

Title (en)

A shell-and-plate heat exchanger and use of a shell-and-plate heat exchanger

Title (de)

Mantel-Platten-Wärmetauscher und Verwendung eines Mantel-Platten-Wärmetauschers

Title (fr)

Échangeur de chaleur calandre-plaque et utilisation d'un tel échangeur de chaleur

Publication

**EP 2843324 A1 20150304 (EN)**

Application

**EP 13181858 A 20130827**

Priority

EP 13181858 A 20130827

Abstract (en)

Disclosed is a shell-and-plate heat exchanger (1) for cooling and condensing a circulating refrigerant. The heat exchanger (1) comprises a desuperheater (2) for lowering the temperature of the gaseous refrigerant to a temperature above the condensation temperature of the refrigerant, wherein the desuperheater (2) is formed by a stack of corrugated desuperheater heat transfer plates (3). The desuperheater (2) is connected to a condenser (4) for condensing a main part of the refrigerant, wherein the condenser (4) is formed by a stack of corrugated condenser heat transfer plates (5). The condenser (4) is connected to a subcooler (6) for further lowering the temperature of the condensed refrigerant, wherein the subcooler (6) is formed by a stack of corrugated subcooler heat transfer plates (7), and wherein the stack of corrugated desuperheater heat transfer plates (3), the stack of corrugated condenser heat transfer plates (5) and the stack of corrugated subcooler heat transfer plates (7) are arranged inside the same common continuous shell (8).

IPC 8 full level

**F25B 39/04** (2006.01); **F25B 40/02** (2006.01); **F25B 40/04** (2006.01); **F28D 9/00** (2006.01); **F28F 3/04** (2006.01)

CPC (source: EP US)

**F25B 39/04** (2013.01 - EP US); **F25B 40/02** (2013.01 - EP US); **F25B 40/04** (2013.01 - EP US); **F28D 9/0006** (2013.01 - EP US); **F28D 9/0012** (2013.01 - EP US); **F28D 9/0043** (2013.01 - EP US); **F28D 9/0093** (2013.01 - EP US); **F28F 3/046** (2013.01 - EP US)

Citation (applicant)

WO 9745689 A1 19971204 - NEK UMWELTTECHNIK AG [CH], et al

Citation (search report)

- [XYI] US 5129449 A 19920714 - NGUYEN DAM C [US]
- [Y] WO 2010103190 A2 20100916 - KONTU MAURI [FI]
- [A] US 2009100854 A1 20090423 - REYZIN ILYA [US], et al
- [A] WO 2010114975 A2 20101007 - CARRIER CORP [US], et al

Cited by

US11014425B2; EP3236190A1; EP3236188A1; US11236932B2; US10697708B2; US11698228B2

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)

**EP 2843324 A1 20150304**; **EP 2843324 B1 20201223**; CN 105473958 A 20160406; CN 105473958 B 20190104; DK 2843324 T3 20210308; ES 2848207 T3 20210805; US 2016161191 A1 20160609; WO 2015028021 A1 20150305

DOCDB simple family (application)

**EP 13181858 A 20130827**; CN 201480043801 A 20140805; DK 13181858 T 20130827; DK 2014050236 W 20140805; ES 13181858 T 20130827; US 201414906602 A 20140805