Vortex The Science

The Vortex combines the physics of Henry's Law and Vortex technology to remove the entrained air and dissolved Oxygen from the water in a wet central heating system down to an inert level.

The VorTex improves The properties of water

- The Vortex, by virtue of its design, works in a very simple way through harnessing phenomena created by the circulating pump.
- As the water from the heating system enters the device the action of the pump causes the water to spin into a vortex.
- In the middle of the vortex there is a low pressure zone which draws the entrained air and dissolved oxygen from the solution.
- As the water reaches the outlet, the action of the vortex increases and the bubbles of air, now out of the solution, rise upwards and are collected through a dip tube to be released from the system through an air vent.
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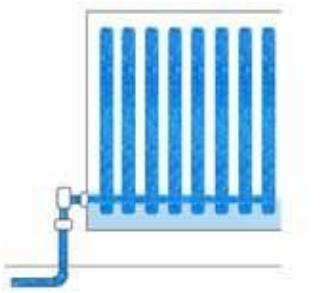
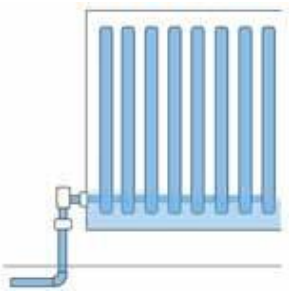
- This action is able to remove the entrained air and dissolved oxygen down to 0.2ppm.
- Air bubbles in the heating system are by nature lazy and lethargic and reduce the heat transfer efficiency.
- As a result of removing the entrained air and dissolved oxygen down to an inert level the heating system will become more efficient in terms of energy usage, hot water regeneration and higher radiator temperatures .
- The Vortex also eliminates corrosion which causes the formation of magnetites. Magnetites in turn shortens the life of radiators, pumps, boilers and valves as well as making the system work inefficiently.
- With no moving parts the Vortex has a life expectancy of 40 years and will outlast all other components in your heating system.



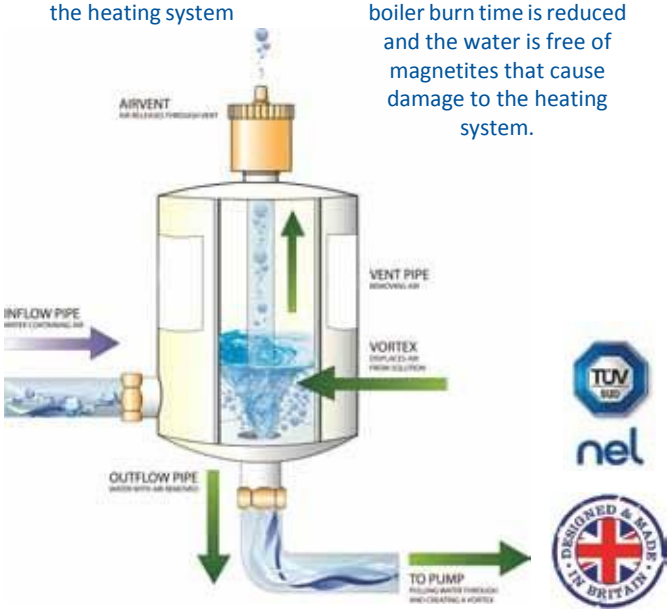
without VorTex

The pipes and radiators contain bubbles that reduce the heat transfer efficiency and cause corrosion and the formation of magnetites in the heating system



with VorTex

With no more air bubbles from the Vortex installed, the water is able to flow freely and the heat transfer efficiency is increased. The boiler burn time is reduced and the water is free of magnetites that cause damage to the heating system.

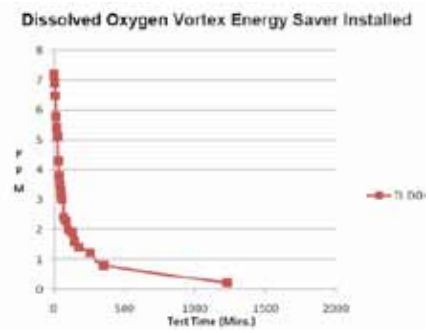


Corrosion

Efficiency of heating systems can fall by as much as 15% where magnetites created by corrosion are present.

The removal of oxygen from the heating water to a level below 0.5 PPM, generally regarded as inert, should remove the incidence of corrosion from the heating system. This would have the effect of reducing ongoing maintenance due to rusting of radiators, blocked pipes etc. According to the Energy Saving Trust in the UK tests in laboratories and homes indicate that the efficiency of heating systems can fall by as much as 15% where magnetites created by corrosion are present in the system.

The D.O reduced to 0.8 PPM after 350 minutes and reaching 0.2 PPM between 350 and 1230 minutes from its initial value of 7.2 PPM



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Vortex The Results

Verification - independently Tested

"The Vortex Energy Saver shows a rapid decrease reducing to 0.8 PPM after 350 minutes and reaching 0.2 PPM between 350 and 1230 minutes from its initial value of 7.2 PPM."

Tralee Technology of Institution Summary Report

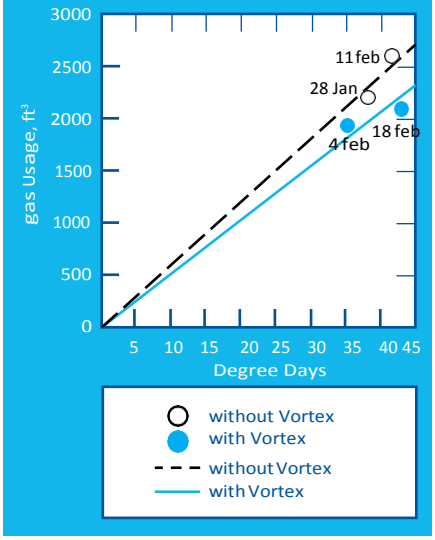
The Vortex has had multiple tests conducted by Tralee Institute of Technology, an award winning testing house with a long standing commitment to renewable energy.

"The Vortex device apparently reduced the energy supplied to the central heating boiler by approximately 15% for a given heat demand."

Report from TUV NEL

TUV nel agreed to witness the testing by Alpha Heating Innovations, a leading manufacturer of high efficiency boilers and to prepare a short report of the Vortex.

The straight lines indicate that on average the alpha Bistro installation will use approximately 15% less gas during particular weather conditions when a Vortex is fitted compared to the baseline case when a Vortex is not fitted.



Case studies - helping To CUT fuel poverty

"We are keen to fit a Vortex to all instances where we have to fit a new boiler/system or where we need to replace an existing boiler."
Alistair Cant Director, Lister Housing Co

"Installing the Vortex resulted in savings of 15% possibly 20% on heating costs and a pay back period of approx. 6 months."
Nottinghill Housing

"The energy consumption on the unit fitted with Vortex is 29% less than that on a comparable house."
Andrew Ellis, Environmental Strategy Officer, Harrogate Borough Council

"The results show a 19% reduction in Gas consumption on average, with Llanelli benefitting the most (30%)."
DSA Driving Standards Agency

"The boiler is running at a temperature of 60 degrees as opposed to our oil boiler which had to be run at 80 degrees to get the radiators hot and most of the radiators are turned down to mid-way on the TVR's. The Vortex has cut noise levels in the central heating and I no longer have to regularly bleed the radiators. As architects focusing upon energy conservation in our design work we have complete confidence in recommending the Vortex to clients and will continue to do so."
Chris Walker, Director Native Architects

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