

Title (en)

DEVICE FOR HEATING FLOWING FLUIDS AND PRODUCTION METHOD

Title (de)

VORRICHTUNG ZUM ERWÄRMEN VON STRÖMENDE FLUIDEN SOWIE HERSTELLUNGSVERFAHREN

Title (fr)

DISPOSITIF DESTINÉ À CHAUFFER DES FLUIDES EN ÉCOULEMENT ET PROCÉDÉ DE FABRICATION CORRESPONDANT

Publication

EP 2547386 A2 20130123 (DE)

Application

EP 11719447 A 20110316

Priority

- DE 102010031068 A 20100707
- DE 102010029732 A 20100607
- DE 102010029274 A 20100525
- DE 102010002895 A 20100316
- DE 2011000261 W 20110316

Abstract (en)

[origin: WO2011113421A2] The invention relates to a device for heating flowing fluids, in particular intravenous fluids, comprising a fluid housing containing at least one fluid channel, through which the fluid can be conducted from an inlet of the fluid housing to an outlet of the fluid housing, a heating unit containing at least one electric flat heating element for heating the fluid flowing through the fluid channel, and a temperature control unit containing at least one temperature sensor arranged on the flat heating element, wherein the flat heating element is arranged inside the fluid housing, wherein the flat heating element at least partially forms a wall of the fluid channel, wherein at least one linear fluid channel extends between the inlet of the fluid housing and the outlet of the fluid housing.

IPC 8 full level

A61M 5/44 (2006.01)

CPC (source: EP US)

A61M 5/44 (2013.01 - EP US); **A61M 2205/127** (2013.01 - EP US); **A61M 2205/3653** (2013.01 - EP US); **A61M 2207/00** (2013.01 - EP US); **F24H 1/102** (2013.01 - EP US); **H05K 1/0393** (2013.01 - EP US); **H05K 2201/09263** (2013.01 - EP US); **H05K 2203/1115** (2013.01 - EP US); **Y10T 29/49982** (2015.01 - EP US)

Citation (search report)

See references of WO 2011113421A2

Cited by

US10576190B2; US10722623B2; US10499458B2; US10732083B2; US10816446B2; US10837885B2; US10866173B2; US11448575B2

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

DOCDB simple family (publication)

WO 2011113421 A2 20110922; WO 2011113421 A3 20120503; EP 2547386 A2 20130123; RU 2012139451 A 20140427; US 2012330234 A1 20121227

DOCDB simple family (application)

DE 2011000261 W 20110316; EP 11719447 A 20110316; RU 2012139451 A 20110316; US 201113581852 A 20110316