



HOME OWNER DEMONSTRATION



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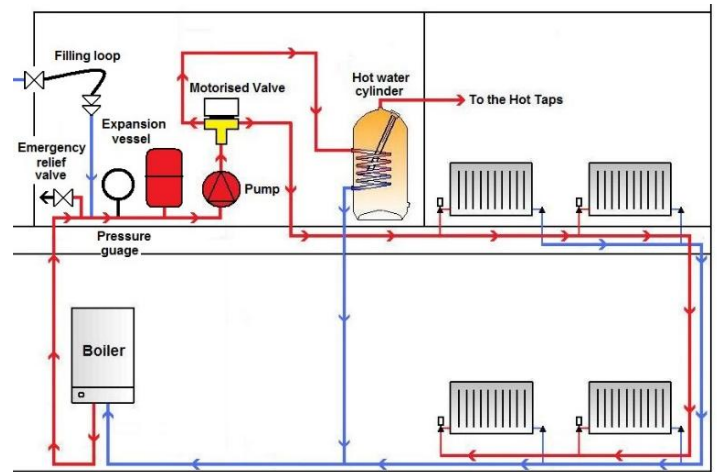
1.INTRODUCTION

- This Home owner's guide issued to the occupier has been written to aid the customer into better understanding and of the operation, components, usage and general maintenance of the plumbing and heating system.
- We will cover
 - Types of systems
 - Controls
 - Operating Heating
 - Key Components
 - Service and Maintenance
 - Common Central Heating issues
 - Increasing the pressure
 - Warranty
 - FAQ
- All these points are considered key points Customers should be aware of, which are explained in more depth in the homeowners guide.

2. TYPES OF SYSTEM

Mains Pressure

Over recent years, high pressure systems have been introduced. These keep the whole of the hot and cold water systems under constant mains pressure and are “sealed” to the atmosphere.



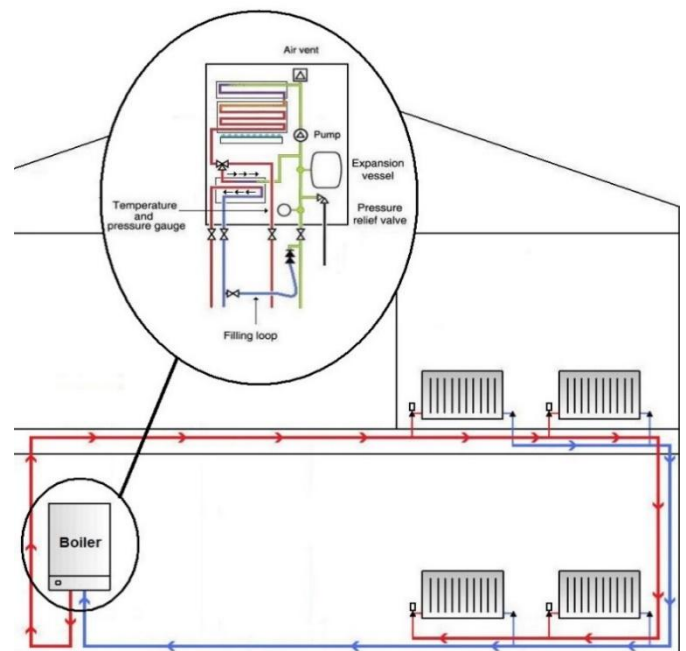
a) Sealed System

This system operates with a conventional boiler and a special unvented hot water cylinder designed to store hot water at mains pressure (currently the most common system we install). This consists of an expansion vessel for the heating (red vessel) and an expansion for hot water (either accommodated within the cylinder or a separate white expansion vessel).

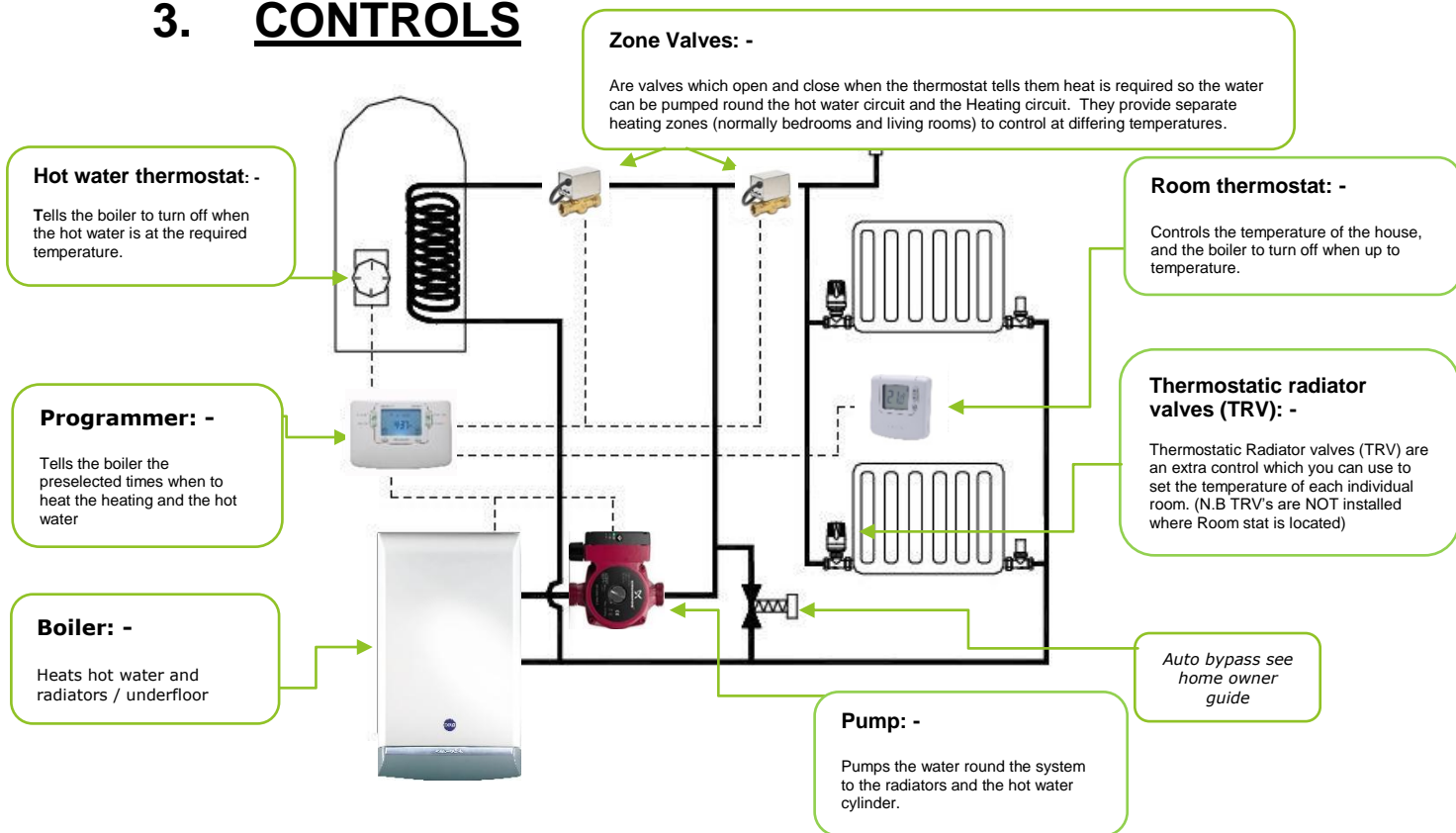
b) A Combination boiler

A Combination boiler provides a continuous but limited flow of pressurised hot water on demand, when you open a tap and the flow of water through the boiler tells it to heat the water so you have instant hot water, with no stored water in the system, hence no requirement for a cylinder.

Combination boilers are normally installed in flats and 1 bathroom houses. It is possible to install on larger properties but the boiler has to be correctly chosen to attain the required flow of hot water for the greater demand.



3. CONTROLS



a) Operating your heating

Our view is that you should work on comfort levels rather than temperature. Thermostats should be set to the lowest comfortable temperature

The objective is to obtaining the right level of warmth for the minimum use of fuel. What's the right level will depend on your lifestyle and your family. It will be different for a single person who spends most winter evenings in one room and a family with children who may need the heat in more rooms.

Your property has been designed on a room by room basis, with hallways and bedrooms having lower temperatures then kitchens and living rooms.

- With TRV's on your radiator try turning it down a little at a time until you find the room temperature you want (TRV's are not installed where the room stat is located, so not to give a false reading)
- In cold snaps it's tempting to turn the thermostat up. However, it's not the overall temperature of the system that's the problem. It's that it takes longer for the house to warm up because it's starting at a lower temperature and the fabric of the building takes longer to heat. Therefore, you may need to account for this and program the heating to come on a bit earlier.

4. IDENTIFYING KEY COMPONENTS IN THE SYSTEM.

In your new property you should take the time to familiarise the plumbing and heating system and be aware of the following

a) Location of underground shut off valve

It is a good idea to locate your underground shut off valve, this is where the incoming main can be isolated before the water reaches your Property.



The water supply shut off valve is usually located on the pavement or road. If you live in a flat the isolation will be in the riser cupboard on your floor and also an additional valve above your front door in the ceiling.

b) Location of the main water stopcock

The stopcock is used to shut off the entire supply in an emergency. Always leave the stopcock a ¼ turn from fully open so that you have leverage if it seizes in the future.



Closing this valve will isolate all water in the property. Some hot and cold taps will still run for a short time due to water being stored in the roof tank or if a sealed system in the cylinder.

c) Basin isolation valve

The basin isolation valves isolate the hot and cold supplies for servicing and maintenance, they require a screw driver to isolate.



a) External Tap isolation Valve

The valve will isolate the outside tap. It is recommended that the valve be closed in the winter months and the OST left open to prevent freezing and damaging the tap. The tap is normally located under your kitchen sink or in the airing cupboard.



b) Double Check valve/Non Return Valve (NRV)

This valve is fitted to any external outlet or water draw off point; it stops contaminated water from entering the system and causing infection.

WARNING: We have found that if the outside tap is not isolated at the internal isolation valve in the winter and the external outside tap left open if the tap does freeze there is a possibility it will leak badly at this point INTERNALLY as this check valve / NRV will stop any expansion in the pipe.



c) Heating Filling loop

Increases water to your heating system increasing the pressure.



d) Pressure gauge

Airing Cupboard, under the boiler (Combination boiler and or system boiler) or within boiler case.

Shows the pressure within the system. The pressure should be above 1 bar (red dial is just an indicator). Normally where the pressure gauge is also where the filling loop is connected.



e) Cold Mains Water Isolation valve

Isolates the cold water supply to the cylinder and thus isolates the hot after the cylinder (although taps may draw off for a short time until the pressure is released from the cylinder).



f) Expansion Vessel

There are two main types of Expansion Vessel dependent on what application you have.

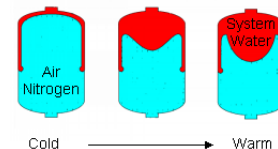
Red Vessel (Heating) to be used on a Sealed System Heating application.

Blue Vessel or White Vessel (Potable Vessels) would be in a drinking water application such as an Unvented Water Heater or a Pumped System.

Potable Expansion Vessels are built from different materials than Heating Expansion Vessels to ensure that the water is contaminant free and safe for human consumption. With some systems the expansion is taken up within the cylinder (such as a Heatrae sadia Megaflor) instead of a potable expansion vessel.



Expansion Vessels operate on the basis that the internal chamber is separated by a rubber membrane, inside this membrane sits the water and surrounding this sits a pocket of air.



As the water inside the sealed system is heated the water pressure increases, as water is non compressible the air inside the air chamber of the Expansion Vessel will become compressed thus leaving the system safe from over pressurisation. As water can increase by 4.5% volume when heated from 0-100 °C. An Expansion Vessel is a vital part of any sealed heating system to accommodate the ever changing pressure and expansion in the system.

g) Tundish

It is installed on the discharge pipe to provide a visual window to the overflows and also provides an air gap to prevent an unsanitary cross connection between a discharge pipe and a sewer line or drain.



5. GAS

a) Gas in your property

It is important for you to know where to isolate the gas supply.

The isolating valve (used to shut off the gas) is usually located in the gas meter box, as part of the gas meter.



If the meter box is located outside, then you would need a gas key to open the box, in which case ensure that the key is easily located.



If you live in a flat the gas valve will also be located in either a kitchen cupboard, wardrobe or a separate boxing marked and labelled emergency control valve.

Emergency Control valve

Location: For flats the valve is located in the flat and indicated with a label containing the relevant details of your gas supplier in case of emergency.



Valve type: Lever valve

Description: Isolates all the gas in the flat after the valve.

EMERGENCY GAS CONTROL	
IN THE EVENT OF AN ESCAPE OF GAS OR EMERGENCY	
Shut off gas supply at the valve first above all actions.	
Contact the Gas Company.	
Do not re-ignite any emergency gas valve until it has been advised to permit by the gas engineer.	
Gas Company:	<input type="text"/>
Emergency Tel. Number:	<input type="text"/>
Name of Gas Installer:	<input type="text"/>

6. SERVICING AND MAINTENANCE.

a) Boiler service

Boilers have an effective lifespan of 10 years, to keep them running they should be checked annually to ensure they are working efficiently and safely, only a Gas Safe registered engineer can conduct this work. Neglecting to service your boiler on a regular basis can result it running inefficiently, which will increase your utility bills and shorten the life of the boiler. Un-maintained boilers can release carbon monoxide, an odourless gas that kills a significant number of people each year, but most commonly the simply stop working. If you don't service your boiler you risk it breaking down when you need it most.

b) Unvented hot water system

Regulations governing the installation of hot water systems place the responsibility for the safe installation of the system on the installer. Customers must be made aware that periodic checks of the equipment are essential for continued safe and efficient operation.

Maintenance and inspection periods will vary for many reasons; some manufacturers recommend a maximum of 12 months between inspections to coincide with boiler service. Experience of local water conditions may indicate that more frequent inspection is desirable, e.g. when water is particularly hard or scale forming or where supply contains a high proportion of solids such as sand or sediment.

7. COMMON CENTRAL HEATING AND HOT WATER ISSUES

a) How to tell what the current pressure of the system is?

Every pressurised system, regardless of the type of boiler (combination boiler or standard or system boiler), will incorporate a pressure gauge or an electronic gauge on your boiler (please refer to your boiler instructions will indicate where the gauge is if integral).



This pressure gauge is the device with which the system water pressure in your heating system is monitored.

To maintain the system in a healthy condition the pressure gauge should be checked monthly. If when you check it, you find that the system pressure has fallen below 1 bar, please follow the steps below to re-pressurise your system.

Your boiler instructions will advise of the pressure that your system operates at. Most systems should be pressurised to between 1 and 1.5 bar. Manufacturers normally state 1 bar, however most systems you will find are pressurized to 1.5 bar, to allow a moderate venting of radiators without effecting the boiler operation.

b) Why is Discharge overflow is leaking outside and dripping water in airing cupboard



The can happen for several reasons.

- A failed or de-pressurised expansion vessel (or cylinder air gap if a Megaflo) is a common cause when water passes out through the safety pipe, to stop the pipework bursting if the expansion vessel fails, the system is fitted with pressure relief safety valve, which will let by if pressure rises.
- Also it is not uncommon for the pressure relief valves to fail, as they are constantly working and moving against the ever changing pressure of your hot water cylinder as the water heats and cools.
- If the pump fails or sticks the pressure can spike above 3 bar forcing the pressure relief valve open and water passes out of the system along a safety pipe and is dumped or slowly dripped to outside the building.

c) Why is my system pressure low?

Most of the issue you will find with boiler, hot water and central heating issues are because the pressure has dropped, and can be resolved by re-pressurizing the system.

Below is examples of alternative filling devices 1 to 3 are devices located on your boiler and device 4 is the standard arrangement in your airing cupboard.

1, Flexible filling

2,



Rigid filling



3, A filling Keys



4, Standard



If the system is free from leaks the water pressure should remain constant within the system in future months. If you notice that the pressure regularly falls you may have a pressure leak. Please note the pressure will go up and down with the heating system being on and off.

Bleeding radiators involving perhaps a small amount of air escaping from a system at the radiator bleed point can reduce the overall system pressure. As a result after bleeding your radiators you should remember to check your pressure gauge and fill the system as required.

Water leaks will cause pressure loss within a pressurised central heating system and the severity of water leaks can vary. Very small leaks will cause pressure drops over a long time, possibly several months or even a year. Leaks of this magnitude may not be detectable as the water evaporates quite quickly although you may spot some residue following evaporation of the water.

Larger leaks may be more visible and will mean your system will require filling as frequently as once or twice a week. If this is the case you should check your system for leaks when it is cold paying particular attention to the areas around radiator and boiler valves. It is recommended that you check for leaks when the system is cold as heat causes expansion and can seal small leaks temporarily. Sometimes these need to be monitored over a period of time to establish the source.

d) How do I increase system pressure?

The pressure is on zero or below one, and the boiler will not fire, or only some of my radiators are not getting warm.

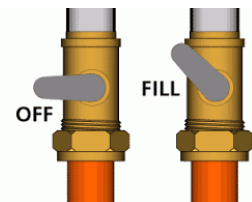


1. Locate the filling loop, or filling tap assembly. It will hopefully be assembled such as the one on the right. If not, you will need to hand tighten the flexible hose onto the taps (there may be caps we need to remove from the taps first, make sure the valves are off), screw filling loop on and once hand tight use a pair of grips to give a final tighten $\frac{1}{4}$ to $\frac{1}{2}$ turn.



2. If you have a system or combination boiler the filling loop may be located under the boiler or in a cupboard nearby.
3. You are aiming to add around 1 to 1.5 bar of pressure in the system. If you cannot see your pressure gauge while filling the system it is recommended to have a friend look at it for you while you are turning the tap.

4. When you look at the filling loop the valves are closed when they are at a right angle to the pipe.



5. You may only have one black tap to turn, you may have two, or you may even have a screwdriver slot at both or one end. However the on and off positions are the same in both instances.

The taps will only turn one way. If a screw driver type valve these will turn 360 degrees but off and on positions are the same as the tap positions.

6. Open one tap fully, then followed by the other valve, when you do this you will hear water entering the system.
7. At this point, the needle, or display on the gauge will start to rise, sometimes there is a delay while pressure builds. The red dial will not move this is just a manual indicator. Remember you are aiming for 1.5 bar

8. Don't worry if you put too much in the system (2 bar and above), as the pressure relief valve will discharge the excess water in the event of too high pressure.



However, it is best to get it right first time, as the safety mechanism can keep on dripping once it's started, and then you'll keep having to top up the pressure!

9. If you find your system has discharged the excess pressure, then just repeat the process until pressure at 1.5 bar.

e) **My boiler is not working?**

If your boiler is not working there are simple tasks you can do to get it working again.

1. Check Power supply

- Check the main circuit board hasn't tripped?
- Check the fused spur hasn't been turned off, normally located underneath the boiler (maybe a toaster has been pushed back against it?).
- Check the fused spur hasn't blown. This has a 3 amp fuse installed to protect the programmer and the boiler from blowing, if you find a 13 amp installed, change for a 3 amp, or request the electricians attend.
- Check the programmer on, lights on?
- Check the lights on in the boiler.
- Has there been a power cut, has the main board tripped and need resetting?
- Your programmer may have reverted back to its factory settings?
- Do the batteries need changing, some programmers and room stats are battery operated.



2. Check the Gas supply,

- With modern gas meters it is not uncommon for them to lock out and cut the gas supply to the property, if you have not got a gas hob or fire to check supply. Open your meter box the screen should say if locked out and tell you how to reset. Normally just pushing button B then A.



3. System pressure, is it below 1 bar? This is the most common cause for boiler failure.

- Check you pressure and if need be recharge system if required, as explained previously.



4. Check your heating controls,

- The programmer may have blown, (is it loose on the wall, poor electrical connection).
- The programmer may not be asking for heat, turn onto constant
- Room stats could be turned down.

5. Reset your boiler

- Try resetting your boiler by pressing the reset switch on your boiler, turning your boiler on and off on its controls.
- Turn on and off the fused spur.

If you have gone through all of the above and it still does not work, please call us for advice.

9. WARRANTY

Your home is covered by a two year NHBC warranty, on defects and products.

However the warranty does not cover the following.

- It is the homeowner's responsibility to provide access for us to attend to the issues raised, during working hours from 9.00 – 16.00 Monday to Friday.
- It is the homeowners responsibility to maintain and service the property in accordance with manufacturer's instructions i.e. boiler, cylinder and system every 12 months. Failure to produce a current service record will nullify your warranty, **NOTE** manufactures will refuse attendance without being sent proof of service prior to attending.
- Any issues with blockages to the sewer of waste system due to inappropriate products being introduced by the occupier (i.e. baby wipes)
- Any damage caused by severe weather.
- Certain components within the property only carry a 12 month warranty from the manufacturer's i.e. expansion vessels, temperature and pressure relief valves etc. If past the manufacturer's warranty period any remedial works are at our discretion and costs may be passed on.
- Normal wear and tear, deterioration or damage caused by neglect, damage from accidents or misuse
- Any costs/expenses, professional fees incurred by the homeowner to fix a defect which has not been formally reported and approved in writing and costs agreed prior to works being undertaken.
- Loss of enjoyment, inconvenience, distress or any other consequential loss suffered as a result of remedial works being undertaken.
- Damage of items due to issues not reported in a reasonable timescale.
- Damage of items where the homeowner has not mitigated their loss.

If we are requested to resolve any issues not covered under the warranty we reserve the right to pass any costs on at our discretion.

10. WARRANTY EMERGENCY CALLOUT (2 YEAR NHBC COVER)

We operate an out of hour call out service for our clients, where we will try to attend as soon as possible.

Please contact your emergency callout number as first port of call. You can try the office number 01865891955 or alternatively email mail@renelec-chalgrove.co.uk, make sure the email contains all contact details including address, email addresses, contact numbers, details of the issue and if possible photos to aid diagnosis.

Other than general items, we also exclude as an emergency and attend in normal working hours

- Noisy systems
- No heating (May to September).
- No hot water (if a backup is present i.e. immersion heater).
- No pressure in heating system (deemed to be under occupiers duty of care)
- W.C. out of use (if other toilets in the property, and possible to temporary flush with a bucket/bowl of water)
- Shower and or bath out of use.
- NO water to the property if occurrence is also to properties in the area, as deemed to fall under your water supplier.
- No gas to the property (falls under the remit of gas supplier) (if an electric gas meter check to see if has tripped)

Mastic, it is not uncommon for failed mastic being cause for leaks from showers and or baths. Where water leaks through to the ceiling below. We do not carry out any mastic works and these works fall within other trades warranty cover. If you do have a leak from the bathroom or shower it is worth inspecting the mastic around the bath or shower tray as these are the most common causes.

Manufactured product and component failures, fall under the manufactures warranty procedures. We will pass on the details during the out of hour's period, and apply pressure on your behalf. However once we pass the job forward. The manufacturer contacts and arranges all access direct with homeowner, to carry out the works in the timeframe they operate in.

11. Frequently asked questions

1) **How do I bleed radiators?**

A cold spot at the top of your radiator is normally due to a build-up of air in the radiator. This can usually be cured by bleeding the radiator using a key, you normally do not need to bleed every radiator, as you will find that the air will gather in the same radiators.

The procedure for radiator bleeding is relatively simple and safe. A bleed valve is installed near the top of the radiator, on one side. You want to open this valve to allow a small amount of air to escape from the top of the radiator whilst not allowing the water to flow out.

TAKE CARE when turning the valve. Have a cloth ready to shield your hand and a small bowl to catch any small drops of water which may escape. You do not want dirty water dripping on the floor.

Fit the bleed key into the bleed valve and carefully turn it counter clockwise only a tiny bit, usually just a 1/4 or 1/2 turn.

The air will start escaping with a hissing sound similar to a bicycle tire. When water begins to dribble out, all the air is purged, and you can gently return the bleed valve to its previous position.

You should then remember to turn the heating back on and check that there are no leaks from the radiator bleed valve.



2) **What do I do if I smell gas?**

- Do not turn electrical switches on or off. Do not use naked flames/smoke.
- Extinguish all flames and cigarettes.
- Turn off supply at the gas meter.
- Open doors and windows where possible for ventilation and go outside.
- Never tamper with gas installations.

3) **My boiler is not working do I have back up for hot water?**

If you have a cylinder storing your hot water, you will have an immersion heater which will provide hot water if the boiler breaks down.

4) **What is an immersion heater?**

An immersion heater is an electric water heater that sits inside a hot water cylinder. They act a bit like a kettle to heat the surrounding water. Depending on the size of your cylinder you may have one or two immersions.

You can turn your immersion heater on or off by simply flicking the switch on the wall socket.



5) What is the best way to clean my bathroom suite?

Your bathroom suite and fittings are made of durable, high quality materials. However, to ensure they keep their looks and don't scratch or tarnish, you need to be careful over your choice of cleaning fluids and materials.

Acrylic baths, basins and shower trays should be cleaned as often as possible to prevent discolouration and the build-up of deposits like lime scale.

Avoid abrasive cleaning materials at all cost; the tiny scratches they leave will dull the finish of your bathroom over time and trap dirt and deposits.

Similarly, don't use abrasive cleaners on taps and other fittings with a chrome finish to avoid scratching, flaking and corrosion.

Instead, choose a cream cleaner, applied with a soft, non-abrasive cloth. And always make sure you rinse every surface thoroughly before allowing it to dry.

6) My WC seat hinges are rusty, how do I clean?

Hinges should be cleaned with non-abrasive cleaning products. If you find your hinges have rusted these can be cleaned with Brasso to remove the chemical build-up. If the hinges are kept free from direct contact for long periods of chemical cleaners and are kept dry this should reduce this type of build-up in the future.

7) There are Rust spots in my kitchen sink?

Your kitchen sink is stainless steel and does not rust, these marks are from small iron and rust particles and not the sink itself. To remove mix baking soda and white wine vinegar into a paste,

- spread onto the rust spots and leave for 10-20 minutes.
- Rub with your finger or a clothe so it penetrates the the rust spot.
- Leave for a further 10-20 minutes
- Wash off.
- Repeat if stain still present



8) Why is my bath hot colder than the rest of my house?

Under building regulations G3 which came into force in 2010, all new properties must have the temperature of the hot water supplied to the bath limited to no more than 48 °C. To do this a thermostatic blending valve is installed underneath the bath.

