

ELECTRODEIONIZATION APPARATUS AND LOW SCALE POTENTIAL WATER TREATMENT

Abstract

Electrodeionisation devices having low scale potential as well water treatment methods using the device are disclosed. The device may have a variety of configurations such as a first depleting compartment disposed between the anode compartment and the cathode compartment, a concentrating compartment in ionic communication with the depleting compartment, a second depleting compartment in ionic communication with the concentrating compartment and a first barrier cell in ionic communication with and disposed between the first depleting compartment and at least one of the anode compartment and the cathode compartment. The device may also have configuration directed to the layering of the anionic exchange resin beads and/or have at least one compartment that provides a dominating resistance resulting in a uniform current distribution throughout the apparatus. Temperature control may be provided. It is also possible to arrange for parallel liquid flow.

FIG. 1