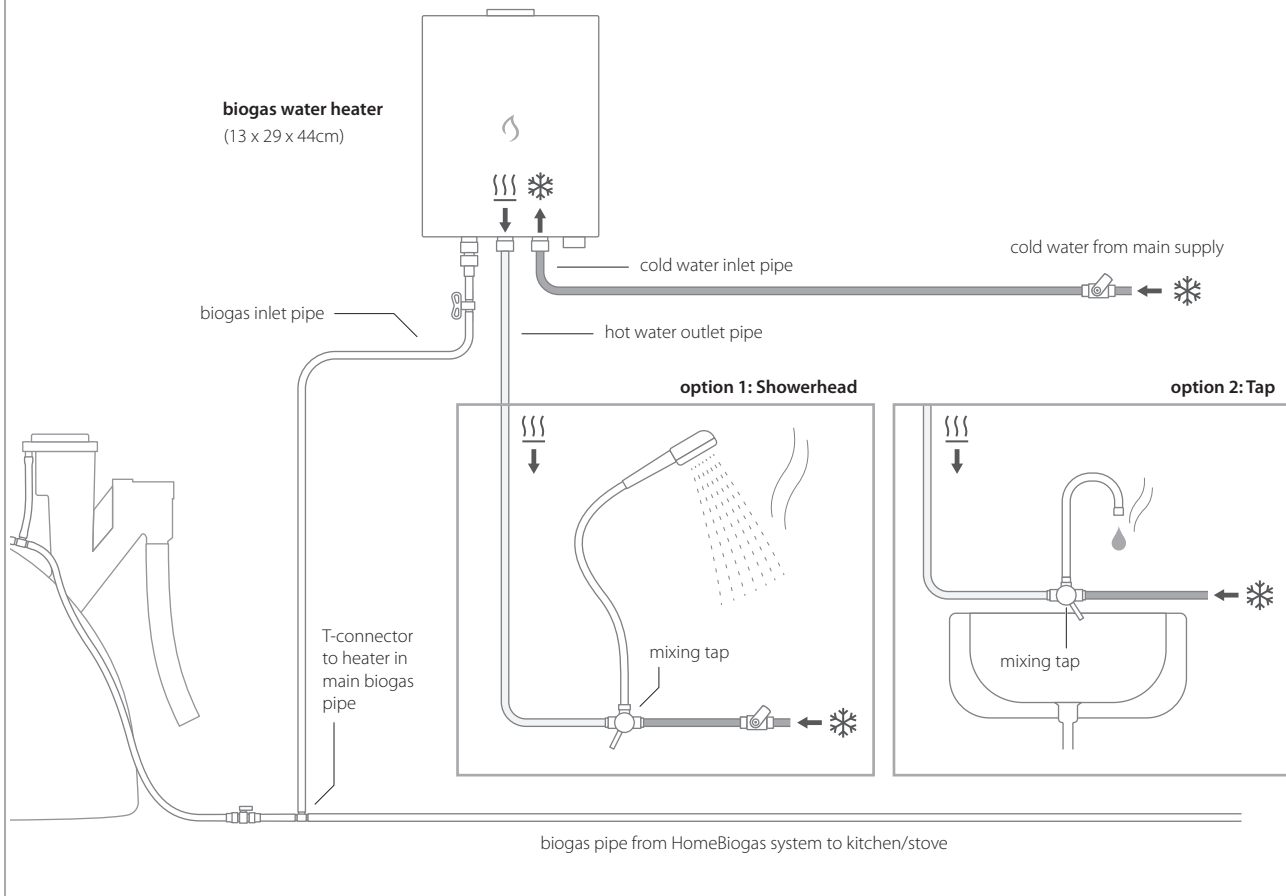


Biogas Water Heater

user manual

The Biogas Water Heater is an add-on to the HomeBiogas system which enables users to utilize the biogas produced by the system to heat water for outdoor showers or taps. The heated water can be used for an outdoor shower, hot tap, or other device of the user's choice.



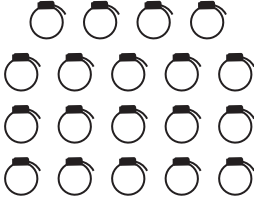
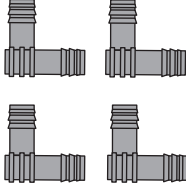

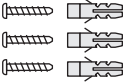
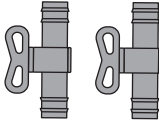
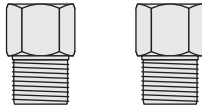
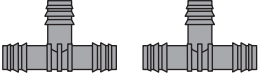

Water Heater Specifications

Product Name: Biogas Water Heater
Model Number: 32470054
Gas Type: Biogas
Gas Pressure: 1-5 mbar
Dimensions (cm): 13 x 29 x 44 (W x L x H)

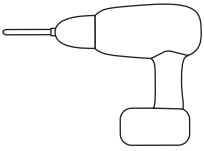
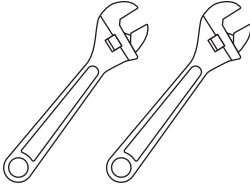


Heat output: 6 kW
Water Flow: 6 lpm
Water Pressure: 0.025-1.0 MPa
Batch Number: WH01.084.23

preparing for heater installation

Parts Provided

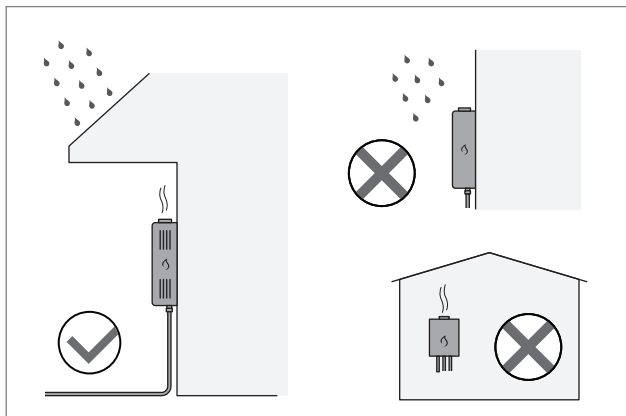
 <p>gas pipe hose clamps x19</p>	 <p>gas pipe L-connectors (x4)</p>	 <p>gas adaptor, 1/2" to 20mm/3/4" (2 parts + 2 rubber seals)</p>
 <p>screws & wall anchors (x3)</p>	 <p>gas valve x2</p>	 <p>brass pipe fitting, 1/2" BSP female to NPT 1/2" male (for North American users)</p>
 <p>gas pipe T-connectors x2</p>	 <p>teflon (thread seal) tape</p>	

Tools Required

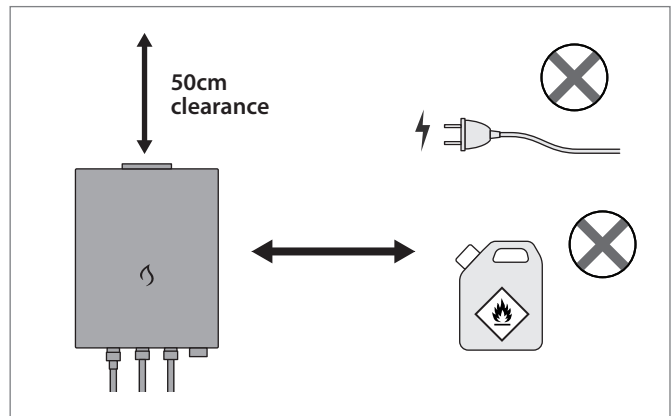
 <p>electric drill</p>	 <p>adjustable wrenches</p>	 <p>pipe/hose cutters</p>	 <p>philips screwdriver</p>
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1. Choose a suitable location for mounting the heater unit and plan routes for gas and water pipes

When choosing a location to install the heater, the following criteria should be met in order to ensure optimal performance and avoid potential safety hazards:

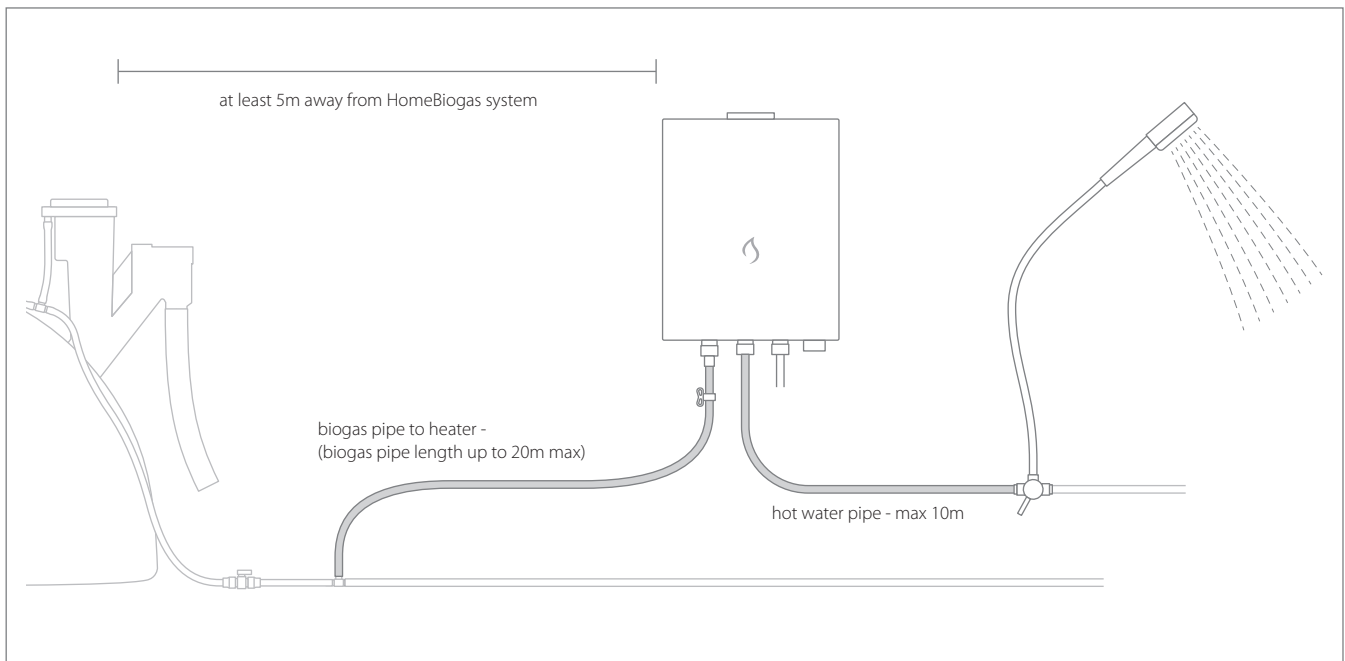


Heater should be installed on a wall outdoors, in a well ventilated area, sheltered from rain.

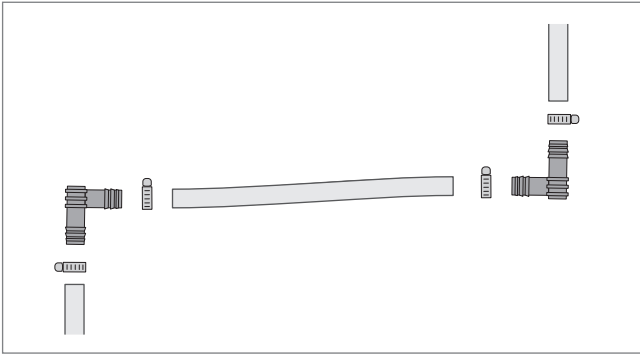


Heater should not be installed near flammable materials, other electric wires or appliances. A 50cm space from the heat vent on the top of the heater should be kept clear from objects/obstructions.

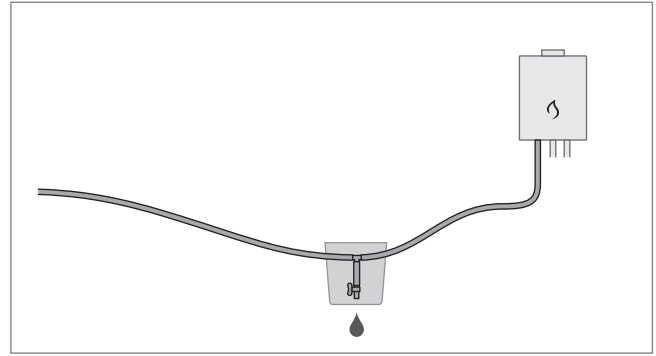
The water heater should be installed in an open and sheltered area. If you are installing it in a well-ventilated indoor location, We recommend purchasing a 90 mm (3.5 inch) diameter chimney. The chimney should be installed according to local regulations. A general guideline would be an upward slope and a maximum length of 2m.



- Heater should be located at least 5m away from HomeBiogas system.
- Biogas pipe from main gas pipe to heater - can be up to 20m long (should be kept as short as possible).
- Hot water pipe from heater to the end device - should be kept as short as possible, up to 10m maximum (a 3-way mixing tap can be connected to adjust the desired water temperature at the end device).



The included L-connectors can be used at corners to create 90° bends without damaging the gas pipe (Use included hose clamps on gas pipe connections).



A drainage valve must be added at the lowest point of the gas pipe if there are any dips (U-shaped bends) along the pipe.

2. Purchase piping, connectors & accessories needed

Based on your planned heater location and pipe routing, purchase the required lengths of piping and the appropriate connectors/fittings for your plumbing system.

Gas Pipe:

- 20mm (3/4")
- Recommended polyethylene irrigation pipe 1.2mm wall thickness.

Water Pipe:

- Meet local safety/pressure requirements.
- Fittings to connect to heater water inlet/outlet (standard 1/2" male thread). Fittings should be appropriately sealed for water pressure (teflon tape, washers, o-rings).
- Hot water outlet pipe should be insulated if possible.

Additional Accessories:

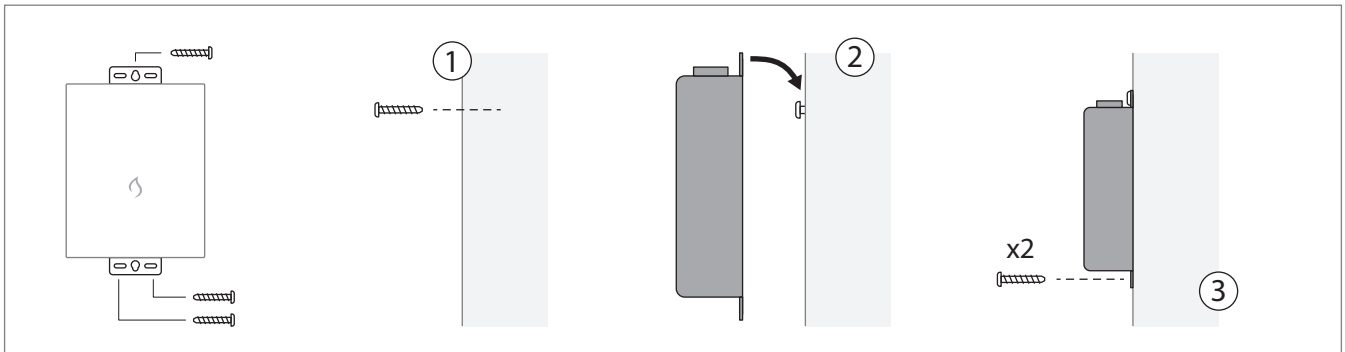
* Avoid using devices with a 'water saving' feature, as this may impact heater performance.

- 2x D2 size batteries (**Required**).
- 3-way mixing tap (for sink) or 3-way mixer fitting (for shower).
- Shower Head (if using heater for a shower).
- Bucket for water drainage valve.

installing the water heater

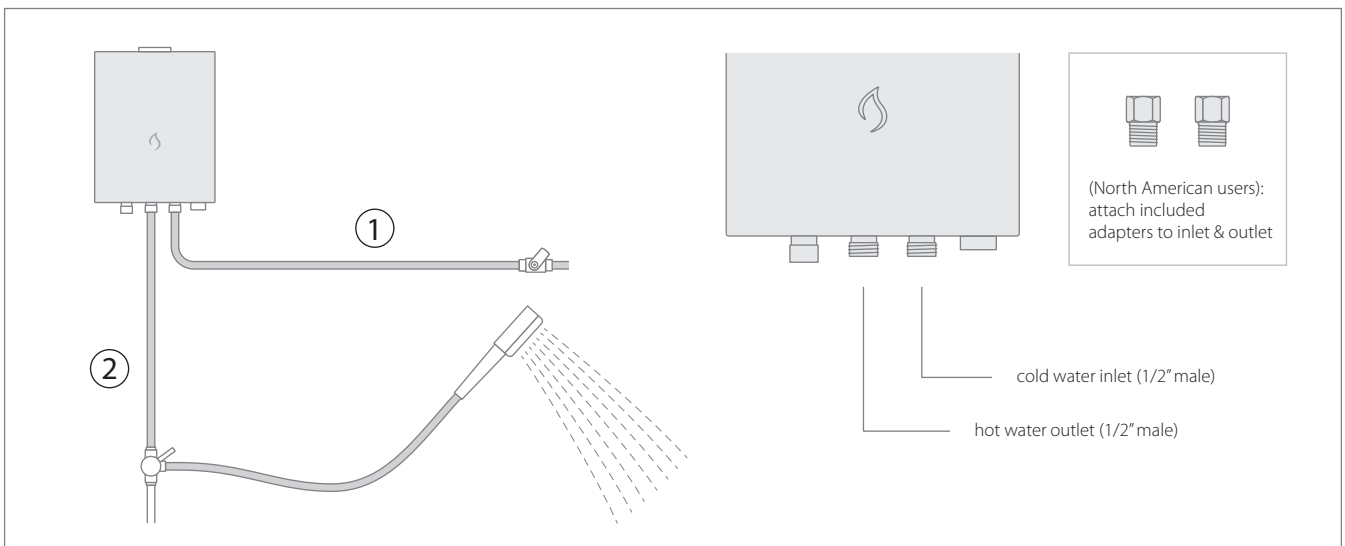
1. Mount Heater in selected location

The heater is attached to a wall by brackets at the top and bottom of its frame.



1. To mount the heater, first insert the top screw into the wall at the desired height (for top of the heater). Leave a small gap for the heater bracket to fit over the screw. For concrete/brick walls, first drill the wall and insert a wall anchor, then insert screw. Use appropriate drywall anchors if mounting on drywall.
2. Place heater onto the screw - slot the screw into the middle hole of the heater's top bracket.
3. Use the 2 remaining screws to fasten the heater to the wall, through the left and right slots of the heater's bottom bracket (mark and drill out holes, and insert anchors for concrete/brick walls).

2. Connect water pipes to cold water inlet and hot water outlet of heater



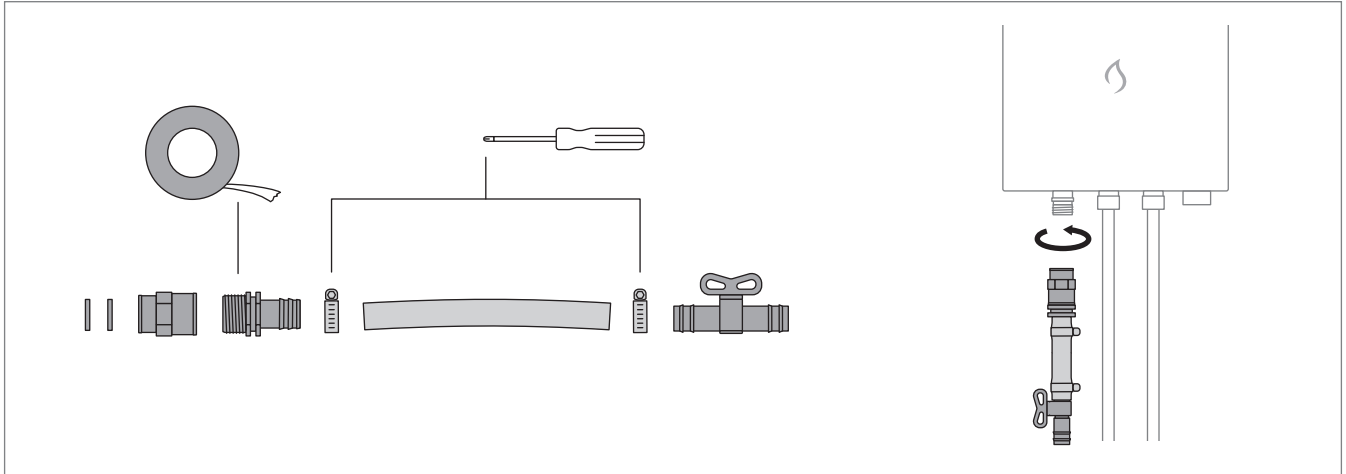
1. Connect the cold water inlet of the heater to the water source. Use appropriate piping, plumbing connectors & fittings as specified in your local regulations. The water inlet on the heater uses a standard 1/2" BSP male thread.
2. Connect the hot water outlet from the heater to the end device. Use appropriate piping, plumbing connectors & fittings as specified in your local regulations. A 3-way mixing tap is recommended to control the water temperature to your desired level. The water outlet on the heater also uses a standard 1/2" BSP male thread.

Note:

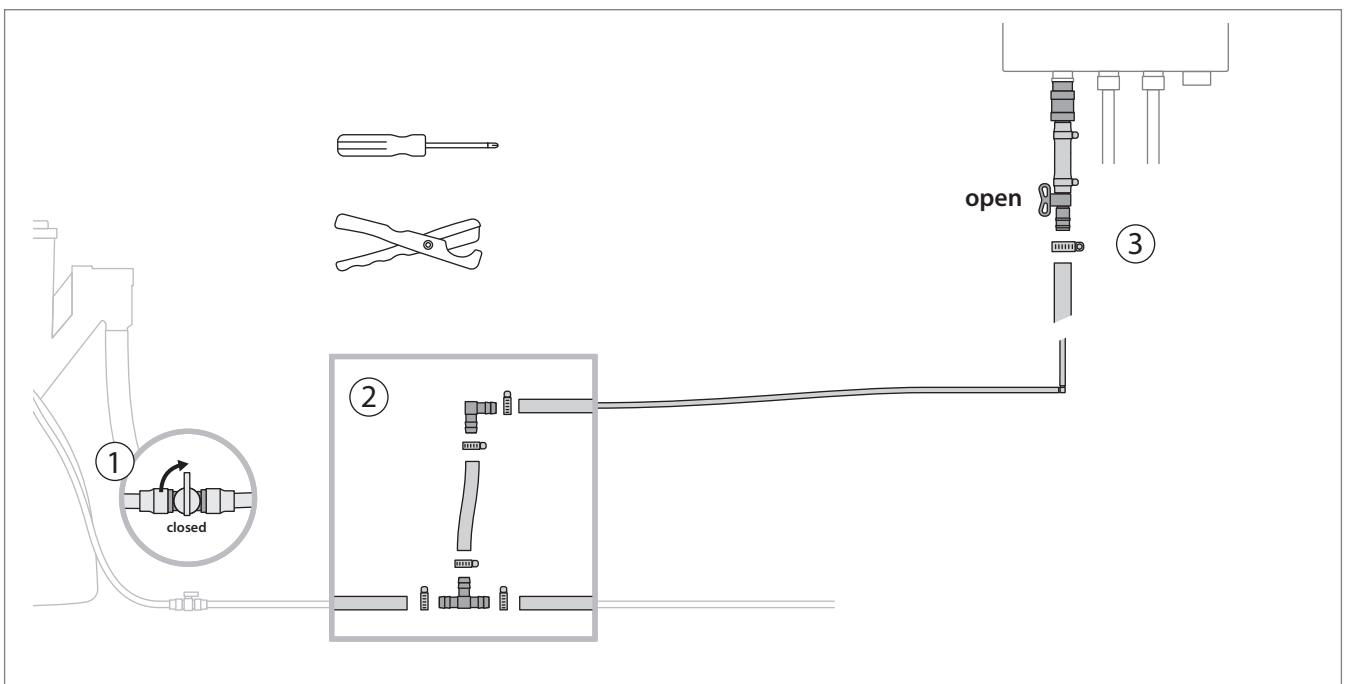
GENTLY tighten the fittings when installing pipes onto the water inlet and outlet with wrenches. Excessive force may break the connectors and damage the product.

For North American users: attach the BSP to NPT adapter to allow connection to local standard fittings.

3. Connect gas pipe from the main biogas line to the water heater

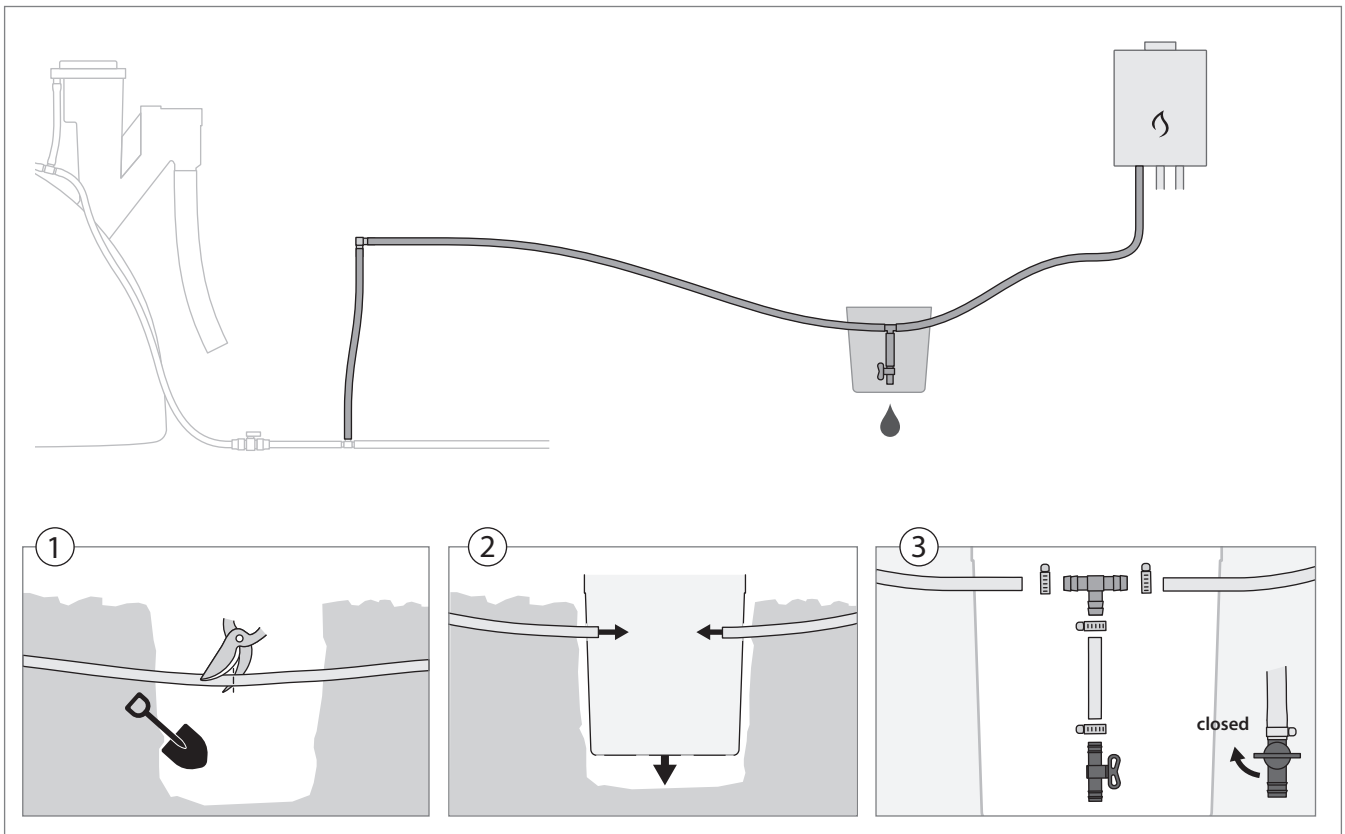


1. Assemble the pipe adapter and valve, then connect it to the heater as shown in the diagram. You will need to cut a 10cm piece of the gas pipe, and wrap the male threaded portion of the adapter with teflon tape.
2. Insert the 2 sealing rings included in the female 1/2" connector, and screw the adapter+valve assembly onto the biogas inlet on the water heater.



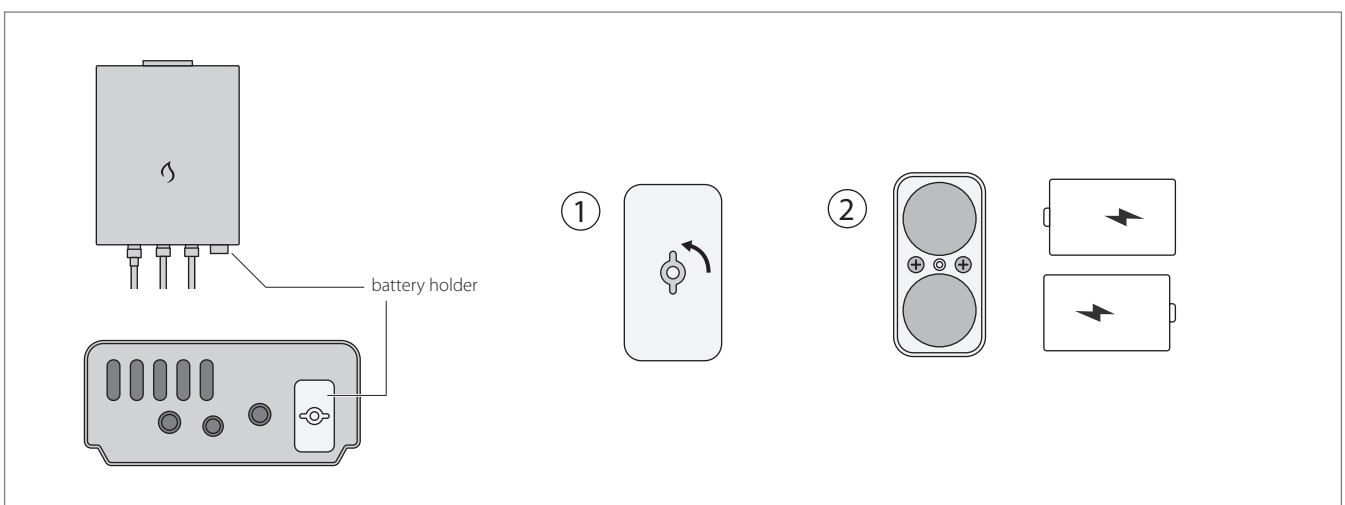
3. Turn off the main gas valve at the HomeBiogas system.
4. At the planned location, cut the gas pipe and add a T-joint to the pipe. Connect the purchased 20mm gas pipe to the water heater from the T-joint, along the planned route. Use the included L-connectors for 90° bends along the route. Use included steel bands to fasten all gas pipe connections.
5. Connect the other end of the gas pipe to the gas valve installed on the heater's biogas inlet in step 2. Use a steel band to fasten the gas pipe onto the valve.
6. Open the main gas valve at the system and the gas valve at the heater's biogas inlet pipe.

4. Install drainage valve if necessary



The heater's biogas inlet pipe should be installed at a gradual incline from the highest point (heater inlet) to the lowest point (T-joint), with no dips or U-shaped bends along the pipe. If there are any dips along the pipe's route, a drainage valve must be installed to drain collected condensation from the pipe.

Install batteries

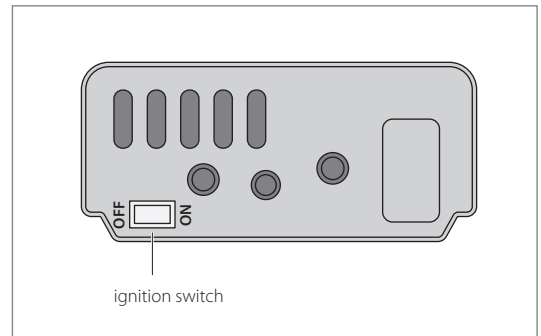


Install 2x size D2 batteries into the heater's battery holder.

1. Open the battery holder by turning the knob on the cover to 'ON' position.
2. Insert the batteries, making sure that battery polarities (+/-) are correct. Replace and lock the cover.

using the water heater

1. Make sure the ignition switch at the bottom of the product is turned ON.
2. Turn on the tap/shower. The batteries will ignite the Water Heater automatically and hot water will start flowing shortly (as long as you have biogas in your HomeBiogas system and the main gas valve is open).
3. Adjust the water flow using the 3-way mixing tap/mixer fitting according to the desired water temperature. Once the water flow is reduced, the water temperature will rise.



troubleshooting

Issue: There is no water flowing out of the shower/tap

Solution:

Confirm that water is flowing into the Cold Water Inlet, as this is necessary to ignite the Water Heater.

Issue: Water flow is present, but there is no hot water

Solution:

1. Verify that the water heater's ignition switch is turned on.
2. Ensure that your HomeBiogas system has an adequate supply of biogas and that both gas valves are open, allowing biogas to reach the water heater.
3. Make sure that there are no kinks in the biogas pipe, which can block the flow of biogas.
- 4.1 If water still does not heat, turn off the water flow for a few seconds and turn it back on to verify there is ignition (clicking sound from the Water Heater unit).
- 4.2 If there is no ignition (no clicking sound from the Water Heater unit), verify that the batteries are installed properly- and if they do, change them.

If the issue persists, contact Homebiogas support.

WARRANTY

The HomeBiogas Water Heater is covered by a warranty of 1 year from the date of delivery. For service, contact HomeBiogas or the certified reseller of your HomeBiogas system.