

Title (en)

HEAT EXCHANGER HAVING AN ARRANGEMENT OF MIXING DEVICES IMPROVING THE DISPENSING OF A BIPHASIC MIXTURE

Title (de)

WÄRMETAUSCHER MIT EINER ANORDNUNG VON MISCHVORRICHTUNGEN ZUR VERBESSERUNG DER ABGABE EINER ZWEPHASENMISCHUNG

Title (fr)

ECHANGEUR DE CHALEUR AVEC AGENCEMENT DE DISPOSITIFS MÉLANGEURS AMÉLIORANT LA DISTRIBUTION D'UN MÉLANGE DIPHASIQUE

Publication

**EP 4062118 B1 20230809 (FR)**

Application

**EP 20804293 A 20201116**

Priority

- FR 1913017 A 20191121
- EP 2020082300 W 20201116

Abstract (en)

[origin: WO2021099275A1] The invention relates to a heat exchanger (1) comprising a plurality of plates (2) arranged parallel to one another and to a longitudinal direction (z), said plates (2) being stacked in a spaced-apart manner so as to define, between one another, at least one first set of passages (10A, 10B) configured for the flow of a first fluid (F1) generally in the longitudinal direction (z), and at least one second set of passages (20) configured for the flow of a second fluid (F2) to be brought into a heat-exchange relationship with the first fluid (F1), at least one first passage (10A) of the first set comprising a first mixing device (3A) and at least one second passage (10B) of the first set comprising a second mixing device (3B), each of the first and second mixing devices (3A, 3B) comprising at least one lateral channel (31A, 31B) configured for the flow of a first phase (61) of the first fluid (F1) from at least one first inlet (311A, 311B), a series of longitudinal channels (32A, 32B) extending in the longitudinal direction (z) and each being configured for the flow of a second phase (62) of the first fluid (F1) from a second inlet (321A, 321B) to a second outlet (322A, 322B), said longitudinal channels following one another in a lateral direction (y) orthogonal to the longitudinal direction (z), and at least one orifice (34) fluidically connecting said at least one lateral channel (31A, 31B) to at least one longitudinal channel (32A, 32B) such that the first and second mixing devices (3A, 3B) are configured to dispense a mixture of the first phase (61) and the second phase (62) through the second outlets (322A, 322B). According to the invention, the longitudinal channels (32A) of the first mixing device (3A) are arranged, at least in part, in positions in the lateral direction (y) that are different from the positions of the longitudinal channels (32B) of the second mixing device (3B).

IPC 8 full level

**F28D 9/00** (2006.01); **F25J 1/00** (2006.01); **F25J 1/02** (2006.01); **F25J 5/00** (2006.01); **F28F 3/04** (2006.01)

CPC (source: EP US)

**F25J 1/0022** (2013.01 - EP US); **F25J 1/0052** (2013.01 - EP US); **F25J 1/0212** (2013.01 - EP US); **F25J 1/0214** (2013.01 - EP US); **F25J 1/0262** (2013.01 - EP US); **F25J 1/0292** (2013.01 - EP US); **F25J 5/002** (2013.01 - EP US); **F28D 9/0062** (2013.01 - EP); **F28F 3/048** (2013.01 - EP US); **F25J 2290/32** (2013.01 - EP US); **F28D 9/0068** (2013.01 - EP US)

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)

**WO 2021099275 A1 20210527**; CN 114829864 A 20220729; EP 4062118 A1 20220928; EP 4062118 B1 20230809; FR 3103543 A1 20210528; FR 3103543 B1 20211022; JP 2023503815 A 20230201; US 12018887 B2 20240625; US 2023003447 A1 20230105

DOCDB simple family (application)

**EP 2020082300 W 20201116**; CN 202080088963 A 20201116; EP 20804293 A 20201116; FR 1913017 A 20191121; JP 2022527752 A 20201116; US 202017778668 A 20201116