



Vulcan

The Electronic Anti-Scale System Stadiums, Ice Rinks and Ice Production



**No Salt
No Chemicals
No Maintenance**

**German Technology
Absolutely Magnetism-Free**





Vulcan – The Alternative to Water Softeners

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 monocrystal. The water droplets are finer, which allows you to produce a better ice crystal structure that will last longer.



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. $-4.5^{\circ}\text{F}/-2.5^{\circ}\text{C}$



Better water characteristics

- ▶ Water surface tension decreases by $\sim 20\%$
- ▶ 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



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

Specially designed for cold areas

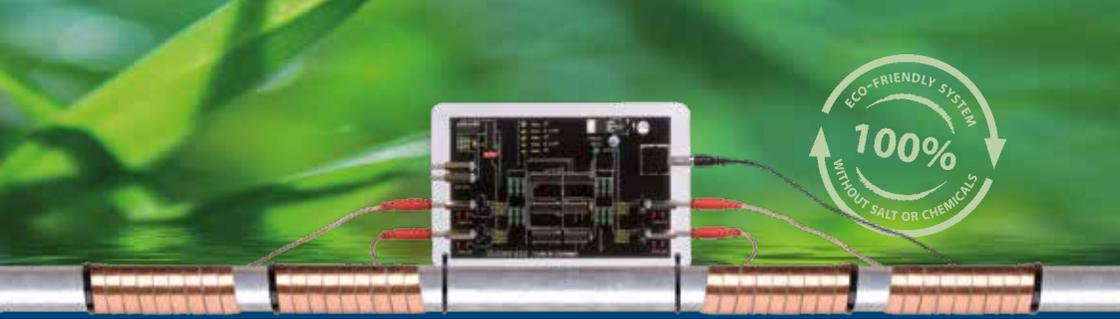
As the electronic unit is protected by a 1.5" (~3.2 cm) thick solid acrylic cast. It is suitable to operate in very low temperatures, humidity, snow, ice and water. The installation of Vulcan is simple, as it sits outside of the water pipe.



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

Quality water for ice rinks

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 Prevents Scale and Rust

- ✓ Reduction of existing scale in the piping system
- ✓ Installation without cutting the pipe
- ✓ From 1/2" up to 40" pipe diameter
- ✓ Works on all pipe materials – iron, copper, plastic, stainless steel, PVC, compound pipes, PE-X, etc.
- ✓ 100% maintenance-free
- ✓ Eco-friendly solution without salt or chemicals
- ✓ Prolongs life of machinery and equipment
- ✓ Important minerals remain in the water
- ✓ Long life – fully cast in acrylic
- ✓ 10 year international warranty

Visible results of Vulcan water treatment - before and after



Piping system



Cooling tower grids



Sanitary toilet bowl



Quality - Made in Germany

- ▶ Manufactured by Christiani Wassertechnik GmbH (CWT) in Germany
- ▶ Over 40 years of experience in physical water treatment
- ▶ Successful in more than 70 countries worldwide
- ▶ 10 years international warranty

