



Against Scale and Rust

# Water Treatment

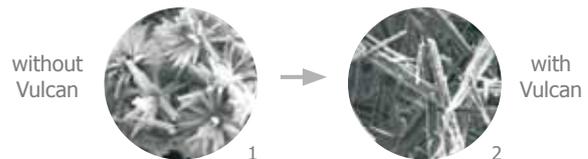
## Cooling Tower Applications

### Vulcan **eco-friendly** water treatment products are the **chemical-free** alternative to traditional water softeners in cooling tower applications



Water is a valuable resource which needs to be managed properly to maximize efficient usage. Water naturally forms scale when there is an increase in temperature or decrease in pressure. The resulting deposits reduce the effectiveness of cooling towers. Using toxic chemicals such as chlorine, phosphates and

acids is the traditional way to eliminate the scale problem; Vulcan is the eco-friendly alternative. Its electronic impulses alter the natural crystallization process of the calcium. Instead of burr-like structures (pic. 1), they form as simple mono crystals (pic. 2) and remain suspended in the water, unable to build up on surfaces.



#### Advantages of using Vulcan

- ▶ Maximizes tower cycles
- ▶ Reduces water consumption
- ▶ Lowers overall operating costs
- ▶ Fewer maintenance visits
- ▶ Fewer or no chemicals needed
- ▶ Reduces bacteria and biofilm
- ▶ Maximizes life of equipment
- ▶ Fast amortization rate



As calcium and other solids do not evaporate, they remain in the cooling tower circuit. When make-up water is introduced, the solids remaining after its evaporation add to the already existing solids - building up more and more. Problems then occur, as these built-up solids typically clog up the system.

A significant reduction of scale deposits can be achieved by using Vulcan. Bleed water is no longer toxic and bacteria no longer have an ideal breeding ground. Furthermore, the cooling tower will be able to operate at higher cycles of concentration, lowering water usage.

#### Application Examples

- ▶ Production Facilities
- ▶ Office Buildings and High-Rises
- ▶ Universities
- ▶ Hospitals
- ▶ Hotels
- ▶ Airports
- ▶ Food and Beverage Processing
- ▶ Chemical Processing Plants
- ▶ Refineries

# Quality - Made in Germany



- ▶ Manufactured by Christiani Wassertechnik GmbH (CWT) Berlin
- ▶ Over 30 years experience in physical water treatment
- ▶ More than 150,000 satisfied customers world-wide
- ▶ Available in more than 40 countries

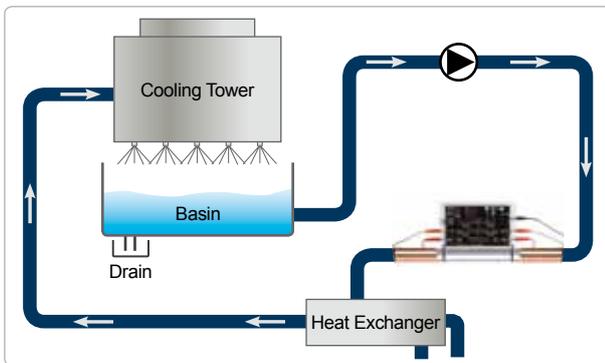


Against Scale and Rust

## Installation Example-Open Circuit

Vulcan should be installed just before the heat exchanger. Please ensure to regularly drain the circuit at the bottom of the basin or use a centrifugal filter to take away remaining solids from the cooling tower water.

Open loop example



On closed loop circuits, Vulcan is located after the pump.

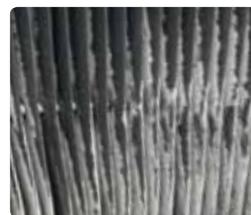
## Case Study – Cooling Tower



“ ... After installation of the Vulcans, the status of the cooling towers was inspected without using any water treatment chemicals. Even after approximately six months, almost no scale buildup was observed inside the refrigerators and the heat exchanger tubes.

Calcium which was adhered on the cooling towers was easily removed with the wipe of a finger. With these results, the effectiveness of the Vulcan installation could be confirmed. ...”

Without treatment



With Vulcan treatment



## Vulcan - Against Scale and Rust

Vulcan is the eco-friendly water treatment system which protects your pipes and equipment against scale and rust.

- ▶ Eco-friendly solution without chemicals or salt
- ▶ Reduction of existing scale in the piping system
- ▶ Maximum working life of machinery and equipment
- ▶ Important minerals remain in the water
- ▶ Long life – fully cast in acrylic
- ▶ Maintenance-free
- ▶ 10 year international warranty

- ▶ Easy installation without cutting the pipe
- ▶ From 1/2" up to 20" pipe diameter
- ▶ Works on all pipe materials – iron, copper, plastic, stainless steel, PVC, compound pipes, PE-X, etc.



Vulcan S25



Christiani Wassertechnik GmbH (CWT)  
Köpenicker Str. 154 | 10997 Berlin | Germany  
Phone: +49 (0)30 - 236 077 80

