Title (en)
HEAT TRANSFER UNIT

Title (de)
WÄRMEÜBERTRAGUNGSEINHEIT

Title (fr)
UNITÉ DE TRANSFERT THERMIQUE

Publication
EP 1994349 B1 20111026 (DE)

Application
EP 07712105 A 20070125

Priority
• EP 2007050720 W 20070125
• DE 102006012219 A 20060316

Abstract (en)
[origin: WO2007104595A1] Existing heat transfer units have only low cooling efficiencies at low fluid mass flow rates. According to the invention, it is proposed to form a heat transfer unit (1) in such a way that a channel (4) that is flowed through by the fluid to be cooled is subdivided by a separating wall (14; 23, 24; 29, 30) into at least two separate sub-channels (15, 16), the first of which can be closed by a shut-off device (21; 27; 31) at its fluid part inlet (17). In spite of the closure of this inlet cross section, the available heat-exchanger surface is preferably fully utilized, in that a diversion of the fluid mass flow in the heat transfer unit (1) is brought about by appropriate arrangement of the separating walls (14; 23, 24; 29, 30) and further shut-off devices (28; 32). Such a heat transfer unit is suitable in particular in the exhaust gas recirculation of internal combustion engines, so that an optimum cooling performance can be achieved at different exhaust gas recirculating rates.

IPC 8 full level
F28D 7/10 (2006.01); **F28F 27/02** (2006.01)

CPC (source: EP US)
F28D 7/106 (2013.01 - EP US); **F28D 9/0056** (2013.01 - EP US); **F28F 1/022** (2013.01 - EP US); **F28F 27/02** (2013.01 - EP US); F28D 21/0003 (2013.01 - EP US); F28F 2250/06 (2013.01 - EP US); F28F 2255/14 (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2007104595 A1 20070920; AT E530868 T1 20111115; DE 102006012219 A1 20070927; DE 102006012219 B4 20180405; EP 1994349 A1 20081126; EP 1994349 B1 20111026; ES 2373064 T3 20120131; JP 2009529650 A 20090820; JP 5039065 B2 20121003; US 2009183861 A1 20090723; US 8403031 B2 20130326

DOCDB simple family (application)
EP 2007050720 W 20070125; AT 07712105 T 20070125; DE 102006012219 A 20060316; EP 07712105 A 20070125; ES 07712105 T 20070125; JP 2008558739 A 20070125; US 29315607 A 20070125