Product data

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Mediagon® Water Conditioners

Model shown is the D Range

The Problem

Rainwater, which is slightly acidic, causes hardness in water to be created when calcium and magnesium salts are dissolved from the substrate through which the rainwater flows. The resulting 'hard water' consists of both temporary and permanent hardness.

Temporary hardness is generally associated with calcium and magnesium carbonates and bicarbonates. These scale forming compounds, invisible to the eye, are held in solution unless acted upon by an external force, such as temperature or pressure. These forces will cause the water to become supersaturated as carbon dioxide is driven away resulting in the deposit of scale on hot or rough surfaces such as calorifiers, pipes, heat exchangers, kettles or other heat-transfer surfaces.

Permanent hardness is mainly due to calcium and magnesium sulphate and is not generally affected by external forces.

The build-up of scale deposits is a common and costly problem in industrial, commercial and domestic water supplies. In Britain alone, costs attributed to scale are estimated to be in excess of £1bn per annum.

The Solution

Traditional methods for preventing scaling - such as base exchange processes (e.g. the **Goodwater Pegasus** range) or other chemical treatments are highly effective and should not be discounted. There has however been a big shift toward physical water conditioning for some of the advantages it possesses over these other methods, such as hard water containing calcium and magnesium is excellent for human health, so why remove it?

Another reason is that base-exchanged softened water cannot be consumed in applications where hardness is removed and replaced with sodium to levels greater than 200mg/l. The **Phoenix Mediagon®** device does not chemically alter the water, meaning it remains safe and wholesome to drink.

These devices can be used in many applications for the purpose of scale reduction – domestic water services, cooling towers and humidifiers, to name but a few. They can also be used in conjunction with Goodwater Dorado (chlorine dioxide), and Tucana (UV) systems to give protection against both scale and bacteriological fouling.

In the UK, the Phoenix Mediagon® range has been used in industrial and domestic applications for over 25 years. There have been numerous successful field tests and with worldwide sales in excess of 40,000 units the unique Phoenix Mediagon® range can be used with the total confidence a high quality product guarantees.

- Simple installation
- No power supply required
- Compact design
- Maintenance free

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The Science

Since a water molecule is a dipole (two poles) with a positive and negative charge, it can be manipulated with both electrostatic and magnetic fields.

The Phoenix Mediagon® range uses electrostatic fields to polarise the dissolved hydrogen carbonate anions in the water leading to the crystallisation of colloids.

The unique manufacturing technique employed in the making of the Phoenix Mediagon® devices ensures that, as water passes through each unit, it is subjected to these electrostatic forces many times. It is these numerous weak electrostatic fields, brought about by a painstaking manufacturing process that have afforded the Phoenix Mediagon® devices their success.

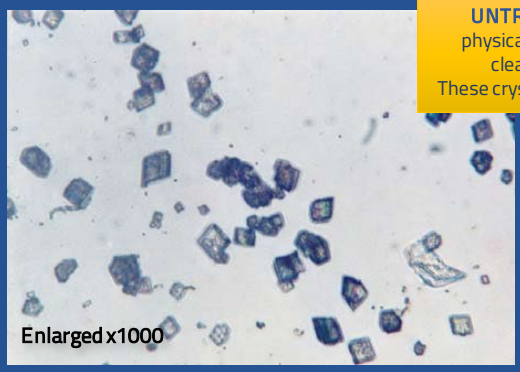
By polarising the water the devices provoke the flight of carbon dioxide (CO_2) and, as this gas is released, there is a colloidal precipitation of calcium carbonate ($CaCO_3$) as soft scale. The greater the number of field changes the more CO_2 is released. It is not the strength of the field that matters but the number of field reversals experienced.

Advantages of Phoenix Mediagon®

The huge number of electrostatic fields created as a result of the Phoenix Mediagon's® cooling, pressing and hardening process ensure that the water is polarised many times.

As such, it leads the industry as its conditioning effect can last between 2 and 10 days. Some of its closest competitors - such as those using transducers - claim only 30 minutes of residual effect.

- The device itself requires no maintenance.
- Environmentally friendly – no chemicals are used.
- No electrical requirements.
- No running costs.
- No pressure losses.
- Quick installation; simply clamp onto pipework.
- Smaller than base exchange systems.
- Can reduce existing scaling: as CO2 (which is acidic) is released it can dissolve existing scale.
- The technology is based on weak electrostatic fields (not strong magnets), therefore blockages are not caused by attraction of iron particles.
- In some instances corrosion can be reduced.
- Overall reduction in the use of detergents.



UNTREATED – Crystal formation in physically untreated water on a glass cleaned with hydrofluoric acid. These crystals cause hard scale deposition.

TREATED – Crystal formation in water treated by the Phoenix Mediagon® device on a glass cleaned with hydrofluoric acid. These crystals can easily pass through a system or be washed away.

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Client Sites

The Phoenix Mediagon® range has been successfully used worldwide. Below is a very small selection of recognisable sites where the technology is in use here in the UK.

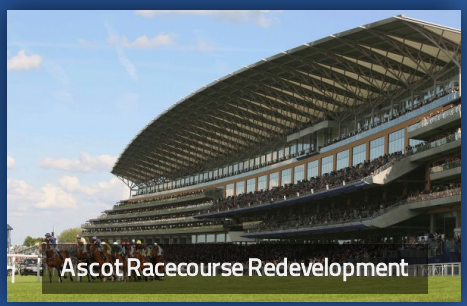

Tottenham Hotspur Stadium


New Horlicks Factory Development


Royal Opera House London


Lords Cricket Ground

Sky TV Innovation Centre


Ascot Racecourse Redevelopment

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Mediagon® Water Conditioners

Technical Data

Model Reference	Exact Diameter (mm)	Height (mm)	Width (mm)	Length (mm)	Weight (Kg)	Minimum Distance to Wall (mm)
GWMD15	14.9	140	90	160	4.4	22.4
GWMD16	15.9					
GWMD17	17.1					
GWMD18	17.9					
GWMD20	19.9					
GWMD21	21.2					
GWMD22	21.9	140	90	160	4.3	21.7
GWMD25	24.9					
GWMD26	25.9					
GWMD27	26.7					
GWMD28	27.9	160	100	160	5.4	22.3
GWMD32	31.9					
GWMD33	32.9					
GWMI34	33.5	160	110	240	8.6	26.3
GWMI35	34.9	160	110	240	8.8	21.9
GWMI40	39.9					
GWMI42	41.9					
GWMI43	42.3					
GWMI48	48.2	180	120	240	10.7	23.9

The Phoenix Mediagon® range can be installed on a variety of pipework material including copper, iron, steel, ABS/PVC/PE plastic (metric or imperial), and is based on the outer diameter of the pipework.

Speak to your Goodwater Account Manager about sizing the correct unit, as well as selecting the correct locations for installation.

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Technical Data

Model Reference	Exact Diameter (mm)	Height (mm)	Width (mm)	Length (mm)	Weight (Kg)	Minimum Distance to Wall (mm)
GWMI50	49.9	200	130	240	12.6	22.9
GWMI54	53.9					
GWMI60	60.2					
GWMI63	62.9					
GWMI65	65					
GWMI67	66.6	200	150	240	14.2	25.0
GWMI69	68.9					
GWMI75	74.9					
GWMI76	76					
GWMI77	76.7					
GWMI84	83.9	200	160	260	18.9	33.6
GWMI89	88.8					
GWMI90	89.9					
GWMI104	104	240	180	280	21.5	20.9
GWMI108	107.9					
GWMI110	109.9					
GWMI114	114.2					
GWMI133	132.9	240	170	280	24.5	18.6
GWMI159	158.9	280	220	350	45	30.6

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