

# WATERWIDE

THE INDUSTRIAL WATER TREATMENT SPECIALIST

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## Low cost CW controller

The SERIES 400 cooling water control unit has been launched by WATERWIDE as a LOW COST option for AUTOMATING THE DOSING AND BLEED OFF requirements of a cooling system water treatment programme.



The SERIES 400 is complete with its own pumps and infinitely variable control unit which controls AND doses inhibitor on a set frequency basis. Additionally, microbiocides can be programmed to dose on an automated alternating basis.

The unit also controls the bleed off from a system. The variable timer control allows a solenoid valve to open for a given interval thus maintaining the water quality at a predetermined level.

The SERIES 400 also comes complete with LOW LEVEL ALARMS. These alarms are audible and initiate when a chemical drum needs changing. (A mute switch is also installed!)

The unit also has significant Health and Safety and COSHH benefits.



As the chemical treatments are dosed direct from the shipping containers, then the manual handling risk is minimised. The unit has quick pump prime facilities and comes in a stainless steel, lockable, wall mountable cabinet. The low cost of this unit can save the Engineer up to £1000 when compared against a kit of separately purchased pumps, valves, alarms and control units and in certain circumstances, WATERWIDE will supply this unit **FREE OF CHARGE** for the given water treatment contract term.

## Cleaning up old Heating Systems

WATERWIDE have been very successful with their DERUSTER 84 iron oxide remover in the cleaning up of an old heating system which was showing signs of severe fouling. The DERUSTER 84 was dosed to the system whilst the system was ON LINE and a WATERWIDE cyclone separator installed across the flow and return. This unit, separated the suspended solid which were being brought off the system pipework by the DERUSTER 84. The separated solids collected were bled to drain via an automated timer controlled solenoid valve. Over a period of six weeks, the majority of problematic debris was removed from the system resulting in improved flow and better water quality.

### **THANKS!!!**

WATERWIDE has once again had a record breaking year in 1997 with increased sales over the same period last year. To all of our clients we would like to take this opportunity to say 'Thank You' for your on going support, and we wish you all a Very Happy Christmas and Peaceful New Year.

To those of you who have not yet come on board, we trust that you too have a good Christmas and New Year and we look forward to pursuing your water treatment business in 1998.

## Proportional Metering

WATERWIDE now supply a range of contact head water meters which can be used to supply a signal (pulse) to a dosing pump such that a treatment is dose pro rata to the water flow.



These low cost units enable treatments to be dosed accurately and only at times when water flow is occurring within the pipeline.

### **CONGRATULATIONS**

...Go to one of our Sales and Service Engineers, Mark Sadowski, on his recent Marriage to Miss Michelle Fox. They were Married on 25<sup>th</sup> October 1997 at Areley Kings followed by a honeymoon in St Lucia. (We must be paying him too much!!)

We wish them both a very happy life together and for those of you who don't know Mark should he visit your site, he is the one with the winter tan!

# Technical Forum

## The Quick Guide To Boiler Water Treatment

For any steam raising plant using a package fire tube boiler, there are two main aspects of water treatment which require addressing. These are CORROSION and SCALE deposition.

To minimise scale deposition, the incoming raw water is generally pre conditioned by passing the water through a base exchange softening unit. This removes the troublesome and scale forming calcium ions from the water (as well as the less troublesome magnesium ions) and replaces them with the non scaling sodium ions.

However, even with softening in place, it is likely that hardness slippage will occur at some time with the result that small amounts of scale forming calcium ions will find their way into the boiler shell. As calcium carbonate is a salt which is inversely soluble with temperature it is essential that these ions are not allowed to precipitate on to the hotter points of the system. (On a boiler plant this is very often on the fire tubes). To minimise this scaling effect, sludge conditioners are used. These products complex the incoming calcium ions to form an amorphous, non adherent sludge which can be easily removed by normal blown down. Traditionally, poly phosphates are used and nowadays, often used in combination with high molecular weight polymers which aid the sludge mobility.

In order for the calcium to complex as a mobile sludge rather than as a hard scale, the alkalinity of the boiler water has to be correct. Thus, it is essential that a minimum P Alkalinity of 350 ppm as  $\text{CaCO}_3$  is maintained within the boiler at all times. In some areas of the country, the natural alkalinity of the incoming water is sufficiently high on concentration within the boiler to achieve this requirement. In other areas, an alkalinity builder has to be added.

On the subject of corrosion, the most problematic form of corrosion in a boiler is by means of oxygen pitting. Incoming softened water at ambient temperature may have up to circa 8 mg/l of oxygen dissolved in it. It is essential therefore that this oxygen is removed before this water gets into the boiler shell. If water containing oxygen reaches the boiler, then the oxygen will flash off setting up corrosion cells. These will manifest themselves as 'pits' hence the term 'oxygen pitting'. To minimise this effect it is important to get the feed water as hot as possible, as oxygen solubility is inversely soluble with temperature. Thus to aid this, a steam coil is often placed in the hot well. To remove the last traces of oxygen, a sulphite based oxygen scavenger is often utilised. A catalysed product will speed the scavenging action.

# WATERWIDE

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## Products and Services

### Boiler Water Treatment

Oxygen Scavengers  
Sludge Conditioners  
Condensate Line Inhibitors  
Alkalinity Builders

### Special Applications

Rust Removers  
Defoamers  
Closed System Inhibitors  
Fuel Microbiocides

### Cooling Water Treatment

Corrosion Inhibitors  
Scale Inhibitors  
Microbiocides  
Dispersants  
Antifoulants

### Laboratory Services

Water Quality Testing  
Microbiological Analysis  
Deposit Analysis  
Scanning Electron Microscopy  
Legionella Screening

### Effluent Treatment

Primary Cracking Agents  
Polyelectrolytes  
Neutralising Agents

### Dosing Equipment

Chemical Dosing Pumps  
Tablet Dispensers  
Dosing Pots

### Site Water Surveys

Risk Assessments for HSG(70)  
Water Audits

### Monitoring Equipment

Corrosion Test Racks  
Sample Coolers

For further information, please complete & return to the address above

SERIES 400 Cooling water control unit .....   
Boiler Water Treatment.....   
DERUSTER 84 - Cleaning up old heating systems.....   
Proportional Metering.....   
More info on WATERWIDE.....   
Your Name.....  
Co. & Address .....

Tel No. .... Fax No .....