

# Electrolytic Scale Remover

Patent Pending

## SR-10

## Welcome to the pure world of BallTech Energy

Ball-Tech Energy Ltd. specializes in the development, production and marketing of water's deposits treatment solutions for cooling and air conditioning systems. Lately, the company has expanded its products line to include additional applications in which its products can be used.

Ball-Tech Energy Ltd was founded in 1994. The company markets its products across the world and is considered a world leader in its field. Ball-Tech Energy Ltd designs and produces its products according to the strict design and manufacturing standards of ASME 31.3 and ASME VIII div2 2010 Add 2011a. The company's products are suitable for implementation on systems using water from the municipal grid, rivers as well as sea water.

Ball-Tech Energy Ltd operates a service and maintenance network, which consists of a team of professionals, trained by its head office and deployed by its representatives in their target markets.



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## General description of the problem

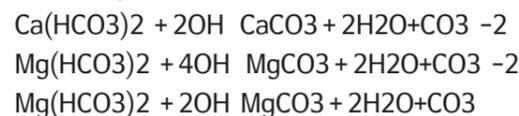
The cooling towers develop a layer of scale that impedes their effectiveness as well as that of associated cooling systems. Scale residue is generated from deposits of inorganic salts dissolving in condensate. These salts include calcium carbonates, phosphates and other materials. The solubility and concentration level of these salts in the water changes as a result of partial evaporation of the cooling tower's condensate. Consequently, the salts deposit on the tower's contents and systems. Current methods for overcoming, in part at least, the problem of residual salts and scale development usually consist of water softening processes or the introduction of various chemicals capable of retarding the salt depositing process. Such methods are in general very costly. They also involve pollution of the environment and make it necessary to drain large volumes of water in order to ensure that water conductivity does not exceed the permitted threshold.

## Ball Tech Energy's solution

- The solution is to collect loose scale in an isolated electrolytic chamber and remove it from the condensate to the general drainage piping.
- Ball Tech Energy's Scale Remover is installed alongside the cooling tower. It circulates the tower's condensate using a pump, which constitutes an integral part of the system.
- The Scale Remover system removes approximately 95% of the water's free salts.
- The Scale Remover system creates a minute, controlled quantity of chlorine that prevents microorganisms and legionella bacteria from developing.

## The electrolytic chamber

The Scale Remover's electrolytic chamber is a DC unit consisting of an anode and cathode made of special materials providing long lasting reliability. Scale is collected onto the cathode as per the following chemical processes:



## Removal of scale deposits

**In the Scale Remover chamber, scale gathered on the cathode is removed without reversing current polarity in the system.**

## Advantages of Ball Tech Energy's Send Media Filter Scale Remover

- **The system is environmental-friendly.**
- **The system is an automatic, computer controlled system.**
- **The system includes electrical valves that operate without compressed air.**
- **The system is reliable and has a particularly long life.**



- **After installing Scale Remover, the cooling system will be capable of operating with untreated water, without the need for chemical additives or other softening methods.**
- **Using the Send Media Filter Scale Remover results in reduced operation, water consumption and maintenance expenses.**

Ball Tech Energy's Scale Remover has a modular structure and is highly adaptive to the particular needs of any site, based on that site's cooling tower output.

The system's structure, its manufacturing process and its scale removal methods are all patent protected.

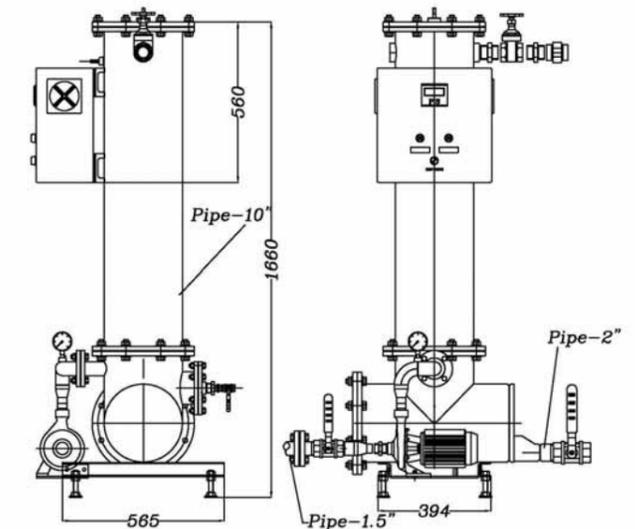


Installation of a Scale Remover model SR-05 with a Send Media Filter model SF-20-04.

## Savings brought about by the Scale Remover

Taking into consideration local operating conditions, by installing and operating the Scale Remover, it will be possible to save around 65% of the cost of the cooling tower's drain water and chemicals (as these were before using Scale Remover).

Model	Max. Flow	Cooling Towers TR
SR-05	5 m³/h	200
SR-10	10 m³/h	400
SR-15	15 m³/h	600
SR-25	25 m³/h	1000



Electrolytic Scale Remover model SR-05.



clean cooling tower after 3 years of using ball tech energy Scale Remover model SF-20-04.