Title (en)
Method of operating a water-vapor generator.

Title (de)
Verfahren zum Betreiben eines Wasserdampferzeugers.

Title (fr)
Méthode pour faire fonctionner un générateur de vapeur d'eau.

Publication
EP 0069155 A1 19830112 (EN)

Application
EP 81105016 A 19810629

Priority
EP 81105016 A 19810629

Abstract (en)
A water vapor generator of the type having electrodes in a vaporization vessel is disclosed. Current passed through the water between electrodes causes water in the vessel to heat and boil off as steam, make-up water being added when the current drops below a preset minimum value. The make-up water is cut off when a preset maximum value is reached. Thus, the generator operates through successive cycles each containing a descending "boil" leg and an ascending "fill" leg. As water is boiled the mineral content in the vessel becomes more and more concentrated causing increasing conductivity of the water. In order to return the contained water conductivity to its design value the frequency of the boil/fill cycles is measured over several cycles and compared with a predetermined value. If the measured frequency is higher, this indicates a higher than desired water conductivity and a drain cycle is initiated by operating a drain valve. The amount of water drained out of the vessel is proportional to the deviation of frequency from the predetermined value. The frequency can be measured by the duration of a predetermined number of cycles and this is then compared with a predetermined duration corresponding to the predetermined frequency. The apparatus used may include a count down sequencer which starts to step through several relays which have successively higher minimum thresholds and a cycle counter which starts counting cycles at the same time. If, when the cycle counter has finished counting the predetermined number of cycles, the count down sequencer has not finished counting, one of the relays will be energised and this will cause the outlet valve to open and remain open until the electrode current drops to the threshold value for that relay.

IPC 1-7
F22B 1/30; F24F 6/10

IPC 8 full level
F22B 1/30 (2006.01); F24F 6/02 (2006.01)

CPC (source: EP)
F22B 1/30 (2013.01); F24F 6/025 (2013.01)

Citation (search report)
- [AD] US 3937920 A 19760210 - GUNDACKER SIEGBERT, et al
- [A] GB 1555502 A 19791114 - WILLIAMS SA
- [A] FR 2279448 A1 19760220 - LUQUET SA H ET A [FR]
- [A] FR 2186117 A5 19740104 - OZONAIR PROCEDE [FR]
- [A] US 3269364 A 19660830 - HIGGINS BRADLEY C
- [A] US 3682141 A 19720808 - JOHANSEN BIRGER JOHAN WALTHER
- [A] US 4262191 A 19810414 - LEPPER JAMES M, et al

Cited by
EP0207804A3; CN109974249A; JP2017106708A; EP0453384A1; FR2661233A1

Designated contracting state (EPC)
CH DE GB IT LI

DOCDB simple family (publication)
EP 0069155 A1 19830112

DOCDB simple family (application)
EP 81105016 A 19810629