

Title (en)
BATTERY ELECTROLYTE CIRCULATION SYSTEM

Title (de)
BATTERIEELEKTROLYT-ZIRKULATIONSSYSTEM

Title (fr)
SYSTEME DE CIRCULATION DE L'ELECTROLYTE DANS UNE BATTERIE

Publication
EP 0737368 A4 19971119 (EN)

Application
EP 94916482 A 19931201

Priority
US 9311698 W 19931201

Abstract (en)
[origin: WO9515586A1] A liquid electrolyte battery (10) comprises a number of electrolytic cells (12), an inlet port (22) extending into a first electrolytic cell (12-1), an electrolyte transport channel (30) residing within each electrolytic cell, a number of carry-over passages (40) hydraulically connecting adjacent electrolytic cells, an outlet port (50) extending from a last electrolytic cell (12-4), and a pump (58) for introducing an electrolyte solution or air into the electrolytic cells. The battery electrolyte is replenished by introducing an electrolyte solution (14) into the first electrolytic cell, causing the electrolyte level to rise and be hydraulically transported through the carry-over passages to fill each electrolytic cell. The electrolyte exiting the last electrolytic cell is collected and reintroduced back into the first electrolytic cell and circulated throughout the battery. The electrolyte exiting the battery may be collected in an electrolyte reservoir (72) and circulated through a temperature management device (78) to ensure a battery temperature within design parameters. The electrolyte level in each electrolytic cell is adjusted to a predetermined level by introducing air into the battery causing the hydraulic transport of an electrolyte volume residing above an inlet end (54) of the outlet port through the outlet port in the last electrolytic cell, and the electrolyte volume above an inlet end (42) of the carry-over passage through the carry-over passage in each other electrolytic cell. The air exiting the last electrolyte cell may be vented or treated for the removal of hazardous gases.

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H01M 2/38

IPC 8 full level
H01M 50/77 (2021.01); **H01M 10/34** (2006.01)

CPC (source: EP)
H01M 50/77 (2021.01); **H01M 10/342** (2013.01); **Y02E 60/10** (2013.01)

Citation (search report)

- [A] DE 4131704 A1 19930318 - ELEKTRON BREMEN [DE]
- See references of WO 9515586A1

Designated contracting state (EPC)
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