

Title (en)

MEMBRANE FILTER WITH ELECTRICAL AND/OR ACOUSTIC ENHANCEMENT

Title (de)

MEMBRANFILTER MIT ELEKTRISCHER UND/ODER AKUSTISCHER VERSTÄRKUNG

Title (fr)

FILTRE A MEMBRANE A PERFECTIONNEMENT ELECTRIQUE ET/OU ACOUSTIQUE

Publication

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Application

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Abstract (en)

[origin: WO9803245A1] This invention relates to tubular and flat sheet membrane filters, particularly those filters whose ability to separate particulate, molecular or ionic contaminants from suspensions is enhanced by the addition of electric fields to the filter. When a membrane filter is in use, contaminants from the feed liquid accumulate at the membrane surface to form a polarised layer which inhibits flow through the membrane. Contaminants in a liquid become charged and when subjected to an electric field will migrate toward one or other of the electrodes. If the electrodes are located either side of a permeable membrane or barrier, the contaminant can be caused to migrate by electrophoresis away from the membrane or barrier. The system can be made more effective by using a combination of ultrasonic fields and controlled hydrodynamic fields with the electric field. The ultrasonic and the hydrodynamic fields will improve the separation of the solids from the water and the electric field will cause the particles to migrate away from the membrane.

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