Title (en)
> Self-pumping heat exchange unit

Title (de)
> Selbstpumpende Wärmetauschereinheit

Title (fr)
> Unité d'échange de chaleur à pompage automatique

Publication
> **EP 2759796 A2 20140730 (EN)**

Application
> **EP 14382024 A 20140127**

Priority
> ES 201330088 A 20130125

Abstract (en)
> In addition to efficiently removing residues from the inner wall of the inner tubes (20), reducing head loss and substantially improving the heat transfer coefficient, the present invention also allows obtaining different pumping flow rates for the product fluid. More particularly, the heat exchange unit (1) stands out because it comprises an elongated rotary rod (30) arranged inside at least one inner tube (20) and provided with cleaning means comprising scraping elements (40) suitable for scraping and detaching the product fluid accumulated on the inner wall of the at least one inner tube (20); and an endless spiral (50) dimensionally suitable for surrounding the rotary rod (30) longitudinally through the spaces existing between the scraping elements (40), said endless spiral (50) being suitable for displacement of the product fluid circulating through the at least one inner tube (20), generating a self-pumping effect.

IPC 8 full level
> **F28F 13/12** (2006.01); **F28D 7/16** (2006.01); **F28F 19/00** (2006.01); **F28G 3/10** (2006.01)

CPC (source: EP ES US)
> **F28D 7/16** (2013.01 - EP US); **F28F 13/125** (2013.01 - EP US); **F28F 19/008** (2013.01 - EP US); **F28G 3/08** (2013.01 - ES); **F28G 3/10** (2013.01 - EP ES US); F28D 2021/0042 (2013.01 - EP); F28F 2250/08 (2013.01 - EP US)

Citation (applicant)
> ES 2158752 A1 20010901 - HRS SPIRATUBE S L [ES]

Cited by
> CN106736328A; EP3392591A1; WO2021148374A1; NL2024720B1

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)
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DOCDB simple family (application)
> **EP 14382024 A 20140127**; ES 14382024 T 20140127; ES 201330088 A 20130125; PT 14382024 T 20140127; US 201314047712 A 20131007