

Title (en)

METHOD AND DEVICE FOR SEPARATION AT SUB-AMBIENT TEMPERATURE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR TRENNUNG BEI TEMPERATUREN UNTER DER UMGEBUNGSTEMPERATUR

Title (fr)

PROCÉDÉ ET APPAREIL DE SÉPARATION À TEMPÉRATURE SUBAMBIANTE

Publication

EP 3044522 A2 20160720 (FR)

Application

EP 14784274 A 20140910

Priority

- FR 1358666 A 20130910
- FR 1358667 A 20130910
- FR 1358668 A 20130910
- FR 2014052241 W 20140910

Abstract (en)

[origin: US2016216013A1] In a method for separation at sub-ambient temperature, a mixture of fluid at sub-ambient temperature is sent to a system of separation columns comprising at least one separation column, a fluid enriched in a lighter component of the mixture leaves the top of one column of the system and a fluid enriched in a heavier component is withdrawn from the bottom of one column of the system, the cold source of a heat pump using the magnetocaloric effect is thermally connected to a first zone of one column of the system and the hot source of the same heat pump is thermally connected to a second zone of the same or of another column of the system.

IPC 8 full level

F25B 21/00 (2006.01); **F25J 3/02** (2006.01); **F25J 3/04** (2006.01)

CPC (source: CN EP US)

F25B 21/00 (2013.01 - CN EP US); **F25B 30/06** (2013.01 - CN); **F25J 3/04193** (2013.01 - EP US); **F25J 3/04278** (2013.01 - EP US); **F25J 3/04303** (2013.01 - EP US); **F25J 3/044** (2013.01 - EP US); **F25J 3/04412** (2013.01 - EP US); **F25J 3/04636** (2013.01 - CN); **F25J 3/0466** (2013.01 - EP US); **F25J 3/04884** (2013.01 - EP US); **F25J 2200/40** (2013.01 - EP US); **F25J 2200/50** (2013.01 - EP US); **F25J 2200/74** (2013.01 - EP US); **F25J 2210/06** (2013.01 - EP US); **F25J 2250/20** (2013.01 - EP US); **F25J 2270/908** (2013.01 - EP US); **Y02B 30/00** (2013.01 - EP US)

Citation (search report)

See references of WO 2015036697A2

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)

US 2016216013 A1 20160728; CN 105705884 A 20160622; CN 105705884 B 20190329; CN 105705893 A 20160622; EP 3044522 A2 20160720; EP 3071910 A2 20160928; US 2016223253 A1 20160804

DOCDB simple family (application)

US 201415021031 A 20140910; CN 201480061009 A 20140910; CN 201480061010 A 20140910; EP 14784274 A 20140910; EP 14784278 A 20140910; US 201415021035 A 20140910