

Title (en)

Heat-exchanger with a circumferential circulation.

Title (de)

Wärmetauscher mit einer umfangsförmigen Zirkulation.

Title (fr)

Echangeur de chaleur à écoulement circonférentiel.

Publication

EP 0430752 A1 19910605 (FR)

Application

EP 90403244 A 19901116

Priority

US 43768089 A 19891117

Abstract (en)

[origin: JPH03213996A] PURPOSE: To improve the heat transfer efficiency of a heat exchanger, by forming as path an area between valleys which is formed by arraying the valleys of an involute disposition provided on first and second plates parallel facing each other to be crossed for minimizing a pressure drop. CONSTITUTION: First and second plates 23 and 24 almost parallel facing each other are arranged to be joined that a hollow passageway is formed for a fluid flowing almost in a circle between an inlet 18 and an outlet 19. The opposed plates 23 and 24 form a plurality of opposing valleys 27 and 28 undulating in cross section. The valleys extend along the hollow passageway and are so arrayed to be obliquely positioned making an involute disposition to a circular direction of the flow of the fluid in the passageway. The valley 27 of the plate 24 is so arrayed to cross the valley 28 of the plate 25 to form an area between the valleys as passageway for the fluid. This can minimize a pressure drop of the fluid, thereby achieving a higher heat transfer efficiency of a heat exchanger.

Abstract (fr)

L'invention concerne une structure d'échange d'énergie améliorée, comportant des plaques (24,25) généralement parallèles, réunies pour délimiter un passage creux destiné à l'écoulement généralement circulaire d'un fluide entre une admission (13) et une sortie (21), lesdites plaques ondulées en structure croisée pour délimiter des canaux opposés obliques et se croisant, et comprenant de multiples jeux de canaux généralement parallèles et une disposition involutée desdits canaux.

IPC 1-7

F28D 9/00

IPC 8 full level

F16N 39/02 (2006.01); **F28D 9/00** (2006.01); **F28F 3/08** (2006.01)

CPC (source: EP US)

F28D 9/0012 (2013.01 - EP US); **F28D 9/0037** (2013.01 - EP US); **F28F 3/046** (2013.01 - EP US); **Y10S 165/916** (2013.01 - EP US)

Citation (search report)

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- [A] GB 517312 A 19400125 - RUBEN ALEF PERSSON, et al
- [A] US 1669062 A 19280508 - ERNST MENZEL

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Designated contracting state (EPC)

DE FR SE

DOCDB simple family (publication)

EP 0430752 A1 19910605; EP 0430752 B1 19931027; BR 9005827 A 19910924; CA 2030155 A1 19910518; CA 2030155 C 19950815; DE 69004220 D1 19931202; DE 69004220 T2 19940310; JP H03213996 A 19910919; JP H0648150 B2 19940622; US 5203832 A 19930420; US 5343936 A 19940906

DOCDB simple family (application)

EP 90403244 A 19901116; BR 9005827 A 19901116; CA 2030155 A 19901116; DE 69004220 T 19901116; JP 30901390 A 19901116; US 43768089 A 19891117; US 98087192 A 19921124