

Title (en)
PLATE-TYPE HEAT EXCHANGER

Publication
EP 0321480 B1 19901107 (DE)

Application
EP 87905565 A 19870828

Priority
AT 234486 A 19860829

Abstract (en)
[origin: WO8801722A1] Plate-type heat exchanger, having at least three superimposed heat exchange plates (1, 2), whereby each pair of successive plates (1, 2) forms a through-passage (3, 4). The heat exchange plates (1, 2) consist of sheet metal and, in order to form through-ducts between the plates (1, 2) and to provide mutual support between the latter, are provided with a pressed-in wave pattern which covers the through-passage (3, 4), said pattern forming grooves (9, 10) which run transversely to the wave direction (11) and obliquely to the through-passage centre-line (7). The surface of the wave pattern (5) of each exchange plate consists of a number of mutually-adjacent partial regions (5a, 5c) whereby the grooves (9, 10) form in the individual partial areas (5a, 5c) groove sections (12) running parallel to one another in each group, said sections ending at the limits (14) of said partial area; the groups of the groove sections (12) of different partial areas (5a, 5c) run transversely to one another. Directly facing each partial area (5a, 5c) of the wave pattern (5) of one heat exchange plate (1, 2) is an equally-sized partial area (5a, 5c) of the wave pattern (5) of another heat exchange plate (1, 2) which forms with the first-mentioned plate (1, 2) a through-passage (3, 4). In at least one pair of exchange plates (1, 2) forming mutually a through-passage (3, 4) the wave vertices (17) of one plate (1, 2) are supported, only in the region of the ends (21) of the groove sections (12) of this plate (1, 2), on the wave vertices (18) of the other plate (1, 2) of the pair, and similarly in the region of the ends of the groove sections (12) of said other plate (1, 2), and freely pass over the distance between these support points (20). In particular, the wave vertices (17) of one plate (1, 2) of a pair of plates (1, 2) forming with one another a through-passage (3, 4) are supported by one of their ends on the end of one of the wave vertices (18), facing this plate, of the other plate (1, 2) and by their other end on the end of one of the parallel wave vertices (18), adjacent to the last wave vertex (18), of the other plate (1, 2) and freely pass over the intervening depression in the wave pattern (5) of the other plate (1, 2).

IPC 1-7
F28D 9/00; F28F 3/08

IPC 8 full level
F28F 3/08 (2006.01)

CPC (source: EP)
F28D 9/005 (2013.01); **F28F 3/046** (2013.01)

Cited by
US10767933B2; WO2023274375A1

Designated contracting state (EPC)
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)
WO 8801722 A1 19880310; AT 388446 B 19890626; AT A234486 A 19881115; EP 0321480 A1 19890628; EP 0321480 B1 19901107; IN 171633 B 19921128

DOCDB simple family (application)
AT 8700051 W 19870828; AT 234486 A 19860829; EP 87905565 A 19870828; IN 761DE1987 A 19870828