Title (en)

MICROPOROUS MEMBRANE ELEMENT FOR HUMIDIFICATION OF AIR AND METHOD OF MANUFACTURING SUCH A MEMBRANE ELEMENT

Title (de)

MEMBRANELEMENT ZUR LUFTBEFEUCHTUNG UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

ÉLÉMENT DE MEMBRANE POUR UN APPAREIL D'HUMIDIFICATION ET MÉTHODE DE FABRICATION D'UN TEL ÉLÉMENT DE MEMBRANE

Publication

EP 3441687 A3 20190403 (DE)

Application

EP 18184196 A 20161216

Priority

- CH 18722015 A 20151218
- EP 16822372 A 20161216
- CH 2016000156 W 20161216

Abstract (en)

[origin: WO2017100955A2] The invention relates to an air humidifier device (10) comprising a hydrophobic microporous membrane (1) as a separator between the water and the air to be humidified, wherein the volumetric flow of water over time is set to be greater by factor X than the volumetric flow of steam. This allows air to be humidified with water at a low temperature, without disruption.

IPC 8 full level

F24F 6/02 (2006.01); **B01D 63/00** (2006.01); **F24F 3/14** (2006.01); **F24F 11/00** (2018.01); **F24F 11/30** (2018.01); **F24F 11/70** (2018.01); F24F 110/00 (2018.01); F24F 110/20 (2018.01)

CPC (source: EP US)

F24F 3/14 (2013.01 - EP); **F24F 6/02** (2013.01 - EP); **F24F 6/04** (2013.01 - EP); **F24F 11/30** (2017.12 - US); **F24F 11/70** (2017.12 - US); **F24F 11/77** (2017.12 - EP US); F24F 2003/1435 (2013.01 - EP); F24F 2110/00 (2017.12 - US); F24F 2110/20 (2017.12 - US)

Citation (search report)

- [A] DE 102014006465 A1 20151112 - MANN & HUMMEL GMBH [DE]
- [A] DE 102008038557 A1 20100225 - EADS DEUTSCHLAND GMBH [DE]
- [A] WO 0167533 A2 20010913 - BALLARD POWER SYSTEMS [CA], et al
- [A] US 2015153052 A1 20150604 - SAITO TADASHI [JP], 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 MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2017100955 A2 20170622; **WO 2017100955 A3 20170810**; CH 711934 A2 20170630; EP 3390923 A2 20181024; EP 3390923 B1 20210324; EP 3441687 A2 20190213; EP 3441687 A3 20190403; EP 3441687 B1 20200513; EP 3696468 A1 20200819

DOCDB simple family (application)

CH 2016000156 W 20161216; CH 18722015 A 20151218; EP 16822372 A 20161216; EP 18184196 A 20161216; EP 20167094 A 20161216