

# **WATER TREATMENT PROGRAMMES**

For Coil Boilers



## WHY WE NEED TO TREAT WATER

Water has unique properties and is intriguing in various ways, which is why steam has been used as an effective heat transfer medium in process heating applications for hundreds of years but, for all its many vital qualities, when left untreated water will destroy the steel from which any boiler is constructed.

### Damaging Factors

- Dissolved Oxygen carried by the water
- Acidity of the raw incoming water
- Acidity of the condensate from the system

Water needs to be chemically treated to prevent corrosion of the boiler steel and to ensure the quality of the steam. Considering that a whole manufacturing or support facility may well be dependent upon reliability and availability of the steam plant, investing in quality boiler house equipment isn't enough: ongoing investment in water treatment is essential to ensure you get the most out of your equipment.



## HOW IS WATER TREATED?

In its most basic form, water treatment for steam raising boilers involves:

- controlled addition of a chemical oxygen scavenger
- sludge conditioning
- pH control correction

This water treatment can be applied as component chemicals using multiple pumps or applied as a single dose using a multi-functional treatment specifically formulated for the application.

- **Multiple Pump application:** the most cost-effective solution, especially in high steam demand applications, but it requires a more experienced and trained operator.
- **Single dose application:** the most convenient solution as the absence of on-site mixing of chemicals and minimal chemical handling requires nominal operator involvement and comes with significant COSHH benefits albeit at a higher chemical cost.



# WHY CHOOSE BABCOCK WANSON FOR YOUR WATER TREATMENT NEEDS

Traditionally the manufacture and after-sales support for the boiler are conducted by a different company to the water treatment. Often, water treatment companies have only an outline understanding of the boiler. We see, all too frequently, poor practice when it comes to water treatment. This includes using the same chemical formulation every time, irrespective of the incoming raw water or level of condensate return or the type of boiler applied to the duty. Thus, it cannot provide the best solution. Another problem that is often overlooked is that the amount of dissolved oxygen in the feed water is temperature dependent, so the dosing rate needs to be adjusted if there are large variations to the temperature of the water being fed to the boiler.

So, what happens when they get it wrong? Who is to blame and who foots the bill to put it right? This is an all-too-common scenario.

Using Babcock Wanson as your single-source for boiler maintenance and water treatment services avoids this conflict and gives you peace of mind.

We have built our reputation on the quality of boiler design and manufacture and our unparalleled after-sales support. We will ensure the effective supply of suitably treated water to your Babcock Wanson boiler and in the unlikely event the coil or pressure part needs to be replaced due to corrosion within the first 5 years, we will supply and fit it or repair without charge.

## Benefits to our customers:

- **Undivided responsibility, giving a complete service from one trusted supplier**
- **On-going technical support**
- **Reliable, professional service**
- **5-year corrosion warranty on the boiler coil or pressure part**

## The Babcock Wanson Single-Supplier Solution

Babcock Wanson has a long and enviable boiler engineering pedigree and an excellent reputation for after sales support. We see first-hand the effects of poor boiler water treatment and, more importantly, on our customers' ability to run their plant effectively.

That's why we offer an innovative all-in-one service for customers, not only providing steam boilers but also offering a comprehensive range of water treatment programmes. Now you have the option of a convenient single-source solution.



We offer accurate and effective water treatment, which is backed-up with a **5-year corrosion warranty** on the boiler coil.

As part of the service, we provide guidance on the correct application and monitoring of your boiler water treatment. Following the guidance, in the unlikely event of feed water deficiencies causing the coil or pressure part to corrode within the first 5 years, we will replace it. No argument, no blame.



## WATER TREATMENT PROGRAMMES

We are pleased to be able to offer three levels of service to cater for differing requirements and budgets.

All Programmes use top-grade products that are:



- Easier and safer to handle and manage than conventional boiler treatment chemicals



- More user friendly chemicals that have FDA (Food and Drugs Administration) approved raw materials



- Bespoke formulations especially suited to Babcock Wanson boilers

Our consultants are highly qualified professional specialists, who can be relied upon to conduct on-site testing at agreed regular intervals. They schedule their test visits to vary the time and day of the week, so as to get an accurate picture of your site's specific requirements and process under a variety of conditions; thus ensuring the most appropriate chemical dosing regime.

In between the scheduled consultancy visits, the unique [vSteam](#) web portal allows you to simply enter your daily readings on-line and receive 'real time' feedback support. These records will help satisfy HSE guidance on the water treatment aspects of managing industrial steam boilers.



[vSteam](#) on-line data logging and support option



### Expert Services

**To provide the level of service that meets our requirements, Babcock Wanson has established a unique and exclusive relationship with water treatment specialists Deep Water Blue. Experts in their field, Deep Water Blue are a perfect partner for this joint venture, because they share with Babcock Wanson the same level of professionalism, reliability and commitment to customer care.**



## THE OPTIONS

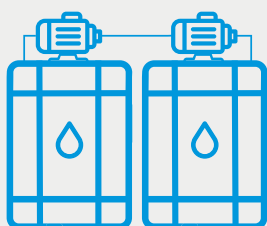
### SYSTEM 1 Single chemical pack solution for maximum convenience



- Oxygen scavenger, sludge conditioning and pH control chemical, all dosed using a single pump and container
- Nominal operator demands, with no on-site mixing of chemicals required
- Significant COSHH benefits of 'user friendly' products and minimal chemical handling

**= MAXIMUM SIMPLICITY AND CONVENIENCE**

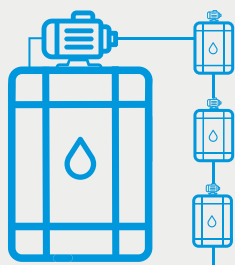
### SYSTEM 2 Dual chemical pack solution for ease of use



- Separate Oxygen scavenger and sludge conditioning with pH correction
- Typically requires more than one dosing pump and container
- No on-site mixing of chemicals
- Limited operator involvement

**= AN EFFECTIVE REGIME, BALANCING COST WITH CONVENIENCE**

### SYSTEM 3 Multi-chemical pack solution for cost-effective treatment



- Individual products for separate control of the key boiler water characteristics
- Requires separate dosing pumps and containers for each product
- An experienced and trained operator is required

**= THE MOST COST-EFFECTIVE OPTION, PARTICULARLY SUITED TO HIGH STEAM DEMAND APPLICATIONS**

Deep Water Blue specialise in STEAM SYSTEMS to provide a water treatment service that has quality at its heart.

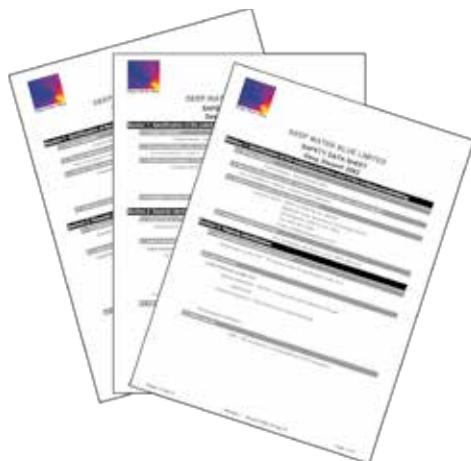
## On site testing by qualified specialists

Our water treatment specialists are time served, qualified and experienced chemists who understand Babcock Wanson boilers and their operation. They test the feed water condition at different times of the working day and on different days of the week to glean an accurate picture of the process and boiler usage. This varied routine is an essential part of the treatment process and enables them to both identify any anomalies and investigate thoroughly.



## Top grade treatment products

We only use quality FDA approved raw materials in our treatment chemicals with the finished product being more user friendly and safe to handle. Low grade chemicals are simply not as effective and can represent a potential hazard if there is some carry-over of boiler water to the process. This is true in all applications, but especially in those where the steam is used for direct heating of a process or for humidification.



## Equipment options:

- **Water softeners**
- **Reverse osmosis plants**
- **De-mineralisation plant**
- **Chemical dosing sets**
- **Automatic TDS controls**
- **Feed water tanks**
- **Thermal and atmospheric De-aerators**
- **Condensate Receivers**



## Single source supplier for peace of mind

The majority of water treatment companies offer a range of water related services and their experience in steam boiler treatment is limited. If damage occurs as a result of poor water treatment practices, more often than not, you will be footing the bill. It can be costly to replace a coil in a high output Steam Generator or repair a boiler pressure part, not only in terms of the component itself but also the down time.

Using Babcock Wanson as your single-source for boiler maintenance and water treatment services avoids this conflict and gives you peace of mind. There is just one company to deal with in the event of a fault; no split responsibility.



## Meeting your needs

We accommodate your needs and budgets, with a choice of single dose or multiple pump chemical application and products specifically formulated for the application. One solution does not fit all!



## 5-year corrosion warranty

As part of our water treatment service, we provide you with a no quibble 5-year corrosion warranty on the boiler coil. In the unlikely event of feed water deficiencies causing the coil to corrode within the first 5 years, we will replace it.



## Locations & Contacts

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