



Against Scale and Rust

# Physical Water Treatment

## Stadiums, Ice Rinks and Ice Production

**The Vulcan **eco-friendly** water treatment system improves the water quality for ice rinks, stadiums and ice production – for better ice that lasts longer**



The quality and quantity of water for ice rinks is largely affected by the water quality. The Vulcan Electronic-Impulse-Technology changes the typical crystal structure of scale - from a chaotic clutter into a well aligned mono-crystal. The water droplets are finer, which allows you to produce a better ice crystal structure that will last longer.

### **Better water characteristics for ice rinks**

- ▶ Water surface tension decreases by ~ 20%
- ▶ Vulcan produces mono-crystal nuclei in the water that form organized and more stable ice crystals
- ▶ Vulcan prevents scaling in cooling towers
- ▶ Improvement of ice-making water quality, ice temperature, crystal size
- ▶ Less accumulation of snow build up on the ice during a game
- ▶ Clearer ice - Advertising is better visible

### **How Vulcan improves the ice production**

- ▶ Vulcan prevents scaling in water heaters, pipes and ice resurfacers (e.g. Zamboni or Olympia)
- ▶ Faster Quasi Liquid Layer setup time
- ▶ Finer ice crystals with a decrease of diameter (-20%) and a decrease of volume (-45%)
- ▶ The finer water droplets freeze faster
- ▶ Ice is dryer as it contains less unfrozen water
- ▶ Smaller and dryer crystals have a lower temperature of approx. -4.5°F/-2.5°C



### **Vulcan for improved ice production**

- ▶ Ice production is already possible at a higher temperature
- ▶ Short drying time after the ice has been resurfaced
- ▶ The compressor temperature settings may be increased by approx. 4.5°F/2.5°C
- ▶ Decrease in compressor running time by 20%
- ▶ Warm-air infiltration is minimized
- ▶ Improvement on operating expenses

## Quality - Made in Germany



- ▶ Manufactured by Christiani Wassertechnik GmbH (CWT) Berlin
- ▶ Over 30 years experience in physical water treatment
- ▶ Available in more than 40 countries



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## Quality water for ice rinks

### Vulcan is specially designed for cold areas

as the electronic unit is protected by a 1.5" (~3.2 cm) thick solid acrylic cast. It is suitable to operate in very low temperatures, humidity, snow, ice and water. The installation of Vulcan is simple, as it sits outside of the water pipe.

**How it works:** The Vulcan-Impulse-Technology is based on the principle of physical water treatment. Special electronic impulses change the crystallization of the water elements. This minimizes the adhesiveness of the scale particles and at the same time produces mono-crystals that are ideal cores for ice crystal formation.



Vulcan S25 installed at Ice Land located in Hamilton, New Jersey

## 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



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