



HYDRO-MATIC BOILER
Gas Storage water heater
Model : GE3

(South Africa)



User manual to be kept in the vehicle

Hansen Water Heaters
PO Box 35023 Northcliff
2115 South Africa
www.hansenproducts.co.za



Safe connecting instructions of regulator to cylinder

- Before connecting the LPG regulator to the gas cylinder ensure that the rubber seal on the end of the regulator is in place and is in good working condition.
- The cylinder valve thread is a left hand thread and the regulator hand wheel must be turned in an anti clockwise direction (when facing the cylinder valve thread opening) to engage the regulator thread correctly into the cylinder valve.
- Always make sure that the regulator is fully engaged with the cylinder valve threads and that the hand wheel is tight. Do not use excessive force.
- when connecting the cylinder always check for leaks by opening the cylinder valve and then apply soapy water solution to the joint between the cylinder valve and the regulator.
- If you find a leak, close the cylinder valve and contact an authorised LP gas dealer.
- When using the heater do not fully open the cylinder valve. Only open it 1 ½ turns to prevent the possible jamming of the cylinder valve in its open position.
- The only way to turn off a Roll-about heater is by closing the cylinder valve . To do this turn the cylinder valve control knob in an anti-clockwise direction .
- NEVER UNSCREW THE REGULATOR FROM THE CYLINDER VALVE WHILST THE CYLINDER VALVE IS OPEN OR IF THE HEATER IS ALIGHT.

Important: Read these instructions for use carefully so as to familiarize yourself with the appliance before connecting it to its gas container. Keep these instructions for future reference”.

- In the event of the burner burning-back, i.e. ignition under the burner cap or aeration adjustment switch off the unit and contact your nearest LP gas dealer.

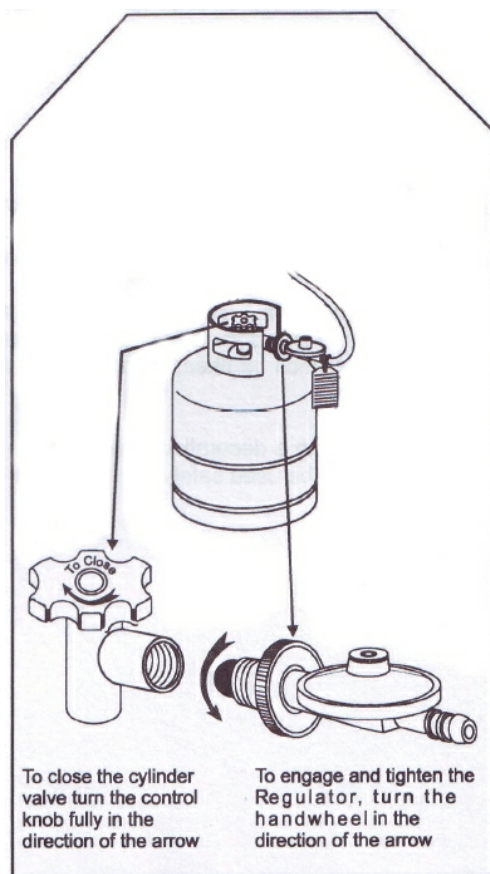




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Symbols used

General safety notes and warnings



Symbol indicates possible hazard



Important: pay attention !

- If the information in this manual is not followed exactly, a fire or explosion could cause property damage, personal injury or loss of life.
- Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this appliance.
- Do not use matches, candles or other sources of ignition when checking for gas leaks.
- Shut off all gas appliances when refuelling.
- Do not operate when travelling.
- Do not operate when refuelling the vehicle and when in the garage.
- In the event of leaks in the gas system or if there is a smell of gas :
 - Extinguish all naked flames
 - Do not smoke
 - Switch off all appliances
 - Shut of the gas cylinder
 - Open the windows and doors
 - Do not switch on any electrical switches
 - Have the entire system checked by an expert!
- Use only LPG gas, do not use any other fuel.
- This appliance may be installed only by a registered LPG gas installer.
- The use of upright gas cylinders from which gas is taken in the gas phase is mandatory for the operation of the gas regulators, gas equipment and gas systems. Gas cylinders from which gas is taken in the liquid phase (e.g. for fork lifts) must not be used, since this would result in damage to the gas system.
- Repairs may only be carried out by an expert.
- This device is not designed to be used by persons (including children) with limited physical, sensory or mental capacities or persons lacking in experience or know-how, unless they are supervised for their safety or unless they have received instruction about how to use the device.
- Children should be supervised to ensure they do not play with the device.
- To avoid the risk of accidental resetting of the over temperature guard, the device may not be supplied with power via an external contractor, such as a timer, nor may it be connected to a power circuit that is regularly switched on or off via a device.
- The type or characteristics of the pressure control valve and expansion control valve (that may be combined in one unit) and the details of the installation must be understood.
- Flush the T&P valve occasionally to remove lime deposits. Continuous leakage from the valve may indicate a problem with the valve or over pressure from the water pump.
- Water may drip from the discharge pipe of the pressure relief safety valve, therefore the pipe must be left open to atmosphere.

Installation warnings

- This unit is to be installed in recreational vehicles only. Is to be installed on an exterior wall, with the flue open to the outdoors.
- All combustible air must be supplied from outside the recreational vehicle, and all products of combustion must be vented to the outside of the RV.
- This appliance must be earthed. The manufacturer and seller do not accept responsibility for any damaged due to incorrect electrical connection.
- Any discharge pipe connected to the safety pressure valve is to be continuously downward direction and in a frost free ambient.
- To be used only with a low pressure regulator 2,8 kPa (SANS 1237).
- Do not vent the unit with a venting system servicing another appliance.
- Do not vent the water heater to an outside enclosed porch area.
- Do not modify the water heater in any way.
- Do not alter the water heater for a positive grounding system.
- Do not use a battery charger to supply power to the water heater.
- Do not Hi-pot the water heater, unless the electronic ignition has been disconnected.
- Before gaining access to any and all terminals, please ensure all supply circuits are disconnected (i.e. 12 V) and the gas supply is securely turned off.
- Any work involving connection or wiring or inter connecting wiring must be connected by a licensed electrician.
- Any modification to the unit, including accessories and cowl, or the use of spare parts and accessories that are important to the operation of the system that are not original Hansen parts and failure to follow the installation and operating instructions will cancel the warranty and indemnify Hansen from any liability claims. It also becomes illegal to use the appliance and in some countries this even makes it illegal to use the vehicle.
- LPG Systems and the pressure regulators must comply with the administrative regulations of the country in which the appliance is used. For your own safety it is absolutely necessary to have the complete gas installation regularly checked by an expert (at least every 2 years). the vehicle owner is always responsible for arranging the gas inspection.
- Items sensitive to heat (e.g. spray cans) must not be stored in the installation area, since excess temperatures may under certain circumstances be incurred there.
- During the initial operation of a brand new appliance or after it has been used for some time a slight smell of gas may be noticed for a short while.

Safe connecting of regulator to cylinder

- Before connecting the LPG regulator to the gas cylinder ensure that the rubber seal on the end of the regulator is in place and is in good working condition.
- The cylinder hand-wheel must be turned in an anti-clockwise direction (when facing the cylinder valve thread opening) to engage the regulator thread correctly into the cylinder valve.
- Always make sure that the regulator is fully engaged with the cylinder valves threads and that the hand wheel is tight. Hand tighten only. Do not use excessive force.
- When connecting the cylinder, always check for leaks by opening the cylinder valve then applying soapy water solution to the point between the cylinder valve and the regulator.
- If you find a leak, close the cylinder valve contact an authorized LPG dealer.
- Do not fully open the cylinder valve, only open it 1 ½ turns to prevent the possible jamming of the cylinder valve in its open position.
- Never unscrew the regulator from the cylinder valve whilst the cylinder valve is open.

Operating instructions

Always observe the operating instructions prior to starting. The vehicle owner is responsible for the correct operation of the appliance.

Before using the water heater for the 1st time it is essential to flush water supply through with clean water. Always fit the flue outside cover when the water heater is not being operated. Drain the water heater if there is a risk of frost. There will be no claims under guarantee for damage caused by frost or freezing!

Always remove the flue outside cover prior to operating the water heater!

If connected to a central water supply (rural or city connection) or using more powerful pumps, a pressure reducing valve must be used which prevents pressures of greater than 200 kPa occurring in the water heater.

Filling the water heater with water

1. Check that the drain valve on the cold water intake is closed. The lever should be in the closed position.
2. Open any hot tap in the bathroom or kitchen, mixing taps set to the hot position.
3. Switch on power for the water pump.

Leave the tap open to let air escape while the water heater tank is filling. The heater is filled when water flows out of the tap.

Residues of frozen water can prevent filling if there is frost. The water heater can be defrosted by switching on the water heater for short period (max 2 minutes). Frozen pipes can be defrosted by heating the room.



If the cold water system is being used, without water in the heater, the heater tank is also filled up with water. In order to avoid damage through frost the water contents must be drained by the drain valve, also when the heater is not being used. As an alternative, two shut-off valves, resistant to hot water, can be fitted in front of the cold and hot water connection.

Drain the water heater

1. Disconnect power for water pump (main switch or pump switch).
2. Open hot water taps in bathroom and kitchen
3. Open safety/drain valve.
4. The water heater is now drained directly to the outside via the drain valve. Check that the water contents have been completely drained (13 litres).

Switching on gas operation

- Ensure the gas supply bottle is full and opened
- Select gas mode on the switch control panel
- Switch to the ON position
- LED mode - (Slow) flashing - unit in start up mode
- LED mode - (Solid) gas burner is on & heating water
- LED mode - (Fast) flashing burner- failed to start
- LED mode - (Off) standby - water hot

Water should reach set temperature 65°C-70°C in approximately 40 minutes.

Switching off gas operation

Switch the water heater to OFF position on the control panel.

If the water heater is not to be used for a long period, mount the flue cover (non observance of this point can lead to the function of the appliance being impaired through water, dirt or insects). Close the gas supply line and the gas cylinder.



Before setting off on any journey, fit the flue cover with the water heater switched off. please ensure that it is secure and has locked into place. Defective flue covers must not be used.

Maintenance

i Materials in the device which come into contact with water are suitable for use with drinking water.

Use wine vinegar into the appliance via the water supply. Allow the product to react and then thoroughly flush out the appliance with plenty of fresh water. To sterilise the water we recommend "Certisil-Argento". Other products, particularly those containing chlorine, are unsuitable.

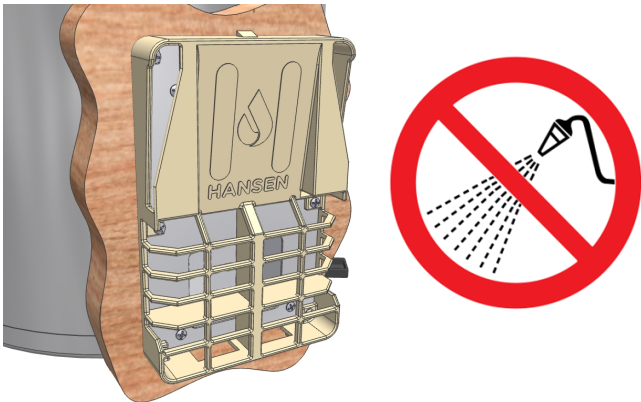
In order to avoid the colonization of micro-organisms, heat up the water heater on regular intervals.

Fuses

The control board has a 2 amp mini type blade fuse. This should only be replaced with a fuse of the same rating.

General Care

i When washing the vehicle do not spray water into the outer flue cowl. Fit the outer cover when travelling, washing and in storage.



Cleaning of the burner can be done by blowing compressed air into the outer flue intake. This must be done with the water heater switched off.

The burner jet cannot be removed for cleaning and can only be done by the factory.

The gas burner has a set primary air intake mixture and cannot be adjusted.

Fault Finding

Gas operation

Symptom	Cause
When switching on, the heater does not operate	- No 12 v supply

Check the power supply (operation voltage min 10.5 V)
Check the control board fuse

When switching on the heater does not operate and the red lamp lights up after approximately 30 seconds.	- Cowl cover fitted - Air in the gas supply - No gas supply - Incorrect gas pressure
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Remove flue cover and / or clear any obstruction.
Check gas valves and gas bottle
To unlock (and purge air), switch off the appliance, wait 5 minutes, and switch on again

Heater operates for a long time and then the red lamp lights up.	- Over temperature thermostat operated.
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Check water content, refill if required (close drain valve).
To unlock, switch off the appliance, wait 5 minutes and switch on again.

Water supply

Water drips from the safety valve	- Water pressure from supply pump to high
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Check pump pressure (max. 200 kPa), use a pressure reducing valve connected to the central supply.

When opening the cold water tap, hot water comes out	- Hot water flows back through the cold supply
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Fit a non-return valve in the cold water supply (refer to installation instruction).

Technical data

Manufacturer
Hansen water heaters Pty Ltd
PO 35023
Northcliff
2115
Johannesburg
South Africa

Water capacity
14.5 Litres

System water operating pressure
Max. 200 kPa

Type of gas
Liquid propane gas (LPG)

Operating gas pressure
2.80 kPa

Nominal input
5.0 MJ/h

Heat input
1.5 kW

Gas consumption
120 g/h

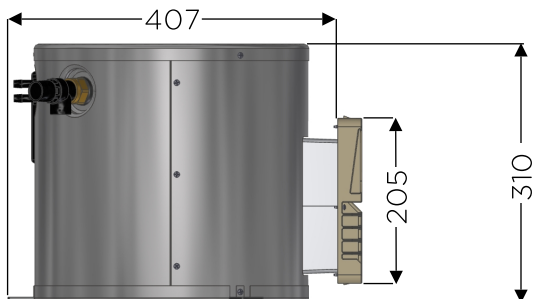
Injector size
0.70 mm (Only to be replaced by factory)

Heating time (15°C up to 70°C approximate.)
Gas operation approximate 35 to 40 min

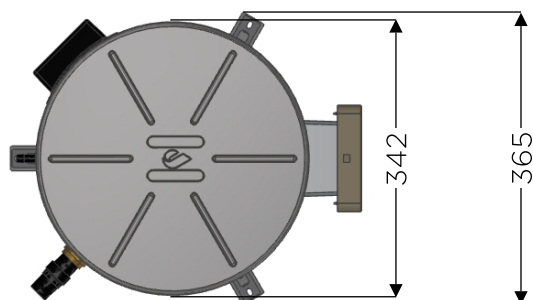
Power consumption 12 V
Ignition : 0.18 A
Heating up : 0.08 A
Standby : 0.04 A

Weight empty
Approximate 6.5 kg

Unit Dimensions



All dimensions in mm



Hansen warranty policy

The warranty is given by

Hansen Water Heaters Pty Ltd
PO Box 35023
Northcliff
2115
Johannesburg
South Africa

For 12 months from the date of purchase against any defect arising from faulty materials or workmanship.

Repairs will be carried out during normal business hours only by Hansen Water heaters or its duly authorised service agents, and are subject to the warranty conditions and exclusion hereunder.

Warranty conditions

- The company will only provide service on presentation of proof of purchase, on either the Hansen products, or the caravan / RV / craft in which the Hansen product has been installed, to any authorised service agent. The purchaser must allow the service agent to photocopy the proof of purchase to facilitate his claim to the manufacturer

- Warranty repairs can only be performed by authorised service agents and under no circumstances will Hansen reimburse repairs carried out by unauthorised persons. Tampering with any part of the product by unauthorised personnel will automatically void the warranty.

- The product must be used solely for domestic or for the purpose in which its designed. For commercial purposes the warranty is 6 months only.

- Where applicable, the products must be used on the appropriate electrical voltage, gas type and pressure, or fuel source.

- If at any time during the warranty period any parts are replaced with a part or parts not supplied or approved by Hansen, this warranty shall immediately become void.

Warranty does not cover

Any water heater which has been :

- Subject to misuse, neglect, accident or alteration by any person.

Damaged or destroyed by fire, flood, act of God or other inevitable accident.

- Fair wear and tear

- Damage from foreign substance such as dirt or liquid

- Travelling expenses or call out fee to and from authorised service agents premises.

- Accommodation or site expenses.

- Cleaning of the system or cleaning and adjustment of the gas system. This is considered to be normal product maintenance.

- Non-operation of the water heater or resultant damage to the unit where the water heater has been operated in an out of level situation.

- Freight cost of the appliance or parts, to or from, point of service or transit damage.

- Hansen is not responsible for the resultant loss or damage sustained by the purchaser.

- Non-operation of the appliance or resultant damage to the unit where the appliance has not been installed, ventilated, flue or operated in accordance with the manufacturers instructions.

Apart from any warranties implied by the Trade practices Act 1974 or any relevant state legislation all other warranties express or implied whether arising by virtue of statute or otherwise are hereby excluded.

Installation instructions

This appliance must be installed by an authorised person.

This appliance shall be installed in accordance with the manufacturer's installation instructions, local gas fitting regulations, municipal building codes, electrical wiring regulations, AS 5601 "Gas installations" and other statutory regulations and water supply regulations.

Data label

The data label is located on electric cover of the water heater.

This appliance is suitable for propane gas only. Ensure that the available gas supply is suitable.

Intended use

This appliance has been designed for installation in caravans, mobile homes and other vehicles. It is not approved for installation in boats. Other forms of use are also possible following consultation with Hansen.

Regulations

Any modifications to the unit, including accessories and cowl, or the use of spare parts and accessories that are important to the operation of the system which are not original Hansen parts, and failure to follow the installation and operating instructions will cancel the warranty and indemnify Hansen from any liability claims. It also becomes illegal to use the appliances, and in some countries this even makes it illegal to use the vehicle.

The operating pressure for the gas supply is 2.75 kPa and must correspond to the operating pressure of the appliance (see data plate).

When installing the appliance always observe the technical and administrative rules and regulations of the country in which the vehicle is to be registered, for the 1st time!

Water heater kit

The water heater kit contains :

Wall mounting plate

6 x wall mounting screws

4 x flue mounting screws

Flue Grill

Flue cover

3 x foot bracket floor mounting screws

Choice of location

i 1. Always install the appliance in such a way that it is easily accessible for service work at all times and can be easily removed and installed

2. Locate the heater in such a way that the cowl can be mounted on the outside on a surface which is a straight and smooth as possible. This outside surface must be exposed to wind from all directions and, if possible, there should be no trim strips or covers in this area. Mount the water heater on an appropriate base if necessary to ensure it is level.

The cowl must be placed in such a way that the exhaust gas cannot find its way into the vehicle interior. For this reason, choose a location where there are no opening windows, sky lights or ventilation openings directly above the cowl or for 50 cm on either side. If this is not possible, a warning plate must be placed on the inside of the window (or skylight) stating that it must be kept closed while the heater is operating. In this case refrigerator ventilation must be tightly sealed from the interior of the vehicle

Installation of the water heater

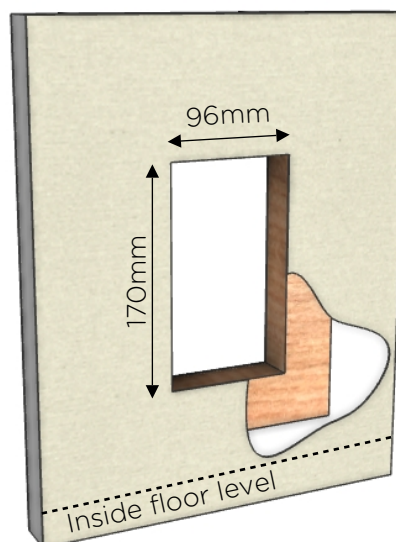
1. Use the template provided in this manual (Pg12). Position template on the inside of the side wall.

2. Drill 4 holes in each corner 10 mm diameter through the wall on the markings shown.

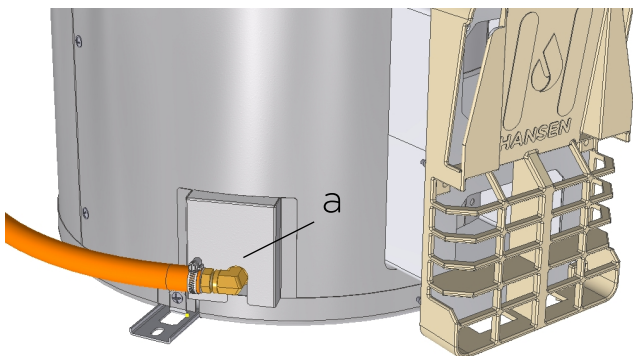
3. Saw the cut-out section for cowl 96 x 170 mm

If there are any cavities in the area of the cowl, pack these with pieces of wood so as to be able to tighten the screws.

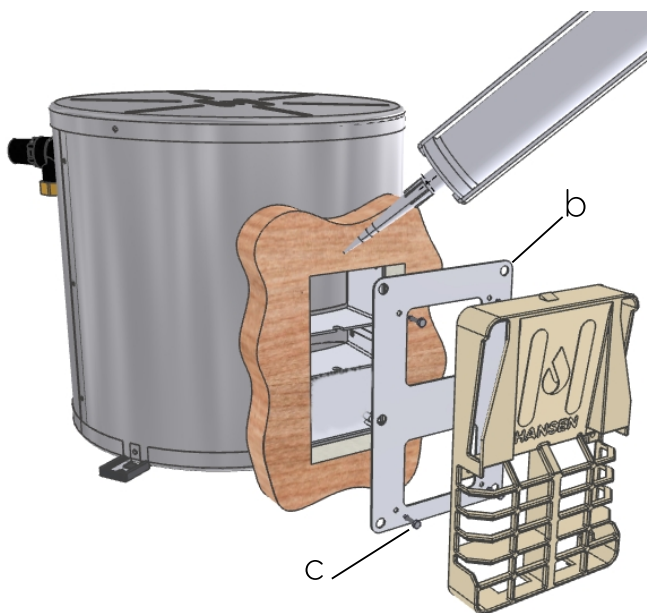
The finished hole should be 170 mm high and 96 mm wide and 28 mm above the inside floor level.



3. Connect the LPG gas supply pipe to the water heater. Use only suitable approved gas supply pipe. Fit the pipe onto the hose barb and secure using a hose clamp.



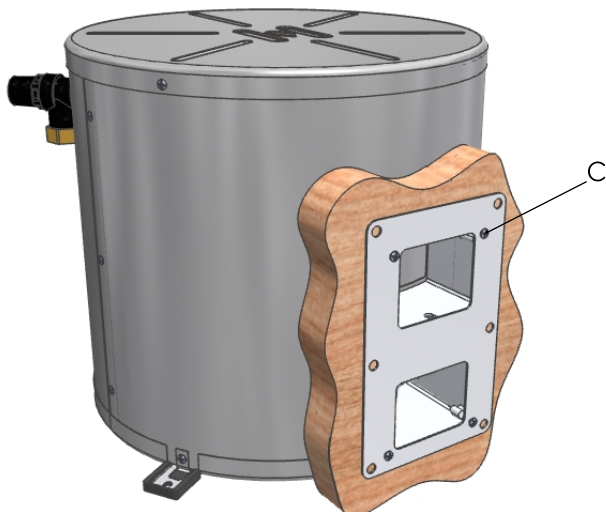
4. Position the water heater through the cut out opening.



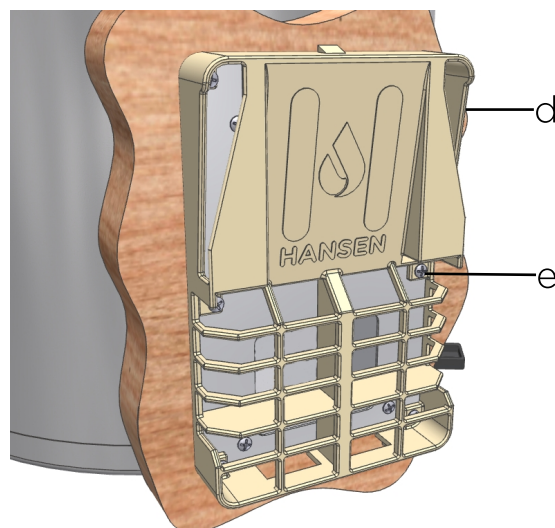
4. Remove sealing frame (b) and coat with non hardening mastic on the side facing the vehicle - do not use silicone

! The sealing frame must be well sealed with respect to the front sides and cross bars of the cowl body as well as to the outside wall!

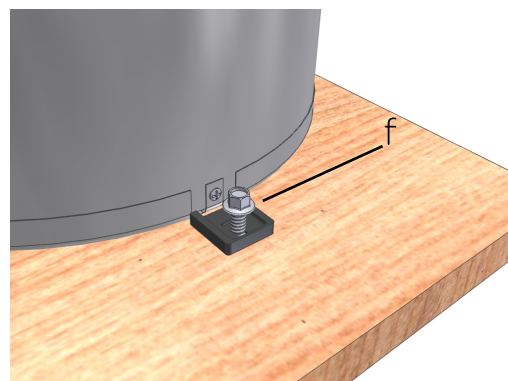
5. Fasten sealing frame plate to the cowl body using 4 self cutting screws (c).



Mount the grille (d). Press the entire cowl assembly onto the vehicle wall and fasten with 6 screws (e)



5. Screw the water heater securely to the floor of the vehicle with at least two shackle plates with the screws provided B 5.5 x 25, on suitable base (plywood panel, laminated wood strips or metal base).



Installation of the water connectors

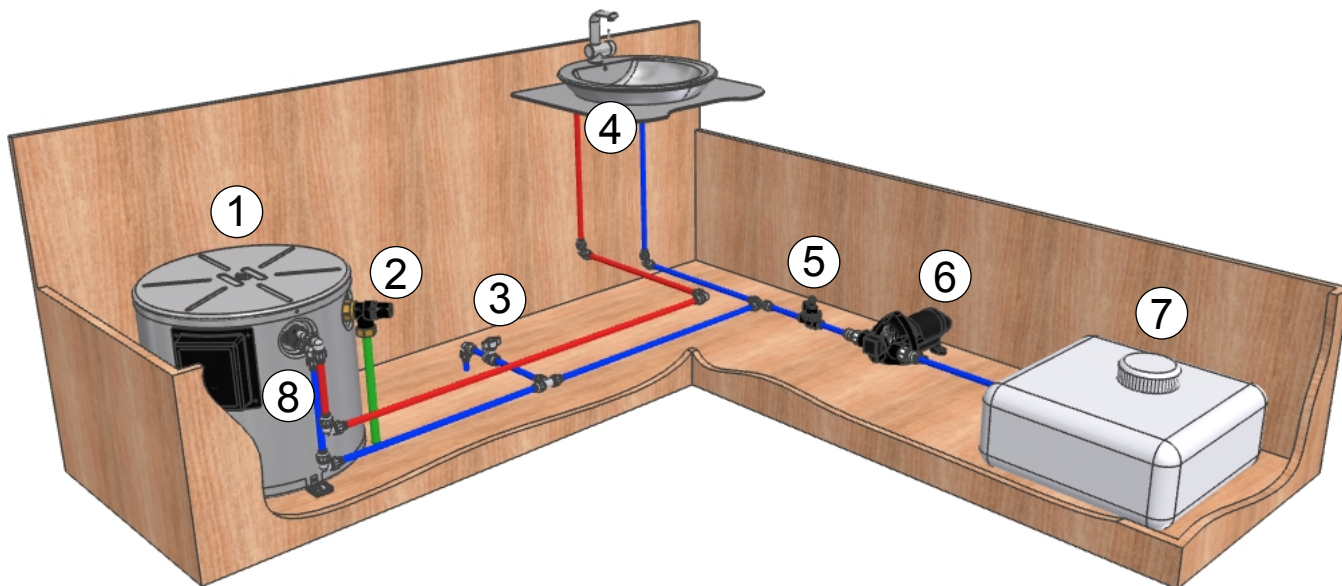
Fit the water supply pipes (g), to the supplied water connection fittings.



System installation

Legend

- 1 - Water heater
- 2 - Safety temperature and pressure valve
- 3 - Drain valve (Not supplied. Sold separately)
- 4 - Mixer tap
- 5 - Pressure reducing valve
- 6 - Water pump
- 7 - Main water supply tank



Installation of the safety temperature and pressure valve

The safety temperature and pressure valve come factory pre-fitted on the water heater

Water connection

All pressure and submersible water pumps be used for operating the water heater.

! In order to guarantee complete emptying of the water content and to prevent pressure greater than 300 kPa occurring in the water heater, the safety temperature and safety valve **MUST** be used.

The supplied water connectors safety drain valve have a 12 mm rigid piping connection (e.g. John Guest system). For connecting to rigid pipes with other diameters appropriate adapter must be used.

! Route the pipes so that they are as short and free of kinks as possible (hose connections must be secured using hose clamps - also for cold water! - pressure of up to 300 kPa can occur in the T&P safety valve - also with the submersible pumps - because of the heat of the water and resulting expansion.

! All hot water pipes should be routed in a descending manner to the safety valve! Otherwise no guarantee of frost protection

Water pipe routing

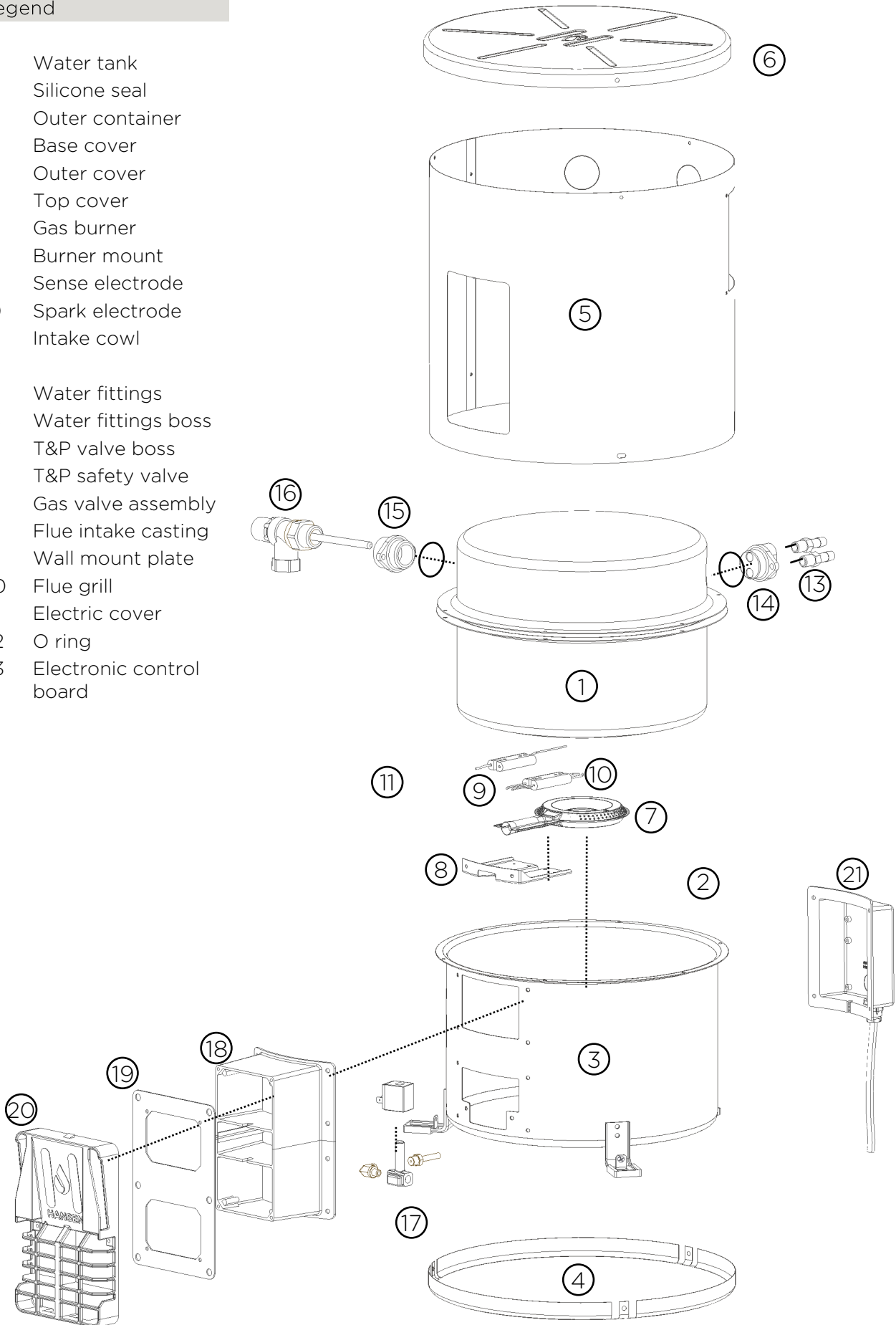
Connection for the cold water supply between the water pump (6) and inlet on the water heater (8), a drain valve maybe fitted in-line as indicted (3).

Connection for the hot water supply between the tap (4) and outlet on the water heater (8)

Drain pipe on the T&P valve (2) fitted through the floor to outside atmosphere.

Legend

- 1 Water tank
- 2 Silicone seal
- 3 Outer container
- 4 Base cover
- 5 Outer cover
- 6 Top cover
- 7 Gas burner
- 8 Burner mount
- 9 Sense electrode
- 10 Spark electrode
- 11 Intake cowl
- 13 Water fittings
- 14 Water fittings boss
- 15 T&P valve boss
- 16 T&P safety valve
- 17 Gas valve assembly
- 18 Flue intake casting
- 19 Wall mount plate
- 20 Flue grill
- 21 Electric cover
- 22 O ring
- 23 Electronic control board



Side wall cut out template

