

Title (en)  
DEVICE, METHOD AND USE

Title (de)  
VORRICHTUNG, VERFAHREN UND VERWENDUNG

Title (fr)  
DISPOSITIF, PROCÉDÉ ET UTILISATION

Publication  
**EP 4389931 A1 20240626 (EN)**

Application  
**EP 22215786 A 20221222**

Priority  
EP 22215786 A 20221222

Abstract (en)  
A device (1, 2), a method for electrolysis and a use of the device to perform electrolysis are provided. The device (1,2) comprises heat transfer plates (5) defining alternately arranged first and second interspaces (I1, I2) and, within these, first and second flow channels (C1, C2). A first fluid path (P1) for conveying a first fluid through the device (1, 2) extends through the first flow channels (C1). The device is characterized in that membranes (45) are arranged in the second flow channels (C2) to divide them into second primary sub channels (C2P) and a second secondary sub channels (C2S). Further, a second fluid path (P2) for conveying the second fluid through the device (1, 2) comprises a second primary fluid path (P2p) and a second secondary fluid path (P2s). The second primary fluid path (P2p) extends into and out of the second primary sub channels (C2P) via the first interspaces (I1) outside the first flow channels (C1). The second secondary fluid path (P2s) extends into and out of the second secondary sub channels (C2S) via the first interspaces (I1) outside the first flow channels (C1).

IPC 8 full level  
**C25B 1/04** (2021.01); **C25B 9/67** (2021.01); **C25B 9/73** (2021.01); **C25B 15/08** (2006.01); **F28D 9/00** (2006.01); **F28F 3/04** (2006.01); **H01M 8/04029** (2016.01)

CPC (source: EP)  
**C25B 1/04** (2013.01); **C25B 9/67** (2021.01); **C25B 9/73** (2021.01); **C25B 15/08** (2013.01); **F28D 9/005** (2013.01); **F28F 3/046** (2013.01); **F28F 3/083** (2013.01); **F28F 2230/00** (2013.01)

Citation (applicant)  
EP 4012070 A1 20220615 - DANFOSS AS [DK]

Citation (search report)  
• [A] WO 2022156869 A1 20220728 - STIESDAL PTX TECH A/S [DK]  
• [A] WO 2020160424 A1 20200806 - AQUAHYDREX INC [US]  
• [A] US 4495048 A 19850122 - MURAKAMI KATSUYUKI [JP], et al  
• [A] US 2019221866 A1 20190718 - GAMBINI FILIPPO [US]  
• [A] WO 2005020346 A2 20050303 - ULTRACELL CORP [US], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4389931 A1 20240626**; WO 2024133651 A1 20240627

DOCDB simple family (application)  
**EP 22215786 A 20221222**; EP 2023087225 W 20231221