

Title (en)

COUNTERCURRENT-TYPE DIRECT-HEATING HEAT EXCHANGER

Title (de)

GEGENSTROMARTIGER DIREKTWÄRMENDER WÄRMETAUSCHER

Title (fr)

ÉCHANGEUR DE CHALEUR À CHAUFFAGE DIRECT DE TYPE À CONTRE-COURANT

Publication

EP 3406995 A4 20190213 (EN)

Application

EP 17766832 A 20170317

Priority

- JP 2016054629 A 20160318
- JP 2016213968 A 20161101
- JP 2017010836 W 20170317

Abstract (en)

[origin: EP3406995A1] To provide a countercurrent direct-heating heat exchanger capable of suppressing wear of a container caused by a heating target fluid. A countercurrent direct-heating heat exchanger A includes: a container 10; a supply pipe 11 arranged horizontally in the container 10 and through which a heating target fluid 1 is supplied; an inlet 12 provided at an end portion of the supply pipe 11 and having an opening pointed vertically downwardly; and a flow guide 40 connected to the inlet 12. The flow guide 40 includes: a cylindrical body 41; and a guide plate 45 provided in the cylindrical body 41. The guide plate 45 is arranged so as to partition the interior of the cylindrical body 41 into a flow path 46a upstream of the supply pipe 11 and a flow path 46b downstream of the supply pipe 11 and has an upper end protruding into the supply pipe 11. The flow rate of the heating target fluid to be introduced into the upstream-side flow path 46a can be increased to allow suppression of flow rate deflection of the heating target fluid 1.

IPC 8 full level

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CPC (source: EP)

C22B 23/00 (2013.01); **F28C 3/06** (2013.01); **F28C 3/08** (2013.01); **F28C 3/14** (2013.01); **F28F 9/0265** (2013.01); **F28F 9/027** (2013.01)

Citation (search report)

- [YA] US 2010019422 A1 20100128 - JIN-NO YOSHINORI [JP], et al
- [YA] JP H03275824 A 19911206 - INAX CORP, et al
- [A] JP H0660665 U 19940823
- See references of WO 2017159837A1

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 3406995 A1 20181128; **EP 3406995 A4 20190213**; **EP 3406995 B1 20200916**; AU 2017235506 A1 20180816; AU 2017235506 B2 20190124; AU 2017235506 B9 20190214; CU 20180098 A7 20190304; PH 12018501631 A1 20190527; WO 2017159837 A1 20170921

DOCDB simple family (application)

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