

Algae in a cooling tower

- Fouling in heat exchanger



The light division of Crompton Greaves Ltd., located in Gujarat, is the biggest manufacturer of lamps in India.

Cooling is required for various production processes. They use bore well water with a high content of calcium carbonate and TDS.

A [Reverse Osmosis System](#) is installed to reduce the TDS from the water prior to its use in the cooling system.

In spite of this, a lot of scale was formed in the heat exchangers for the compressor cooling and in a jacketed vessel as well. This reduced the performance of the machines.

At least every 3 month cleaning of the heat exchanger was required. The vessel jacket, has to be chemically cleaned at least every 6 month.

Merus was installed ahead of the [cooling tower](#), where a lot of algae could be found. Also Merus rings were installed ahead of the [heat exchanger](#) for the compressor and at the inlet of the jacket of the vessel.

Only a few days after the installation it could be seen how much scale was automatically washed out at the blow down of the jacket from the vessel.

The performance of the compressor was stable and when the heat exchanger was opened by routine inspection after 3 month, the scale was almost totally gone. All the heat exchanger tubes were totally clean, there was no cleaning required as in the past, just washing the surfaces. The result at this heat exchanger is now stable for more than 3 years. Furthermore the customer has decided not to use the RO anymore; they use currently the bore well water directly into their system.

The [algae](#) at the cooling tower are gone, only little spots can be found today. The customer is not adding any chemicals to their system either, which leads to even more savings. The ROI(return of investment) of this installation was about 3 month. See as well enclosed certificate.



