

Abstract

SYSTEM FOR THE ELECTRODIALYTIC REGENERATION OF AN ELECTROLESS BATH ELECTROLYTE

To further develop a system for the electrodialytic regeneration of an electroless bath electrolyte with a first electrodialysis unit (10) and a second electrodialysis unit (20) with diluate compartments (12,22) through which the bath electrolyte passes and concentrate compartments (13,23) through which a regeneration electrolyte passes and with two electrodes, an anode (An) and a cathode (Ka1 and Ka2), in joint operation with said electrodialysis units -- in which in the first electrodialysis unit (10), the diluate compartments (12) on the cathode side are separated from the concentrate compartments (13) by membranes (mK) that are selectively permeable to monovalent cations and on the anode side by membranes (A) that are selectively permeable to all anions, and in which in the second electrodialysis unit (20), the diluate compartments (22) on the cathode side are separated from the concentrate compartments (23) by membranes (mA) that are selectively permeable to monovalent anions and on the cathodes side by membranes (K) that are selectively permeable to all cations, in which the diluate compartments (12) of the first electrodialysis unit (10) are serially connected to the diluate compartments (22) of the second electrodialysis unit (20) via first lines (313,314,23,341,342) through which the bath electrolyte is sequentially channeled and the concentrate compartments (13) of the first electrodialysis unit (10) are serially connected to the concentrate compartments (23) of the second electrodialysis unit (20) via second lines (413,414,42,421,422) through which the regeneration electrolyte is sequentially channeled -- so that the construction of the electrodialysis system is less expensive and that the electrodes have a long life, it is proposed that the electrodes (An, Ka1, Ka2) have their own electrode compartments (11,14,21,24) which are separated from the adjacent compartments by membranes and through which a rinsing electrolyte is conducted via third lines (51) and that an electrode (An) which operates jointly for both electrodialysis units (10,20) is located in one of the electrode compartments (14,24) adjacent to the compartments of both electrodialysis units (10,20).

Figure 1



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