



DEWHOT



12L
Low Pressure



Read these instructions carefully before operating the gas geyser and familiarize yourself with the appliance before connecting it to the gas cylinder. **Keep these instructions for future reference.**

This appliance is manufactured to operate on LPG only. Do not tamper or modify the appliance.

Important

If you smell gas

1. Turn off the gas supply at the bottle
2. Extinguish all naked flames
3. Do not operate any electrical appliances
4. Ventilate the area
5. Check for leaks as described in this manual
6. If gas smell persists, contact your dealer or gas supplier immediately

Burn-back

In the event of a burn-back, where the flame burns back to the jet, immediately turn the gas supply off at the gas cylinder. After ensuring the flame is extinguished, wait for 1 minute and then reignite the appliance as per normal. Should the appliance burn back again, close the gas cylinder and call a registered LPG installer.

Do not use the appliance again until the installer has confirmed that it is safe to do so.

Gas-pressure regulator

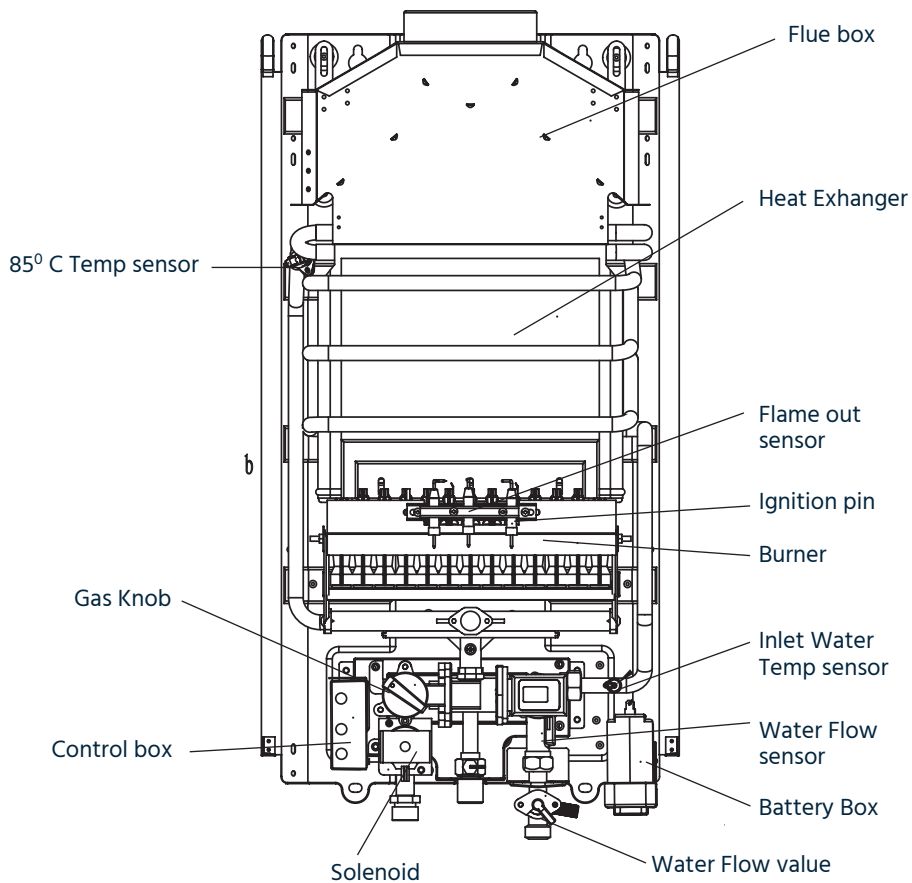
This appliance requires an operating pressure of 2,8 kpa. Only install a LPG regulator that complies with the SANS 1237 requirements.

Guarantee

After installation, please register your product on the Dewhot website (www.gasgeysers.co.za/product-registration) You will need your invoice and Certificate of Compliance (COC) to complete the registration.



Parts Diagram





Technical parameters

| | |
|----------------------------|-------------------|
| Description | Low Pressure |
| Model no | LPDH12 |
| Model | Type B |
| Gas type | LPG |
| Max gas pressure | 2,8kpa |
| Rated input | 24KW |
| Water pressure | 50-500kPa |
| Maximum Water Flow | 12L/min |
| Max Gas Consumption | 1.56kg/h |
| Unit Size | 350 x 610 x 185mm |
| GW 11.2kg | NW 9.6kg |



Functions & Features

FLUE BLOCKAGE PROTECTION

The geyser turns off automatically if the flue is blocked. Whether it is installed indoors or outdoors the geyser should be fitted with a flue to avoid unnecessary cutting off.

FLAME OUT SENSOR

This is designed to automatically cut off the gas supply should the flame/ burner unexpectedly extinguish or the sensor no longer detects a flame.

LOW WATER PRESSURE START UP

The appliance will activate from a water flow of 3lt/min. This makes it suitable for low water pressure applications.

OVER PRESSURISATION/ FREEZING PROTECTION

The appliance will automatically protect itself by releasing pressure if the water supply is over 10 Bar (this should be manually set to lower pressures see **page 13**).

SUITABLE FOR INDOOR AND OUTDOOR INSTALLATION

This geyser can be installed indoors (with correct ventilation) or outdoors increasing installation options.

Water-controlled automatic ignition

This unit has a water flow sensor that will immediately ignite the burner when detecting water flow

Auto cut off protection

The temperature sensor will automatically cut off the gas flow and cut off the unit if the temperature is exceeded

Dry combustion protection

In the event of dry combustion, the unit will automatically shut down



Appliance Safety instructions

PROPER VENTILATION

To avoid the risk of fire, explosion, or asphyxiation never operate the gas geyser unless it is installed properly and has adequate air supply. Make sure the flue terminal is installed properly for the initial start-up, check it annually thereafter.

FLAMMABLE MATERIALS

DO NOT handle, use or store combustible materials near to the gas geyser.

WEATHER BOX AND FLUE

For indoor or outdoor installation this geyser should be installed with a flue. For any outdoor installation a weather box should be installed with a flue.

WATER TEMPERATURE SETTING

Safety and energy savings need to be considered when setting the water temperature. Water temperatures above 52°C can cause severe burns.

Refer to page 16.

1. Households with small children, disabled or elderly people need to set the temperature to 49°C or lower
2. Maximum water temperature occurs when the burner is on. To see the water temperature look at the front control panel of the gas geyser.
3. The Factory default water setting is 41°C and this setting can be adjusted on the control panel.
4. The gas geyser has a heating range between 38°C and 60°C.

TIME/TEMPERATURE EXPOSURE RESULTING IN BURNS

Hot water can create severe burns, we should rarely exceed the temperatures below

| | |
|------|----------------------|
| 49°C | More than 5 minutes |
| 52°C | 1.5 to 2 minutes |
| 55°C | +/- 30 seconds |
| 57°C | +/- 10 seconds |
| 60°C | less than 5 seconds |
| 63°C | less than 3 seconds |
| 66°C | +/- 1.5 to 2 seconds |
| 69°C | +/- 1 second |



NATURAL AND LP GAS

Both LP and natural gas are odoured to help detect leaks.

Appliances using LP gas are different from natural gas models. A natural gas geyser can not function safely on LP gas and vice versa.

Do not try to convert the gas geyser from a natural gas to a LP gas appliance and vice versa. This could damage the appliance, cause injuries or fires. Never connect the gas geyser to a fuel type that is not in accordance with the appliance's data table.

WHEN DETECTING A LEAK ON YOUR INSTALLATION

LP gas is twice as heavy as air and may accumulate in low lying areas and cavities.

Before opening the hot water tap to test your gas geyser have your installer check all gas fittings and connections. Bubbles indicate a leak.

1. Do not attempt to find the cause yourself and turn off the gas supply in finding a leak.
2. Do not ignite any appliance.
3. Do not touch any electrical switch.
4. Evacuate the house immediately with your family and pets.

5. Leave the doors open for ventilation and contact the gas supplier, registered LP Gas Installer or Fire Department.
6. Stay away from the house (or building) until the service call has been made, the leak is fixed and the space has been declared as safe.
7. Ask the installer to show you where the gas shut-off valve is and how to use it.
8. Turn off the manual shut-off valve if the gas geyser has been subjected to overheating, fire, flood, physical damage or if the gas supply fails to shut off.

Gas detectors are highly recommended and they must be installed in accordance to the detector manufacturer's regulations.

GAS SUPPLY

1. The gas type should match the specification table. This is a low pressure gas appliance and the appropriate regulator should be used.
2. Ensure there is sufficient gas pressure (2,8kPa) for the gas supply.
3. The gas line should be equipped with a shut off valve.
4. At least a soapy solution must be used to check all connections and fittings for gas leaks.
5. The COC should be issued and signed after the installation has been inspected.



Installation instructions

FLUES AND COVERS

- The gas geyser should be installed with a 110mm solid or flexible flue and the appliance should be close to the flue termination to avoid unnecessary elbows and excessive flue length. A flue cowl should be used if installed outdoors to prevent rain from entering the geyser.
- Venting must be installed as outlined in SANS 1539.
- Make sure the flue terminal is installed properly with all parts of the flue facing upward to allow hot air to escape. Always use a cowl if the flue is installed outdoors.
- The flue will expell warm air and water vapour, do not install the terminal of the flue near areas/objects that can be damaged from the above or are combustible. (see gas geyser location)

MOUNTING THE GAS GEYSER

Install the appliance in a place that allows for easy access for future servicing and replacing batteries.

Use at least 8mm concrete plugs and screws to mount the gas geyser to the wall. In the case of dry walling use dry wall anchors.

WATER SUPPLY

This appliance must only be used with the following water supply requirements:

1. Clean, potable water free of corrosive chemicals, sand, dirt, or other contaminants.
2. With inlet water temperatures above 0°C, but not exceeding 45°C
3. Free of lime and scale deposits
4. DO NOT reverse the hot and cold water connections, this will not allow the gas geyser to function.

GAS GEYSER LOCATION

1. Close to flue the extraction area .
2. Protected from freezing temperatures.
3. Clear 800mm of space from combustible surfaces.
4. Sufficiently ventilated.
5. Free of corrosive elements and flammable vapours.
6. Have sufficient space to service the appliance.
7. It should be securely mounted to the wall.
8. Installed at least 1400mm off the ground.



VENTILATION REQUIREMENTS

Ventilation required for this gas water heater is two vents of 3cm² per Mj of gas consumption. This equates to a total of two vents of 236cm² each - one installed at high level and one at low level.

WATER SUPPLY CONNECTIONS

Plumbing should be carried out by a qualified plumber. Use approved plumbing materials only. The diameter of the pipe lines should be a minimum of 1/2" copper or pex piping.

To conserve energy and to prevent freezing, insulate both the cold and the hot water supply lines. DO NOT cover the drain valves.

WATER PRESSURE GUIDELINES

Operation of the gas geyser requires a minimum water pressure of 14 psi (0,5 Bar) and a minimum water flow rate of 2.5 Litres/min.

1. For long pipe runs water pressure can drop and additional water pressure may be required.
2. When the water is supplied from a water tank, the height of the tank, the diameter of the pipes and their relation to water pressure, should be taken into consideration.
3. For gravity fed water 5 meters head is a minimum requirement.

GAS SUPPLY LEAK TESTING

1. The gas geyser and its gas connections must be tested for leaks at the normal operating pressures before using it.
2. Turn on the gas shut-off valve(s)
3. Use the soapy water solution to test for leaks at all connections and fittings. Bubbles indicate a gas leak that must be fixed.
4. Once the appliance is operating, the factory connections also need to be tested for leaks.



WARNING

Never use an open flame to test for gas leaks as this could result in property damage, personal injury and or death.

VENTING/FLUEING

DO NOT connect the gas geysers to an existing vent or chimney, it must be vented/flued separately from any other appliances.

When installing a gas geysers a minimum of 1 meter is required from any venting system.

DRAINING THE CONDENSATION IN THE FLUE

In cold conditions, installations with long horizontal or vertical runs may accumulate condensation in the flue, install condensation traps and drains to avoid water from going back into the gas geysers.

IMPORTANT TIPS

If the water flow is too slow, the gas geysers will not ignite. Keep the shower head/outlets clean from debris that reduces flow rate.

To keep the water pressure balanced add a 400-600kpa pressure regulating valve on the cold water supply for

municipal water feeds. Install a shutoff valve near the inlet of the gas geysers for service and draining purposes.

Installation of demountables is recommended on the hot and cold water lines, so that the gas geysers may easily be disconnected for servicing.

Install a non-return on the outlet of the gas geysers to prevent water hammer.

Do not solder the HOT or COLD water connections near to the gas geysers. If solder connections are to be used, solder the fitting to the adapter before fitting the adapter to the water connections on the geysers. Any heat applied to the water supply fittings will permanently damage the internal components of the gas geysers.

Hot water outlet connections between the gas geysers and the usage points should be as short as possible.

DO NOT use lead or plastic pipe. To save energy and reduce heat loss we recommend insulating the water piping.

NOTE The flow rate of hot water may vary when more than two taps or fixtures are being used at the same time.



Installation safety instructions

1. Inspect the gas pipes and flexible hoses regularly. If you find joints that are not tightly secured or if there are cracks, you should stop using the appliance and perform the necessary maintenance.
2. Turn off the gas shut-off valve if your gas geyser has been subjected to over heating, fire, flood, physical damage or if the gas supply fails to shut off.
3. Do not allow combustible materials such as newspaper, rags or mops to accumulate near the appliance.
4. Do not store or use petrol or other flammable vapours and liquids, such as adhesives or paint thinners, in the vicinity of this or any other gas appliance. If such flammables must be used, open doors and windows for ventilation.
5. Appliances in the vicinity should be shut off to avoid vapours igniting from the gas burner. Flammable vapours can be drawn by air currents from surrounding areas to the inlet of gas geyser.

ADJUSTING THE OVER PRESSURISATION VALVE (OPV) FOR FREEZING TEMPERATURES

When you have done a new installation and have connected the water, then you can use a small or medium flat screw driver to UNSCREW the grubscrew in the hollow centre of the over-pressurisation valve until the water drips out.

Then screw it BACK IN 1 full turn. This will mean that the over-pressurisation valve is set to the your specific water pressure supply and in the event of the water in the pipes freezing the valve will push out a small amount of water and allow the water to freeze in the geyser without causing damage.



Operating instructions

1. Open the battery box underneath the geyser and insert two D cell batteries, paying attention to polarity
2. Open the cold water valve that has been installed on the cold water inlet pipe or turn on the main water supply. Open the hot water tap which your new geyser now feeds. You should hear the water flowing through the geyser, if the batteries are installed correctly you will hear the geyser start to ignite if the gas does not come through it will turn itself off – this is one cycle. To initiate another cycle turn the tap off and then back on again.
3. You can now open the gas cylinder and any gas shut off valves installed on the gas line. There may be an air lock inside the gas line especially for gas piping which is longer than three to five meters. To get rid of this airlock you will have to run the geyser through multiple cycles until the gas reaches the burners, it will then ignite. should this not work after three cycles bleed the gas through the gas inlet demountable, ensure the geyser is off during this phase.
4. You can adjust the temperature of your new gas geyser by using the digital control panel
5. Try setting your gas geyser between 40-45 degrees Celsius. You should not need to add “much” cold water if any at all. This way you are maximizing your efficiency by not using more gas than you need to by overheating the water. For longer runs in water pipe you may need to make this temperature slightly higher.
6. This gas geyser may only be installed in a room where that room meets the specific ventilation requirements of SANS 10087:1. If you are unsure please call the Dewhot offices to clarify.
7. Ventilation required for this gas water heater is two vents of 3cm² per Mj of gas consumption. This equates to a total of two vents of 236cm² each - one installed at high level and one at low level.
8. This gas geyser must be connected to a flue to evacuate the combustion products to the outside of the building. If the gas geyser is installed outdoors it should still be fitted with a solid 300mm flue and cowl.



Operating warnings

- Don't use the gas geyser in a sealed room or room with no air circulation (see ventilation instructions on page 11).
- If you find a gas leak, turn off the gas valve immediately. If the room smells of gas, turn off the gas water heater and do not touch any electrical appliances or switches or turn on any hot or cold water taps. Call your installer immediately to determine the fault.
- When leaving the premises for extended periods, turn off your gas supply and turn off the gas geyser in the event of a hot water leakage the geyser will not turn on.
- The body of the gas geyser can get hot during operation, do not touch any part of the gas geyser, except for the gas and water control knobs.
- Do not put any foreign objects in the exhaust port, air inlet or on top of the gas geyser to avoid incomplete combustion which results in poisoning.
- Should you notice a yellow flame which indicates abnormal combustion you should close the gas valve right away and then contact the installer.
- Before outdoor temperatures reach below zero degrees make sure the remaining water is emptied out of the gas geyser to avoid it freezing (Set your OPV refer to page 13).



SETTING YOUR GAS GEYSER TO THE CORRECT TEMPERATURE

The gas geyser should be set to such a temperature that you should not have to add too much cold water. If you set the temperature too high and have to cool it down using the cold water, you have effectively wasted gas. Try set the geyser so that you only have to open the hot water tap only.

Start by setting the geyser (as seen on page 17) to 42°C for pipe runs shorter than 3m. If your pipe runs are from 3-5m try setting the geyser at 43°C and for pipe runs longer than 5m try setting the geyser at 45°C. If you find these temperatures are not satisfactory then increase the temperature by 1-2°C at a time until you feel the water is hot enough.

The hottest water temperature will be from the hot water tap closest to the gas geyser.

Always remember to test the water temperature with your hand before use and remember that hotter water settings increase the risk of injury.

The gas geyser is fitted with a device that will shut off the gas supply to the burner

if the appliance exceeds normal operating temperatures at about 75 °C

The appliance won't operate with a water flow of less than 3 litres/minute. If this occurs, increase the water flow.

A GUIDE LINE OF SHOWERING TEMPERATURES

Body temperature: 35-37 °C

Summer time comfortable showering temperatures: 35-38°C

Warm shower in winter: 39°C

Hot showering temperature in winter 42°C (most preferred showering temperature)

Very hot showering temperature in winter: 44°C

For a bath temperature in winter: 48-50°C

Bare in mind a geyser showing 40°C will not be the same temperature at the shower head as it will lose heat travelling through the pipes, the further the run in pipes the more heat will be lost. Also bare in mind the slower the flow rate the more heat will be lost through the pipes as the water spends more time travelling to the shower losing greater amounts of heat.



How to set the Water Temperature

To set the temperature on your Low Pressure gas geyser it is recommend starting with the gas flow knob at 12 clock or directly in the middle of the setting range and for the water flow lever to be at 12 o'clock, also in the middle of the setting range, and the shower hot water tap fully open and then follow these directions:

If the temperature is above 48°C then turn the gas flow knob down to save gas until you achieve a temperature comfortable enough to shower as set out on page 16.

If the temperature is below 39°C or lower than what you would like to shower with, slow down the water flow, bit by bit, until the temperature is comfortable enough to shower as set out on page 16.



Maintenance and cleaning

GENERAL MAINTENANCE

If your gas technician maintains your gas geyser you should not have any issues with it for years.

We recommend that you periodically check the burner, relief valve, water filter and flue system.

This needs to be done by a certified installer. A maintenance program is advisable.

1. Inspect the area around the gas geyser to ensure that its in a safe operating environment.
2. Make sure that the appliance has not been damaged. If there are traces of damage or denting contact your supplier to check that the appliance is still functioning properly.
3. Check for any abnormal sounds while operating your appliance. A light humming sound is normal from time to time.
Check for gas/ water leaks.
4. The cold water supply filters should be cleaned once a year.
5. Perform regular maintenance on the

geyser to prevent carbon monoxide dangers, excessive hot water temperatures or other potentially hazardous conditions.

DO NOT

1. Continue to use the gas geyser if you feel that there is something wrong with it.
2. Allow children to operate or handle the appliance.

After you have checked, maintained and/or cleaned the appliance, make sure that it is working properly by turning on the hot water tap.

COASTAL CORROSIVE ENVIROMENTS

For geysers installed near the coast, get your gas installer to remove the cover and spray electrical contact cleaner on all the electronic contacts, after the electrical spray has dried up you can spray Q30 or any other kind of electrical sealant to seal the joins and prevent corrosion from entering the electronics. This is highly advised and can be performed at any location inland or coastal. Do not perform this step if the geyser is on.



GENERAL CLEANING

1. Clean the appliance and remote control by using a damp soft cloth only. Gently wipe the surfaces of the appliance and any remaining moisture with a dry soft cloth.
2. Do not store household items near or on top of the appliance
3. inlet water filters should be cleaned on a regular basis.
4. DO NOT scrub the appliance with a brush.
5. Use only water, any chemicals can damage the surface of the appliance.
6. DO NOT remove any labels, including the rating table when cleaning or servicing.
7. DO NOT splash water on the remote controls when cleaning.

CLEANING THE WATER FILTER

- Turn the appliance off
- Turn the water supply to the appliance off.
Unscrew the water fitting and pull the filter out.
- Remove particles - use a soft brush and rinse it with running water.
- Put the filter back and screw it in
- Turn on the second the cold water supply.

CAUTION

Cleaning of the main burner should always be performed by Registered LPG Installer.

A compressor can be used to clean the burner.

BURNER INSPECTION

Visually check the main burners annually.

Use the sight glass to check the flame picture, the flame should be a clean blue flame only.

If a yellow flame occurs, the gas geyser should be shut down and you should call a qualified installer to assess the appliance.

Check to make sure that the air supply and the vent terminal have not been blocked or contain debris.

VACATION AND EXTENDED SHUT-DOWN

If the gas geyser is left for an extended period of time, the power and gas to the appliance should be turned off.

The gas geyser and piping should be drained if they could be subjected to freezing temperatures over this period. After a long shut-down period, the gas geyser needs to be serviced and checked.



Symptoms and faults

| Symptom | FAULT & SOLUTION |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The LCD stays on permanently | <p>If the LCD stays on permanently it will drain the batteries, try patting it with a flat hand progressively harder on the front or side cover if the screen does not go off</p> <p>Replace the flow sensor and clean out the old one as something may be causing the float to stay up.</p> |
| The geyser is not igniting at all when the water is turned on | <p>Check the batteries are in the correct way and they are not flat.</p> <p>Check for corrosion in the battery box or on the batteries.</p> <p>The on/off switch may be faulty try bypassing it.</p> <p>The water flow rate may be below 3lt/min The impeller in the flow sensor is not "spinning" OR that the float may not be activating. If the flow sensor is not activating properly the geyser will not ignite.</p> <p>If none of the above resolves the issue you may need to replace the control box</p> |
| The geyser ignites and provides you with hot water but slowly goes cooler and cooler until the water is cold | <p>Gas levels may be low</p> <p>The regulator may be faulty</p> |
| Only 35-38 degrees reached on the LCD screen | <p>The water flow may be too high</p> <p>The regulator may be undersupplying gas, Check the gas inlet pressure is operating at 2,8 kPa while the appliance is running</p> |



Symptom

FAULT & SOLUTION

The geyser ignites and burns but dies after a couple of minutes

If the geyser is reaching temperatures higher than 65°C, it may be cutting out the water temperature sensor, this is normal. Refer to setting the geyser correctly on page 16.

The flue may be blocked or may be pointing downward creating a build up of burnt gases and tripping the flue sensor

The geyser ignites and burns for 10 seconds only and then goes off

The flame out sensor may be faulty.

If the geyser continues to ignite while the flame is on replace the control box.

The geyser is dripping water from the over pressurization valve

This is normal during freezing temperatures.

If it is not freezing then turn the OVP screw inwards until the water stops dripping then turn it 1 full revolution more.

The geyser ignites and you can hear the flame come on but dies immediately after less than 1 second or so

Flat batteries

Temperature sensors are faulty on the radiator or chimney.

One of the two solenoids may be faulty.



Symptom

FAULT

The geysers tries to ignite but the flame does not come on

There may be no gas to the geysers.

Flat batteries.

Faulty regulator

There is a bright yellow flame on the burners and you can see black soot building up around the top of the geysers

The burner has been blocked causing incomplete combustion seen as a yellow flame. Clean out the burners and jets and all black soot with a degreaser.



Different types of gas geysers

TYPE A

Type A gas geysers are geysers that do not require a flue (a flue helps to transport the products of combustion to the outside atmosphere). The reason they do not require a flue is because their consumption rating is below a certain threshold which also allows them to be used indoors.

TYPE B

Type B gas geysers are geysers that always require a flue. They can be installed indoors provided that they are done so with a flue. We can remember Type B by associating the 'B' with 'Bedroom' which is indoors. These geysers may also be installed outdoors.

TYPE C

Type C gas geysers are designed to be installed indoors, these geysers require no ventilation because both the intake of air and the outlet of burnt air come to and from the outside of the building. This means they are room sealed and use no oxygen from the room which they are installed.

TYPE D

Type D gas geysers are strictly outdoor gas geysers and under no circumstance can be installed indoors. Not all type D gas geysers require a flue. We can remember Type D by associating it with 'Donkey'. Donkeys inherently live outdoors but more aligned with the old donkey water heaters which were steel water tanks installed over a fire outdoors.



Only a registered gas installer can install your gas geyser and must comply to SANS 10087-1

User

This appliance may only be installed by a registered LPG installer.

Registered installers are issued with a card that displays their registration number.

Insist on seeing this card and make a note of their registration number.

When they have finished their installation make sure the installer performs an operational and safety briefing.

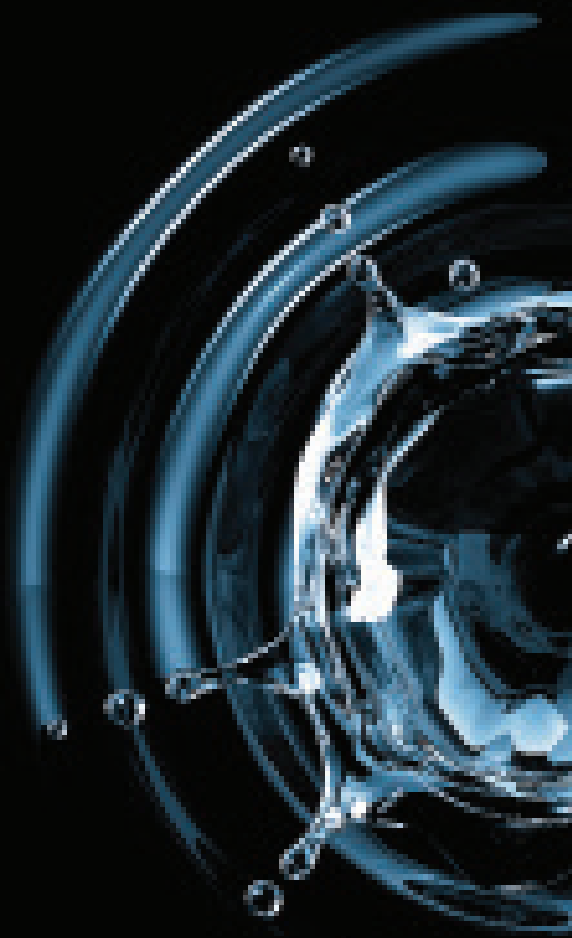
Before you sign off the installation, make sure you also receive your COC

Installer

This appliance may only be installed by a LPG Installer registered with the South African Qualification and Certification Committee (SAQCC). The appliance must be installed in accordance with the requirements of SANS 10087-1 for use with LPG and or any fire department regulations and/or local bylaws applicable to the area.

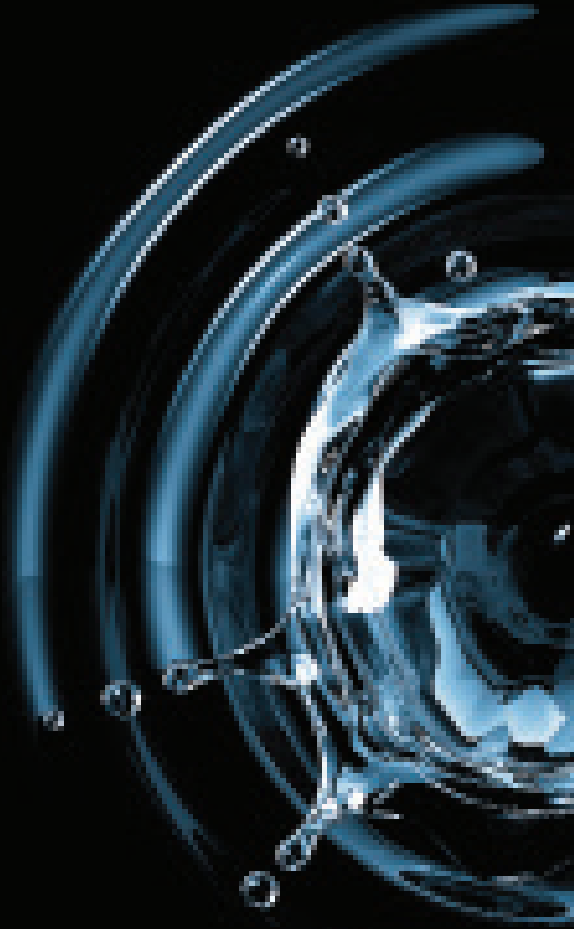
If in doubt, check with the relevant authority before continuing with the installation. Once an installation is complete you are required to brief, in full, the operational and safety functions of the unit.

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