Title (en)

CLOSED CYCLE CRYOGEN RECIRCULATION SYSTEM AND METHOD

Title (de)

SYSTEM UND VERFAHREN ZUR KRYOGENEN REZIRKULATION IM GESCHLOSSENEN KREISLAUF

Title (fr)

SYSTÈME ET PROCÉDÉ DE RECIRCULATION DE CRYOGÈNE À CYCLE FERMÉ

Publication

EP 3234482 A1 20171025 (EN)

Application

EP 15808154 A 20151210

Priority

- EP 14197216 A 20141210
- EP 2015079195 W 20151210

Abstract (en)

[origin: WO2016091990A1] There is provided refrigeration system (1) and method for remote cooling of a thermal load having a first portion (27)and a second portion (25). The system comprises a cold source (4) having a first cooling stage (5) and a second cooling stage (6), the temperature of the first cooling stage being higher than the temperature of the second cooling stage. The system also comprises a cryogen circuit for circulation of a cryogen flow in a closed cycle, the closed cycle being thermally coupled to the cold source. The system further comprises a compressor (7) for compressing and circulating the cryogen flow in the cryogen circuit. The cryogen circuit comprises a first conduit for thermally connecting the first cooling stage of the cold source to the first portion of the thermal load so as to cool said first portion towards the temperature of the first cooling stage, and a second conduit for thermally connecting the second cooling stage of the cold source to the second portion of the thermal load so as to cool said second portion towards the temperature of the second cooling stage. The cryogen flow in the system is a sub- cooled or saturated liquid, two phase, saturated or overheated, supercritical gas helium flow.

IPC 8 full level

F25B 9/00 (2006.01); **F25B 9/02** (2006.01); **F25B 9/10** (2006.01); **F25B 9/14** (2006.01); **F25B 41/04** (2006.01)

CPC (source: EP US)

F25B 9/002 (2013.01 - EP US); **F25B 9/02** (2013.01 - EP US); **F25B 9/10** (2013.01 - EP US); **F25B 41/20** (2021.01 - EP US); **F25D 19/006** (2013.01 - US); **F25J 1/0221** (2013.01 - US); F25B 9/14 (2013.01 - EP US); F25B 2400/04 (2013.01 - EP US); F25B 2500/01 (2013.01 - US)

Citation (search report)

See references of WO 2016091990A1

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 2016091990 A1 20160616; BR 112017012198 A2 20171226; CA 2970052 A1 20160616; CL 2017001469 A1 20180105; EP 3234482 A1 20171025; JP 2018505373 A 20180222; RU 2017121595 A 20190111; US 2017343246 A1 20171130

DOCDB simple family (application)

EP 2015079195 W 20151210; BR 112017012198 A 20151210; CA 2970052 A 20151210; CL 2017001469 A 20170608; EP 15808154 A 20151210; JP 2017531270 A 20151210; RU 2017121595 A 20151210; US 201515534332 A 20151210