

Title (en)

HEAT EXCHANGER FOR MOLTEN SALT STEAM GENERATOR IN CONCENTRATED SOLAR POWER PLANT

Title (de)

WÄRMETAUSCHER FÜR SALZSCHMELZEDAMPFERZEUGER IN KRAFTWERK MIT KONZENTRIERTER SOLARKRAFT

Title (fr)

ÉCHANGEUR DE CHALEUR POUR GÉNÉRATEUR DE VAPEUR DE SEL FONDU DANS UNE CENTRALE À ÉNERGIE SOLAIRE CONCENTRÉE

Publication

**EP 3406998 B1 20201104 (EN)**

Application

**EP 17172695 A 20170524**

Priority

EP 17172695 A 20170524

Abstract (en)

[origin: EP3406998A1] A hairpin heat exchanger (1), wherein the bundle of parallel U-bent tubes (2) is extended out of the exchanger and connected, via bent tubes (11), respectively beyond an end of the internal shell (3) and of the external shell (4) at the first straight section to a first header (9) distributing the first fluid to the bundle of straight tubes (2) and beyond an end of the internal shell (3) and of the external shell (4) at the second straight section to a second header (10) collecting the first fluid under the form of liquid, vapor or a mixture liquid /vapor from the bundle of straight tubes (2).

IPC 8 full level

**F01K 25/00** (2006.01); **F22B 1/00** (2006.01); **F22B 1/06** (2006.01); **F22B 17/02** (2006.01); **F28D 7/06** (2006.01); **F28D 21/00** (2006.01);  
**F28F 9/22** (2006.01)

CPC (source: EP IL KR US)

**F22B 1/006** (2013.01 - EP IL US); **F22B 1/06** (2013.01 - IL US); **F22B 17/025** (2013.01 - EP IL US); **F28D 7/06** (2013.01 - EP IL KR);  
**F28F 9/22** (2013.01 - EP IL); **F22B 1/006** (2013.01 - KR); **F22B 1/06** (2013.01 - EP KR); **F22B 17/025** (2013.01 - KR); **F28D 7/06** (2013.01 - US);  
**F28D 2021/0064** (2013.01 - EP IL KR US); **F28F 9/22** (2013.01 - KR US); **F28F 2009/222** (2013.01 - EP IL KR); **F28F 2009/226** (2013.01 - IL US);  
**F28F 2009/228** (2013.01 - EP IL KR)

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)

**EP 3406998 A1 20181128; EP 3406998 B1 20201104;** AU 2018274073 A1 20191121; CL 2019003253 A1 20200214;  
CN 110691953 A 20200114; CN 110691953 B 20210518; ES 2844382 T3 20210722; IL 270461 B 20210531; KR 20200010318 A 20200130;  
MX 2019013991 A 20200205; PE 20200088 A1 20200115; US 2020141568 A1 20200507; WO 2018215239 A1 20181129;  
ZA 201907258 B 20201125

DOCDB simple family (application)

**EP 17172695 A 20170524;** AU 2018274073 A 20180515; CL 2019003253 A 20191113; CN 201880034199 A 20180515;  
EP 2018062490 W 20180515; ES 17172695 T 20170524; IL 27046119 A 20191105; KR 20197036756 A 20180515; MX 2019013991 A 20180515;  
PE 2019002300 A 20180515; US 201816615845 A 20180515; ZA 201907258 A 20191031