

Title (en)

REFRIGERATION METHOD, AND CORRESPONDING COLD BOX AND CRYOGENIC EQUIPMENT

Title (de)

KÜHLVERFAHREN, ZUGEHÖRIGE KÜHLBOX UND KRYOGENE ANLAGE

Title (fr)

PROCÉDÉ DE RÉFRIGÉRATION, BOÎTE FROIDE ET INSTALLATION CRYOGÉNIQUE CORRESPONDANTES

Publication

EP 3077736 B1 20180103 (FR)

Application

EP 14806019 A 20141106

Priority

- FR 1362240 A 20131206
- FR 2014052837 W 20141106

Abstract (en)

[origin: WO2015082788A1] The present invention relates to a refrigeration method, during which a user (1) is supplied with frigories by means of a working gas, such as helium, that is cooled by having same flow into a cold box (4) that comprises, in series, at least one first aluminum heat exchanger (5) having brazed plates and flanges, one second heat exchanger (15) having welded plates, and one third aluminum heat exchanger (25) having brazed plates and flanges in such a way that the flow of said working gas is at least partially caused to pass, consecutively, through the first exchanger (5), then through the second exchanger (15), and finally through the third exchanger (25) before said working gas flow is directed to the user (1) in order to supply the latter with frigories.

IPC 8 full level

F25B 6/04 (2006.01); **F25B 9/00** (2006.01); **F25B 9/14** (2006.01); **F25B 40/00** (2006.01); **F25B 40/02** (2006.01); **F25J 1/00** (2006.01); **F25J 1/02** (2006.01); **F28D 9/00** (2006.01); **F28D 21/00** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP US)

F25B 6/04 (2013.01 - EP US); **F25B 9/002** (2013.01 - EP US); **F25B 9/14** (2013.01 - US); **F25B 40/00** (2013.01 - EP US); **F25B 40/02** (2013.01 - EP US); **F25J 1/0065** (2013.01 - EP US); **F25J 1/0221** (2013.01 - EP US); **F25J 1/0263** (2013.01 - EP US); **F25J 1/0276** (2013.01 - EP); **F28D 9/0006** (2013.01 - EP US); **F28D 9/0062** (2013.01 - EP US); **F28D 9/0093** (2013.01 - EP US); **F28F 21/083** (2013.01 - EP US); **F28F 21/084** (2013.01 - EP US); **F25J 2210/42** (2013.01 - EP US); **F25J 2250/02** (2013.01 - EP US); **F25J 2270/912** (2013.01 - EP US); **F28D 2021/0033** (2013.01 - EP US); **F28F 2275/04** (2013.01 - EP US); **F28F 2275/06** (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 2015082788 A1 20150611; CN 105934641 A 20160907; CN 105934641 B 20181016; EP 3077736 A1 20161012; EP 3077736 B1 20180103; FR 3014544 A1 20150612; JP 2016539307 A 20161215; JP 6495284 B2 20190403; US 10571158 B2 20200225; US 2016341452 A1 20161124

DOCDB simple family (application)

FR 2014052837 W 20141106; CN 201480066347 A 20141106; EP 14806019 A 20141106; FR 1362240 A 20131206; JP 2016536550 A 20141106; US 201415102029 A 20141106