

Title (en)
HEAT TREATMENT APPARATUS

Title (de)
WÄRMEBEHANDLUNGSVORRICHTUNG

Title (fr)
APPAREIL DE TRAITEMENT THERMIQUE

Publication
EP 3418666 A4 20191106 (EN)

Application
EP 17753223 A 20170215

Priority
• JP 2016027605 A 20160217
• JP 2017005532 W 20170215

Abstract (en)
[origin: US2018320994A1] A heat treatment apparatus includes: a heat exchange unit including a plurality of first channels and a plurality of second channels; a space-forming part having a space facing channel openings of the respective first channels; a first opening located in the space-forming part and having a first aperture; a flow-regulating part installed in the space in the space-forming part to regulate a flow of the first fluid; and an attachment part for removably attaching the flow-regulating part through the first aperture, wherein the space in the space-forming part is a space in which first fluid led out of the respective channel openings flows together, or a space from which the first fluid flowing together is introduced to the respective channel openings, and in a state in which the flow-regulating part is fixed in the space-forming part, the flow-regulating part is opposed to the plural channel openings.

IPC 8 full level
F28F 9/02 (2006.01); **C07C 1/04** (2006.01); **C07C 9/04** (2006.01); **F28D 9/00** (2006.01); **F28F 3/08** (2006.01); **F28F 9/22** (2006.01)

CPC (source: EP US)
F28D 9/0006 (2013.01 - EP US); **F28D 9/0037** (2013.01 - EP US); **F28F 3/08** (2013.01 - EP US); **F28F 9/02** (2013.01 - EP US); **F28F 9/0273** (2013.01 - EP US); **F28F 9/028** (2013.01 - EP US); **F28F 9/12** (2013.01 - US); **F28D 2021/0022** (2013.01 - EP US); **F28F 9/0251** (2013.01 - EP US)

Citation (search report)
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• [XA] EP 2573495 A1 20130327 - ALFA LAVAL CORP AB [SE]
• [A] GB 413947 A 19340726 - ROBERT MORTON & COMPANY LTD, et al
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• See references of WO 2017141967A1

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

DOCDB simple family (publication)
US 2018320994 A1 20181108; CA 3012816 A1 20170824; CA 3012816 C 20200818; CN 108700392 A 20181023; EP 3418666 A1 20181226; EP 3418666 A4 20191106; JP 2020073856 A 20200514; JP 6699718 B2 20200527; JP 6860102 B2 20210414; JP WO2017141967 A1 20181018; WO 2017141967 A1 20170824

DOCDB simple family (application)
US 201816034773 A 20180713; CA 3012816 A 20170215; CN 201780005594 A 20170215; EP 17753223 A 20170215; JP 2017005532 W 20170215; JP 2018500157 A 20170215; JP 2020022460 A 20200213