

Title (en)

Spiral heat exchanger and method of making it.

Title (de)

Spiralwärmetauscher und Verfahren zu seiner Herstellung.

Title (fr)

Echangeur de chaleur spirale et son procédé de fabrication.

Publication

EP 0239490 A1 19870930 (FR)

Application

EP 87400658 A 19870324

Priority

FR 8604198 A 19860324

Abstract (en)

1. Heat exchanger comprising a spiral body delimiting two spiral chambers A, B imbricated in each other and through which the two fluids, between which the heat exchange must take place, respectively pass, this body comprising two transverse end closure elements 11, the two spiral chambers A, B being defined by one and the same sheet metal 2 diametrically traversing each end side element 11, a first section 2a of the sheet metal 2, issuing from one end of the diameter of the side elements 11 being smooth whilst a second section of sheet metal issues from the opposite end, one of the spiral chambers A being defined between a turn of the second section of sheet metal 2b and the turn of the first section of sheet metal 2a located outside with respect to the preceding one, whilst the other spiral chamber B is defined by this turn of the second section of sheet metal 2b and the turn of the second section of sheet metal 2a located inside with respect to the preceding one, characterized in that the second section 2b of the sheet metal 2 bears bosses 2c, 2d ensuring mutual spacing apart of the first and second sections of sheet metal 2a, 2b once the latter are wound jointly spirally, the longitudinal marginal parts of the second section of sheet metal 2b bearing the bosses 2c, 2d are deformed so as to be adjacent the longitudinal marginal parts of the first section of sheet metal 2a, a U-section 6 open towards the outside is spirally wound between the pairs of longitudinal marginal parts of the first and second sections of sheet metal 2a, 2b so that the two end flanges of this section 6 are respectively adjacent two pairs of longitudinal marginal parts of the first and second sections of sheet metal 2a, 2b and this U-section 6 is welded by its flanges to these longitudinal marginal parts, so that the lateral closure of one of the spiral chambers B is ensured by the welded adjacent longitudinal edges of the first and second sections of sheet metal 2a, 2b and the lateral closure of the other spiral chamber A is ensured by the U-section 6 whose flanges are welded to the edges of the two sections of sheet metal 2a, 2b.

Abstract (fr)

La présente invention concerne un échangeur de chaleur à corps enroulé en spirale. Cet échangeur est caractérisé en ce que les deux chambres en spirale (A,B) sont délimitées par un seule et même tôle (2) traversant diamétralement chaque flasque d'extrémité (11), un premier tronçon (2a) de la tôle (2) issu d'une extrémité du diamètre des flasques (11) étant lisse tandis que le second tronçon (2b), issu de l'extrémité opposée, porte des bossages (2c, 2d) et un profilé en U (6) ouvert vers l'extérieur est enroulé en spirale entre les paires de parties marginales longitudinales des premier et second tronçons de tôle (2a,2b). (Figure 3)

IPC 1-7

F28D 9/04; **B21D 53/02**

IPC 8 full level

B21D 53/02 (2006.01); **F28D 9/04** (2006.01)

CPC (source: EP)

B21D 53/027 (2013.01); **F28D 9/04** (2013.01)

Citation (search report)

- [AD] FR 2515328 A1 19830429 - JOUET ETIENNE [FR]
- [A] US 2131265 A 19380927 - BICHOWSKY FRANCIS R
- [A] FR 835161 A 19381214
- [A] FR 788644 A 19351014
- [A] FR 2374979 A1 19780721 - JOUET ETIENNE [FR]
- [A] GB 2156961 A 19851016 - APV INT LTD

Cited by

NL9402190A; FR2810726A1; US5274920A; GB2372559A; GB2372559B; EP0380419A1; FR2642153A1; US6585034B2; WO02063231A1; WO9619706A1; WO0201135A1; WO0020817A1; US7600316B2; US7918268B2

Designated contracting state (EPC)

AT BE CH DE ES GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0239490 A1 19870930; **EP 0239490 B1 19891004**; AT E46966 T1 19891015; DE 3760692 D1 19891109; FR 2596144 A1 19870925; FR 2596144 B1 19880527

DOCDB simple family (application)

EP 87400658 A 19870324; AT 87400658 T 19870324; DE 3760692 T 19870324; FR 8604198 A 19860324