

MODERNWATER

Membrane Processes

AMBC Pilot Plant Trial

Modern Water and Advent Envirocare Technology Pvt Ltd entered a joint development and commercialisation agreement in March 2016, for the introduction of Modern Water's All Membrane Brine Concentrator (AMBC) technology into the Indian industrial waste water market. The two companies jointly funded a large scale pilot plant, to demonstrate and test the process at client sites. The first deployment was a dye manufacturer's waste water treatment plant.

Project Description

Modern Water's AMBC pilot plant was housed in a 20-foot container at a site located in Gujarat, the westernmost state of India. The pilot trials were conducted at the end of 2016 and the early part of 2017.

The purpose of the trials was to initially prove the technology on this particularly challenging waste water, which it did and following an order for a full scale plant, further optimise the process for the full scale plant's design. The plant had a typical inlet throughput of 1.2 m³/h at 83,000 mg/l, and produced a concentrated brine stream in excess of 138,000 mg/l, with a product stream of less than 500 mg/l.

Modern Water's AMBC can be combined with different pre-treatment processes, depending on the nature of the wastewater. The trials clearly demonstrated that the technology can achieve higher brine concentration than conventional membrane technologies, significantly reducing the wastewater volume for subsequent brine crystalliser treatment.

By integrating AMBC into their zero liquid discharge projects, customers can substantially reduce their capital and operating costs, in particular energy costs. Following the successful pilot trials, the customer ordered a full scale plant. The pilot plant has since been relocated to another customer's site for further trials.



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Key Facts

- Country - India
- Client - Dye Manufacturer

