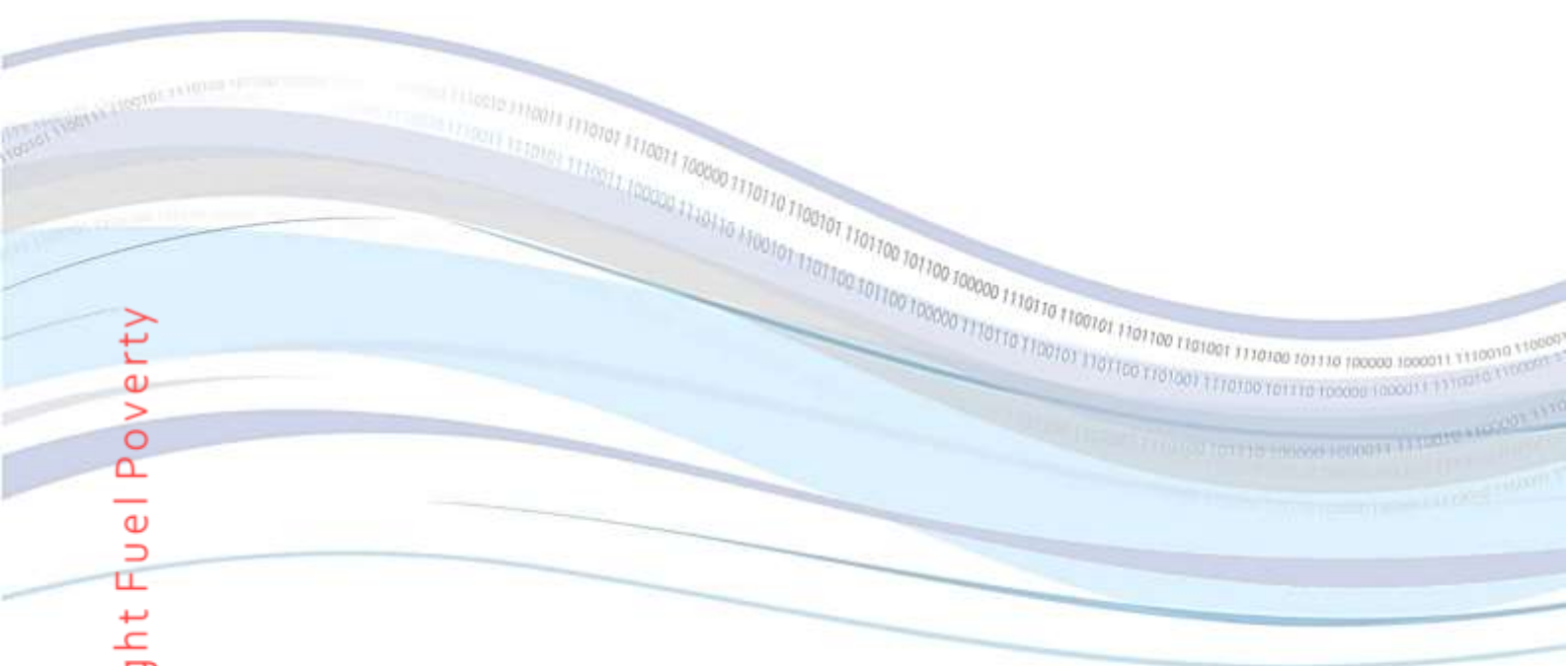


# AIRGON<sub>2</sub>

## Airgon versus AAV





Trade & Pro

## Why Airgon is a lot more than just an Air Vent!

This document is intended to provide plumbing professionals with a technical explanation about the differences between an Automatic Air Vent (AAV) and the Airgon and free air and dissolved and entrained gasses.

An Automatic Air Vent (AAV) releases free air from a closed, wet heating system by providing an outlet, usually at the highest point in the system as the air will attempt to collect at the highest point being lighter than the water through which it is carried.

This release assists in keeping the system efficient and *helps* to prevent cold spots in radiators. It isn't perfect as air continues to become trapped in pipes and radiators this air isn't released by the AAV because the pressure within the radiator prevents the water reaching the entire interior surface area so it is no longer being circulated and therefore doesn't get to the vent for release.

Air blockages in pipes can cause entire radiators or end of line radiators to stop working.

It's evident from many thousands of examples of plumbers being called out that air causes problems in heating systems. **So how does air end up in the system in the first place?** After all, when we fill up a system with water, we bleed the radiators after the fill, and yet we still see problems with air in the system. So where does it come from? **The answer is 'the water itself'.**

Water isn't purely water. It contains dissolved gases, Oxygen, Nitrogen and Carbon Dioxide primarily. The temperature and water pressure has a direct relationship to the amount of gas that the water can absorb. This relationship was discovered by William Henry in 1803 and is known as Henry's Constant.

Cold water has more dissolved gas than hot water at the same pressure. When the water is heated, some of these gases are released and become a combination of entrained air (microbubbles) and free air. The free air can be released by the AAV on the boiler, but the microbubbles start to gather in radiators and line pipework eventually creating a layer of insulation that prevents the heat from the boiler efficiently heating the space.

The dissolved air that remains is even worse. This is the element, oxygen in particular, that destroys the life of the heating system from the inside out, by causing corrosion and magnetite rust. This happens because the metals in the heating system react with the water and the oxygen. This is why a magnetic filter is required to capture the

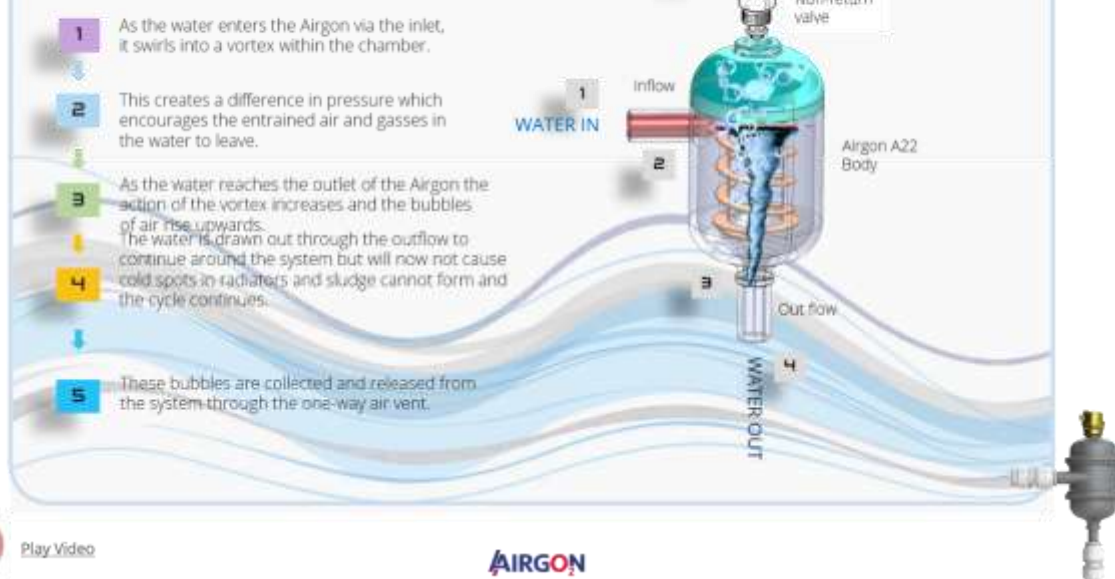
particles of corrosion in an attempt to prevent them gathering together, causing more blockages. The destruction is still taking place, but the magnetic filter is an attempt to prevent further breakdowns. Regardless of the brand or cost **an AAV has no effect on preventing this from happening.**

That's where Airgon comes in. Airgon is a highly effective deaeration unit. When fitted to a wet heating system it removes not only the free air, but also the microbubbles that cause cold spots and line the pipework, *and* the dissolved gases that cause corrosion.

Airgon maximises the efficiency of the heating system by continuously removing all of the air and dissolved gasses which stops corrosion and all other air related issues from happening. This includes magnetite formation, component damage - breakdowns. Requiring expensive unplanned maintenance, blockages, cold spots and not working. Cavitation, which is the noise created by air bubbles continuously forming and collapsing (implode) in the liquid, which can also lead to damage in the heating system. Airgon stops all these issues dead in their tracks. This has significant benefits:

1. Lower energy bills. Improved thermal transfer from the radiators and heat emitters (towel rails and Underfloor heating) so less energy is required to heat rooms.
2. Extended boiler life. Corrosion stops, and magnetite rust no longer forms. This prolongs component life and reduces wear.
3. 'Dead' radiators come 'back to life'.
4. Significantly reduces the risk of costly call outs and unplanned maintenance.

## How does Airgon work?



Airgon is scientifically tested and proven to work to such a significant level that it is the only product supplied with a 20-year standard warranty and a performance guarantee of 10% saving on your heating bill or your money back.

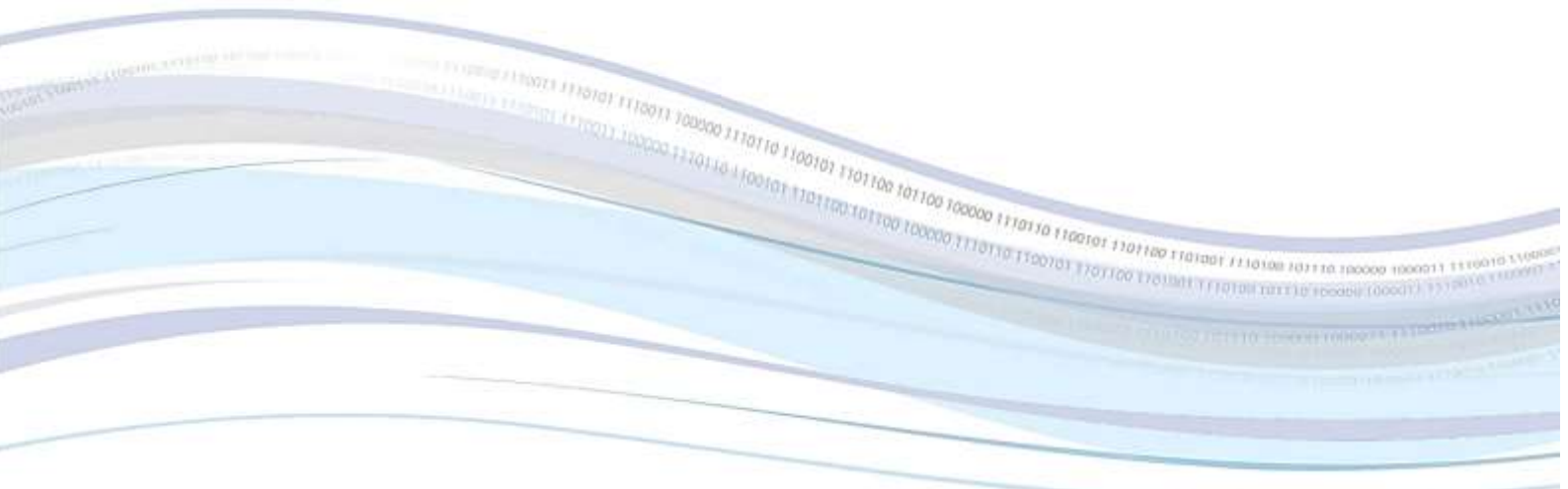
## Summary,

Airgon is not an Automatic Air Vent, it is a significant contributor to energy savings, that reduces a home's carbon footprint and the risk of unplanned boiler maintenance.

It works on all wet heating systems regardless of fuel type and can extend the life of aged boilers and system by up to 7- years.

It requires no maintenance, additives or a regime to make it work and it can be installed in most cases by anyone capable of handling tools and basic DIY skills.

We welcome any questions you might have. Please contact us at [sales@airgon.co.uk](mailto:sales@airgon.co.uk)



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