount of time and then shuts off	Check your Gas Cylinder to ensure it is not empty. If using a new cylinder, turn gas to maximum and burners to High on the unit and turn the water on/off a few times to purge the air from the gas lines.
	Check your gas cylinder to ensure it is not empty. If using a new cylinder, turn gas to maximum and burners to High on the unit and turn the water on/off a few times to purge the air from the gas lines. You can check if the gas cylinder is empty by using a scale. Disconnect the bottle and place it on a scale, making sure the valve is firmly closed. The tare (empty) weight of the bottle is stamped on the neck ring. The difference between the scale reading and the tare weight indicates approximately how much gas is in the bottle.
	Do not expose the water heater to strong winds.
Water Pump not working	This unit activates at a sustained water pressure of 0.03 MPa. If your supply water pressure is below the minimum, the unit will not ignite.
	Make sure the power source for the pump has enough power to operate the pump.
	Ensure all connections are securely joined.
	Pressure switch may be broken.
	Pump motor may have failed.



# WARRANTY

The SAN HIMA Portable Gas Hot Water System comes with a 24-month warranty, provided it has been operated and maintained as per the manufacturer's instructions outlined in the manual. (These instructions comply with AS2658.)

In the event of defects arising from faulty workmanship and/or materials for a period of one year from the date of purchase, SAN HIMA will replace the product or provide you with a refund at our discretion. In accordance with Australian Consumer law, you are entitled to a refund or a replacement in the event of a major failure, and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the product replaced or get a refund if the product fails to be of acceptable quality and the failure does not amount to a major failure.

These are the benefits provided to you by this warranty and in addition to other rights and remedies available to you under the law.

All SAN HIMA Portable Gas Hot Water Systems must be used and serviced in accordance with the manufacturer's instruction manual (which complies with AS2658).

Any service, inspection, repair or replacement activities associated with SAN HIMA products must only be carried out by an approved SAN HIMA agent. To claim this warranty, the customer will need to provide proof of purchase in the form of a receipt or financial transaction statement in the name of the purchaser.

Customers who want to make a warranty claim must contact SAN HIMA. No hot water systems will be assessed without proof of purchase.

## **The warranty will become void in the following circumstances:**

- The tamper sticker has been damaged or removed from the hot water system.
- The hot water system has been damaged through accidental damage, abuse, improper use, natural disasters, or improper maintenance.
- The hot water system has been altered or repaired by persons other than a SAN HIMA approved repairer.
- The hot water system has been damaged through sediment and/or sludge in the water supply.
- The hot water system has been damaged through frozen water in the pipes. (The instruction manual includes instructions for drainage).