

Title (en)

HEAT EXCHANGER PROVIDED WITH FIXING ELEMENTS, IN PARTICULAR IN A VEHICLE

Title (de)

WÄRMETAUSCHER MIT BEFESTIGUNGSELEMENTEN IN INSBESONDERE EINEM KRAFTFAHRZEUG

Title (fr)

ECHANGEUR THERMIQUE PRESENTANT DES ELEMENTS DE FIXATION NOTAMMENT DANS UN VEHICULE

Publication

EP 1613914 B1 20150701 (DE)

Application

EP 04725692 A 20040405

Priority

- EP 2004003605 W 20040405
- DE 10315887 A 20030408

Abstract (en)

[origin: WO2004090453A1] The invention relates to a heat exchanger (1) comprising fixing elements which are provided with points of fracture, in particular in a vehicle. The aim of said invention is to provide said heat exchanger with restorable points of fracture and to make it possible to easily reassemble them after the separation thereof. For this purpose, the inventive heat exchanger (1) is characterised in that at least one fixing element is provided with a first and second area (6, 7; 12, 14) and with a quick release coupling therebetween; two areas (6, 12) form an inseparable component of the heat exchanger (1); the two areas (6, 7; 12, 14) are fixable to each other by a positive connection when the quick release coupling is closed; the coupling systems of one of the areas (6, 7; 12, 14) are provided with at least one point of fracture and in that the coupling systems provided with at least one point of fracture are arranged on the area (7, 14) which is detachable from said heat exchanger.

IPC 8 full level

F28F 9/00 (2006.01)

CPC (source: EP KR US)

F25B 39/00 (2013.01 - KR); **F28D 1/00** (2013.01 - KR); **F28F 9/00** (2013.01 - KR); **F28F 9/002** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2004090453 A1 20041021; BR PI0409096 A 20060411; CN 1771422 A 20060510; DE 10315887 A1 20041111; DE 10315887 B4 20050324; EP 1613914 A1 20060111; EP 1613914 B1 20150701; JP 2006522706 A 20061005; JP 4648306 B2 20110309; KR 101126977 B1 20120418; KR 20050120709 A 20051222; US 2007051493 A1 20070308

DOCDB simple family (application)

EP 2004003605 W 20040405; BR PI0409096 A 20040405; CN 200480009350 A 20040405; DE 10315887 A 20030408; EP 04725692 A 20040405; JP 2006505005 A 20040405; KR 20057019173 A 20040405; US 55244804 A 20040405