

What exactly is a Condensing Boiler, and how are they different from Combi Boilers?

A condensing boiler with a gas-to-water or primary heat exchanger, of which there may be more than one, has a larger surface area than it would within a non condensing boiler. This extra surface area allows more heat to be extracted from the combustion process for the same amount of fuel that is consumed in a non condensing boiler. They are available as regular and combi models, floor standing or wall hung. Care is needed when siting the flue terminal, due to the plume effect. They require less fuel to apply the same amount of heat to the system, producing less greenhouse emissions.

Where as the Combination Boiler, is a specially designed boiler which is used to heat up the domestic hot water instantly as and when it is required and also to serve a SEALED SYSTEM of hot water central heating. Using this type of boiler reduces the installation costs, in that, no feed and storage vessels are required for the supply of water, also by omitting the storage of domestic hot water a saving can be made in not heating the water unnecessarily.

What temperature should my hot tap be running at?

The temperature of stored hot water should be in the range of 60°C to 65°C and the temperature of distributed hot water should be greater than 50°C. Under normal conditions the temperature of the stored water should never exceed 65°C. A stored water temperature of 60°C is considered sufficient to meet all normal requirements.

For healthcare premises, the following recommended mixing valve outlet temperature settings are:

Baths supervised	46°C
Baths unsupervised	44°C
Basins	41°C
Showers	41°C
Bidets	38°C

Also if you have ever wondered what is the correct side for the hot tap to be on, it should as a matter of good practice always be on the left hand side to assist the elderly, disabled and especially the blind in identifying between the hot and cold taps, as detailed in EN 200 : 1989 ref. 5.2.

What is the difference between Water Conditioners and Water Softeners?

Water conditioner devices are used to overcome the problems of SCALE in the pipe work. Generally water conditioners do not soften water, they just stabilise the calcium salts which are held in suspension. There are two basic types, those that use chemicals and those that pass water through an electronic or magnetic field. For further information on water conditioners it may be useful to contact The United Kingdom Physical Water Conditioners Association on telephone number: 01484 453667

Water softening can use a process where hard water is allowed to pass through a pressure vessel containing Zeolites, or a resin which absorbs the calcium and magnesium salts in the water. After a period of time the Zeolites become clogged with calcium and need to be regenerated with common salt (sodium chloride).

What is a sealed heating system?

A sealed heating system, as the name implies, is sealed to the atmosphere. The feed and expansion cistern and all its ancillary pipework are replaced by an expansion vessel, a filling point, an energy cut-out and a pressure valve (safety valve).

Unvented hot water systems - These systems are covered in the Building Regulations, part G3 (1992 edition), which states that unvented hot water storage systems shall be installed by a competent person. Building Inspectors around the country are demanding this proof in the form of a current Registered Operative identify card issued by the Construction Industry Training Board, IPHE or an equivalent body.

Lead used in solder - is it legal?

BS 6700 1.42 covers the subject of lead within jointing and states "Solders for jointing shall be lead free."

BS 6700 2.6.2.1 states that, in order to ensure that any materials used in the manufacturer, installation or repair of water fittings and appliances likely to be in contact with water, will not have an adverse effect on water

quality materials shall be in accordance BS 7766 - specification for assessment of the potential for metallic materials to affect adversely the quality of water intended for human consumption. We believe that it is also covered in the Water Supply (Water Fittings) Regulations 1999 for England and Wales schedule 2.2 (1)

How do I know if my Central Heating system requires chemical protection?

Corrosion costs you money. It reduces the fuel efficiency of the boiler, causes poor circulation to radiators and can lead to pump failure or boiler noises. A leading manufacture recommends the following two simple steps.

- Fill a small clean jar with water drawn from a radiator vent or drain - off point.
- Add a few steel nails (not galvanised) to simulate the steel of the radiators and a penny or short piece of copper pipe to represent the pipework. Close the lid of the jar and leave for approximately three days.
- If the nails rust, you can be sure that all the steel within the heating system is corroding. However, if the nails stay clean and bright then the system already contains an adequate dose of Central Heating Protector. If the nail test indicates a corrosion problem you will need to clean and treat your system.

I have poor cold water supply to my house. What is the minimum requirement from the Water Authority?

The minimum requirement that the Water Authority has to attain for a dwelling is 0.75 - 1 bar at 0.9l/s. This pressure is equivalent to 30', (10 m) head or 14.50lb / in² (psi).

Why are there noises coming from the plumbing in my home?

The noises could be caused by Water Hammer (Concussion / Reverberation). There are two basic noise types. Firstly a noise which consists of a loud sudden bang can be caused by a loose stopcock jumper that quickly flips shut onto the seating. Or it could be caused by pipes which have not been fixed correctly and flap about, this noise is caused by any sudden back surges of water, such as the rapid closing of a tap. Secondly, a noise that consists of a series of bangs or rumbles generated in the pipeline, often called oscillation or ball valve murmur. This noise is created by a ball valve quickly opening or closing which is caused by ripples or waves which form on the surface in the storage cistern.

Why do we have a bad smell coming from the sink?

If the trap seal is lost, objectionable smells would enter the building. Trap seal loss can be caused in several different ways as follows:

1. Induced siphonage is caused by the discharge of water from another sanitary appliance connected to the same discharge pipe. As the water falls down the pipe and passes the branch pipe connected to it, it draws air from it, thus creating a partial vacuum and subsequently siphonage of the trap takes place.
2. Momentum is caused by the sudden discharge of water from a bucket etc. Due to the velocity at which the water is discharging it shoots round the trap bend and goes down the waste pipe, leaving no seal.
3. Waving out is caused by the effects of the wind passing over the top of the ventilation pipe causing pressure fluctuations, thus wave movements in the trap gradually wash over the outlet.
4. Compression only occurs in high rise buildings where the discharge of water down the main discharge stack compresses air.
5. Self siphonage is caused in appliances such as wash basins, designed to be able to discharge their contents of water quickly. As the water discharges it sets up a plug of water, which as it passes down the pipe creates a partial vacuum, thus causing Siphonic Action to take place.
6. Capillary action is a rag or piece of string caught over the bend of the trap which absorbs the water and deposits it down the waste discharge pipe.
7. Leakage is obviously caused by a fault in the trap or plumbing installation.
8. Evaporation is caused by the trap not being used for 10 to 12 weeks in a good hot summer.

There appears to be a leak two thirds of the way up the WC cistern in the bathroom?

Humidity is the term used to describe the water content present in the air. This vapour is the result of evaporation of water. The higher the air temperature the more water the air will hold. If the temperature of the air drops some of the vapour will condense back to liquid water and form on cooler surfaces such as windows, pipes and the part of the cistern that contains cold water, i.e. two thirds. This physical change is called condensation.