

Development of a high recovery system for saline streams

Within the Aquafit4use project, Voltea has developed new materials for use in industrial deionization systems. These materials include high-performance coated electrodes and the use of low-pressure drop spacers. Furthermore, in collaboration with PC Cell, specialized ion-exchange membranes for use in FTC were developed. These materials are crucial to make the industrial application of FTC cost-effective.

Energy savings are the second main topic in the project, one of the focus areas being to operate FTC under constant current operations, enabling energy savings of over 40 %. The new materials and new modes of operation of the FTC system were introduced in the pilot FTC system for the cooling tower application.

The cooling tower pilot has shown that FTC can successfully be used for industrial applications removing salt from brackish water containing relatively low levels of tds.



Figure 1: Voltea pilot FTC system