Title (en)

TUBE CONFIGURATION FOR A HEAT EXCHANGER, HEAT EXCHANGER INCLUDING THE TUBE CONFIGURATION, FLUID HEATING SYSTEM INCLUDING THE SAME, AND METHODS OF MANUFACTURE THEREOF

Title (de)

ROHRKONFIGURATION FÜR EINEN WÄRMETAUSCHER, WÄRMETAUSCHER MIT DER ROHRKONFIGURATION, FLÜSSIGKEITSERHITZUNGSSYSTEM DAMIT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

CONFIGURATION TUBULAIRE POUR ÉCHANGEUR DE CHALEUR, ÉCHANGEUR DE CHALEUR COMPORTANT LA CONFIGURATION TUBULAIRE, SYSTÈME DE CHAUFFAGE DE FLUIDE COMPORTANT LEDIT ÉCHANGEUR, ET LEURS PROCÉDÉS DE FABRICATION

Publication

**EP 3405731 A1 20181128 (EN)**

Application

**EP 17742012 A 20170120**

Priority

- US 201662286099 P 20160122
- US 201662360711 P 20160711
- US 2017014340 W 20170120

Abstract (en)

[origin: WO2017127681A1] A heat exchanger tube assembly comprising a first tube sheet, a second tube sheet opposite the first sheet, a plurality of heat exchanger tubes, each independently connects the first tube sheet and the second tube sheet, wherein the tubes are in a staggered ring configuration that comprises a concentric sequence of rings of decreasing diameter wherein adjacent tubes on the same ring are separated by a fixed radial separation angle and adjacent tubes on adjacent rings are staggered by rotating all the tubes within an inner ring by a fixed radial index angle, IA, relative to the next outermost tube ring.

IPC 8 full level

**F28D 7/16** (2006.01); **F28F 9/013** (2006.01); **F28F 9/02** (2006.01); **F28F 9/22** (2006.01)

CPC (source: EP)

**F24H 1/287** (2013.01); **F24H 9/0015** (2013.01); **F28D 7/16** (2013.01); **F28D 7/163** (2013.01); **F28D 21/0007** (2013.01); F28D 2021/0024 (2013.01); F28F 2009/226 (2013.01)

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 2017127681 A1 20170727**; CN 109312987 A 20190205; CN 109312987 B 20211015; EP 3405731 A1 20181128; EP 3405731 A4 20191106

DOCDB simple family (application)

**US 2017014340 W 20170120**; CN 201780019354 A 20170120; EP 17742012 A 20170120