

Title (en)  
Hybrid plate-like heat-exchanger

Title (de)  
Hybrid-Plattenwärmetauscher

Title (fr)  
Echangeur de chaleur hybride à plaques

Publication  
**EP 0809081 B1 20040128 (DE)**

Application  
**EP 97250157 A 19970516**

Priority  
DE 19620543 A 19960522

Abstract (en)  
[origin: EP0809081A2] The exchanger comprises a packet of plates embossed or corrugated to form undulation and tubular passages. In these heat-transfer media flow past each other in a cruciform pattern. The packets are held together by pressure plates, between which tie bolts working in tapped bushes pass. The undulating (31) and tubular (32) passages are separated by comb plates (14) which are welded to the end plates (15) by stepped joints, and the sealing side plates are held in place by pressure plates. The tie bolts work in tapped bushes welded to the side plates. The comb and side plates can be of high-grade steel, and the former can be cut out by the plasma-welding system. The pressure plates and side plates can be free so that they are not secured to each other.

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

IPC 8 full level  
**F28D 9/00** (2006.01); **F28F 9/00** (2006.01); **F28F 9/007** (2006.01)

CPC (source: EP)  
**F28D 9/0037** (2013.01); **F28F 9/001** (2013.01); **F28F 9/0075** (2013.01); **F28F 2275/205** (2013.01)

Cited by  
US9080815B2; WO2009152830A1

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

DOCDB simple family (publication)  
**EP 0809081 A2 19971126**; **EP 0809081 A3 19990310**; **EP 0809081 B1 20040128**; AT E258673 T1 20040215

DOCDB simple family (application)  
**EP 97250157 A 19970516**; AT 97250157 T 19970516