

Title (en)
 DEVICE FOR COOLING A CONSUMER WITH A SUPER-COOLED LIQUID IN A COOLING CIRCUIT

Title (de)
 VORRICHTUNG ZUM KÜHLEN EINES VERBRAUCHERS MIT EINER UNTERKÜHLTEN FLÜSSIGKEIT IN EINEM KÜHLKREISLAUF

Title (fr)
 DISPOSITIF DE REFROIDISSEMENT D'UN DISSIPATEUR AVEC UN LIQUIDE SURREFROIDI DANS UN CIRCUIT DE REFROIDISSEMENT

Publication
EP 3017238 A1 20160511 (DE)

Application
EP 14736664 A 20140618

Priority

- DE 102013011212 A 20130704
- EP 2014062881 W 20140618

Abstract (en)
 [origin: CA2917035A1] According to the prior art, a super-cooled liquid medium, for example a super-cooled liquid nitrogen, is pumped through a sub-cooler and is thereby cooled by the same medium that evaporates in the vacuum. This super-cooled nitrogen is then used as a coolant for a consumer. If only a small amount of heat is emitted by the consumer to the nitrogen, the liquid medium can be guided in the circuit, in which the sub-cooler is arranged. For compensating volume fluctuations, such a circuit requires a compensation vessel which, however, is very expensive and can furthermore only be operated in the presence of a super-cooled medium when either a part of the medium is heated using external energy, or an inert gas which boils at very low temperatures has to be used as a pressure compensation medium. According to the invention, it is proposed that the supply container for the liquid medium is integrated into the cooling circuit and is used as a compensation vessel. As a result, the use of a separate compensation vessel can be dispensed with.

IPC 8 full level
F17C 7/04 (2006.01); **F25B 19/00** (2006.01)

CPC (source: EP RU US)
F17C 7/04 (2013.01 - RU); **F17C 9/00** (2013.01 - EP US); **F17C 13/007** (2013.01 - EP US); **F25B 19/00** (2013.01 - RU); **F25B 19/005** (2013.01 - EP US); **F17C 2205/0326** (2013.01 - EP US); **F17C 2205/0338** (2013.01 - EP US); **F17C 2221/011** (2013.01 - EP US); **F17C 2221/014** (2013.01 - EP US); **F17C 2221/016** (2013.01 - EP US); **F17C 2221/033** (2013.01 - EP US); **F17C 2223/0161** (2013.01 - EP US); **F17C 2223/033** (2013.01 - EP US); **F17C 2223/046** (2013.01 - EP US); **F17C 2225/0161** (2013.01 - EP US); **F17C 2225/0169** (2013.01 - EP US); **F17C 2225/033** (2013.01 - EP US); **F17C 2227/0107** (2013.01 - EP US); **F17C 2227/0135** (2013.01 - EP US); **F17C 2227/0306** (2013.01 - EP US); **F17C 2227/0374** (2013.01 - EP US); **F17C 2250/0439** (2013.01 - EP US); **F17C 2250/0626** (2013.01 - EP US); **F17C 2260/056** (2013.01 - EP US); **F17C 2265/017** (2013.01 - EP US); **F17C 2265/022** (2013.01 - EP US); **F17C 2270/05** (2013.01 - EP US)

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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)
DE 102013011212 A1 20150108; DE 102013011212 B4 20150730; BR 112015033045 A2 20170725; BR 112015033045 B1 20211228; CA 2917035 A1 20150108; CA 2917035 C 20210406; CN 105324601 A 20160210; CN 105324601 B 20170208; EP 3017238 A1 20160511; EP 3017238 B1 20201104; ES 2842104 T3 20210712; IL 243118 B 20200331; JP 2016524117 A 20160812; JP 6349390 B2 20180627; KR 102053387 B1 20200108; KR 20160030192 A 20160316; PL 3017238 T3 20210419; RU 2015154453 A 20170807; RU 2015154453 A3 20180301; RU 2648312 C2 20180323; SG 11201509973R A 20160128; US 10422554 B2 20190924; US 2016370036 A1 20161222; WO 2015000708 A1 20150108

DOCDB simple family (application)
DE 102013011212 A 20130704; BR 112015033045 A 20140618; CA 2917035 A 20140618; CN 201480034742 A 20140618; EP 14736664 A 20140618; EP 2014062881 W 20140618; ES 14736664 T 20140618; IL 24311815 A 20151215; JP 2016522400 A 20140618; KR 20167001720 A 20140618; PL 14736664 T 20140618; RU 2015154453 A 20140618; SG 11201509973R A 20140618; US 201414901627 A 20140618