

Title (en)
GEOTHERMAL COLUMN

Title (de)
GEOTHERMISCHE SÄULE

Title (fr)
COLONNE GÉOTHERMIQUE

Publication
EP 2635856 A4 20141112 (EN)

Application
EP 11838386 A 20110803

Priority
• US 41005010 P 20101104
• US 2011046397 W 20110803

Abstract (en)
[origin: WO2012060912A1] An improved heat transfer column for geothermal heating and cooling in which refrigerant lines are wound in a spiral fashion about a vertically oriented support. The spiral tubing is surrounded by a flexible, semi-flexible, or rigid liner which is filled with water, the liner being positioned within a cavity in an earth mass. During operation, water within the tube rises and/or by convection and transfers heat evenly to the water within the liner for subsequent transfer to the earth mass. This heat is subsequently extracted from or rejected into the earth mass during a heat transfer cycle, and means is provided for transfer of a portion of the heat in the water to the ambient atmosphere.

IPC 8 full level
F24J 3/08 (2006.01); **F25B 30/06** (2006.01)

CPC (source: EP US)
F24T 10/15 (2018.04 - EP US); **F24T 10/30** (2018.04 - EP US); **F25B 27/00** (2013.01 - US); **F25B 30/06** (2013.01 - EP US); **Y02E 10/10** (2013.01 - EP US)

Citation (search report)
• [XY] JP 2009092350 A 20090430 - ATOM KANKYO KOGAKU KK, et al
• [Y] DE 202007005796 U1 20070802 - MUELLER HANS WERNER [DE]
• [Y] WO 2008014848 A2 20080207 - MEYER-RIEKE ECKHARD [DE]
• [X] US 4570452 A 19860218 - BINGHAM GRADY A [US]
• [A] JP 2003014385 A 20030115 - YUTAKA KENCHIKU SEKKEI JIMUSHO
• [A] JP 2003055964 A 20030226 - NARA YASUNORI
• See references of WO 2012060912A1

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

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WO 2012060912 A1 20120510; CA 2817047 A1 20120510; EP 2635856 A1 20130911; EP 2635856 A4 20141112; US 2013333859 A1 20131219

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