Title (en)

DRYING OF FILTER MODULES AND FILTER HOUSINGS USING A FREQUENCY-GUIDED MICROWAVE PROCESS

Title (de)

TROCKNUNG VON FILTERMODULEN UND FILTERGEHÄUSEN MIT EINEM FREQUENZGEFÜHRTEN MIKROWELLENPROZESS

Title (fr)

SÉCHAGE DE MODULES FILTRANTS ET DE BOÎTIERS DE FILTRES PAR PROCESSUS MICRO-ONDES À FRÉQUENCE CONTRÔLÉE

Publication

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Application

EP 21770123 A 20210812

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Abstract (en)

[origin: WO2022033637A1] The invention relates to a device for drying dialysis filter cartridges, candle filters and other enclosed filter systems, comprising a microwave chamber which is equipped with a filter module. The microwave chamber is characterised in that it separates regions of high and low microwave absorption in a contact-free manner. The regions of high energy absorption generally correspond to the middle region of the filter where the bundle of hollow fibres or the filter material is located. The regions of low absorption correspond to the microwave-sensitive end regions of the filter module. In order to dry the wet filter module, the microwave frequency with the maximum converted power is determined, then microwave energy is introduced at this frequency, and while the filter is drying, the reflected microwave power is continually determined and kept to a minimum by readjusting the microwave frequency. The water is removed from the module at the same time as an air or gas flow. The method requires a solid-state microwave generator with adjustable frequency, but then enables the quick and gentle drying of filter cartridges and other enclosed filter units such as candle filters. In particular, wastage caused by accidentally overheating the temperature-sensitive end regions of the filter housings and filter modules containing the seals and adhesive bonds is avoided.

IPC 8 full level

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CPC (source: EP US)

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