

Title (en)

Pipe heater and method for transferring heat between at least two food flows

Title (de)

Röhrenwärmeüberträger und Verfahren zur Wärmeübertragung zwischen wenigstens zwei Lebensmittelströmen

Title (fr)

Caloporteur tubulaire et procédé de transmission de la chaleur entre au moins deux flux d'aliments

Publication

EP 2149770 A3 20110323 (DE)

Application

EP 09009293 A 20090716

Priority

DE 102008036125 A 20080801

Abstract (en)

[origin: EP2149770A2] The exchanger (6) has heat transfer pipes (1) arranged in an inner side of a casing pipe (8), where fluid food flow is guidable in the heat transfer pipes. Another fluid food flow is guided in a casing space (10) between the casing pipe and the heat transfer pipes. A portion of the each heat transfer pipe is partially deformed such that the heat transfer pipes contact each other at selected points. The heat transfer pipes are arranged adjacent to each other and arranged at a distance from each other. Each pipe comprises a deformation section (4) with different cross sectional shapes. An independent claim is also included for a method for transferring heat between two food flows.

IPC 8 full level

F28D 7/16 (2006.01); **F28D 7/00** (2006.01); **F28F 1/00** (2006.01); **F28F 1/02** (2006.01); **F28F 1/08** (2006.01); **F28F 9/013** (2006.01)

CPC (source: EP)

F28D 7/0041 (2013.01); **F28D 7/16** (2013.01); **F28F 1/006** (2013.01); **F28F 1/08** (2013.01); **F28F 9/00** (2013.01); **F28F 9/013** (2013.01); **F28F 13/08** (2013.01); **F28D 2021/0042** (2013.01); **F28F 2240/00** (2013.01)

Citation (search report)

- [X] EP 0911597 A2 19990428 - FIN ROBUR S A P A DI BENITO GU [IT]
- [X] DE 3830800 C1 19900419
- [X] US 4050511 A 19770927 - MCDONALD BERTRAND N
- [X] FR 2297395 A1 19760806 - NEU ETS [FR]
- [X] JP 2001304047 A 20011031 - USUI INTERNATIONAL INDUSTRY
- [A] DE 29708011 U1 19980827 - SOLVAY VERWALTUNGS UND VERMITT [DE]

Cited by

RU169811U1; WO2014006151A1; WO2019202557A1; WO2016120283A1; US10746481B2; US10627169B2; US11885574B2; EP2984438B1

Designated contracting state (EPC)

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 SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2149770 A2 20100203; **EP 2149770 A3 20110323**; **EP 2149770 A8 20110622**; **EP 2149770 B1 20130227**; **EP 2149770 B2 20161123**; CN 101639328 A 20100203; CN 101639328 B 20121219; DE 102008036125 A1 20100204; ES 2400736 T3 20130411

DOCDB simple family (application)

EP 09009293 A 20090716; CN 200910165329 A 20090731; DE 102008036125 A 20080801; ES 09009293 T 20090716