

Title (en)

METHOD FOR HEATING LIQUID HEAT CARRIER AND A DEVICE FOR CARRYING OUT SAID METHOD

Title (de)

VERFAHREN ZUM ERWÄRMEN EINES FLÜSSIGEN WÄRMETRÄGERS UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCÉDÉ POUR RÉCHAUFFER UN CALOPORTEUR LIQUIDE ET DISPOSITIF DE MISE EN OEUVRE CORRESPONDANT

Publication

**EP 2211121 A2 20100728 (EN)**

Application

**EP 08779204 A 20080618**

Priority

- RU 2008000379 W 20080618
- RU 2007125918 A 20070709

Abstract (en)

The proposed heating method includes supplying a liquid heat carrier to a heating area by means of turning it about the cylindrical surface of a heater in such a way as to form an axially symmetric swirl flow, the trajectory of each heat carrier particle being tangent to the surface of the heater the temperature of which is higher than the critical thermal point of the heat carrier. The heating device contains a heat exchanger having a cylindrical body, tangentially positioned pipes for supplying the cold heat carrier and pipes for discharging the hot heat carrier. The heater having a cylindrical surface is coaxially arranged in the cylindrical body. The heating device contains an expansion tank, binding pipes and heat exchangers. The temperature of the heater is controlled by means of thermocouples. An electric heat source (a resistance helix) is located in the heater. The heating device has a high efficiency of heat transfer from the heater to the heat carrier due to the double phase transition: water-steam-water.

IPC 8 full level

**F24H 1/00** (2006.01); **F22B 5/00** (2006.01); **F24H 1/26** (2006.01); **F28F 13/12** (2006.01)

CPC (source: EP US)

**F22B 1/282** (2013.01 - EP US); **F22B 3/04** (2013.01 - EP US); **F22B 27/04** (2013.01 - EP US); **F24H 1/225** (2013.01 - EP US); **F24H 1/26** (2013.01 - EP US); **F28F 13/12** (2013.01 - EP US)

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 MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

**EP 2211121 A2 20100728**; **EP 2211121 A4 20110810**; AU 2008273062 A1 20090115; CN 101842642 A 20100922; EA 016933 B1 20120830; EA 201000135 A1 20100630; RU 2007125918 A 20090120; RU 2353861 C1 20090427; US 2011059411 A1 20110310; WO 2009008768 A2 20090115; WO 2009008768 A3 20090219

DOCDB simple family (application)

**EP 08779204 A 20080618**; AU 2008273062 A 20080618; CN 200880106223 A 20080618; EA 201000135 A 20080618; RU 2007125918 A 20070709; RU 2008000379 W 20080618; US 66804208 A 20080618