

Abstract

MEMBRANE CARD AND METHOD FOR THE PRODUCTION AND USE THEREOF

Processes are provided for producing porous track membranes, membrane cards, membrane packages, separation elements, separation units and separation systems, for using the same for the separation of materials from fluids, and for determining the maximum pore diameter of membranes. Porous track membranes are produced by exposing a polymeric film to a bombardment of heavy ions to provide the film with a track density, etching pores into the resulting tracked film with an etching solution to provide the film with a density of the pores corresponding to the track density and laminating the resulting porous track membrane to a porous backing by means of an adhesive to produce membrane cards. Membrane packages and a turbulizer are spirally wound around a fluid collection tube to form a separation unit. The separation unit is included in a separation system with a processed fluid accumulator, pipes for the source, unprocessed, and processed fluids, a pressure transducers in fluid communication with the pipes for the processed and unprocessed fluids to control the timing of back flushing of the separation system when the membranes reach a high level of retention of materials separated from the source fluid.

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