

Title (en)
Heat exchanger for cooling exhaust gas

Title (de)
Wärmeübertrager zum Kühlen von Abgas

Title (fr)
Echangeur de chaleur pour le refroidissement de gaz d'échappement

Publication
EP 0772018 B1 20010228 (DE)

Application
EP 96115729 A 19961001

Priority
DE 19540683 A 19951101

Abstract (en)
[origin: EP0772018A2] The heat exchanger passes the gas through a bundle of rectangular ducts (10). The ends of these are welded into grid-like tube plates (11). The tubes are surrounded by a sheet jacket which follows the contour of the bundle and has a coolant inlet and outlet welded to the plates. The ends of the jacket have flange plates (15), each with a central aperture (18) to the tube bundle. Fastenings (19,20) connect it to sections of the exhaust pipe. Preferably, the rectangular tubes are formed from tube halves welded together and tabs are welded on to the halves at an angle to gas flow to act as turbulence inserts.

IPC 1-7
F28F 1/04; **F28F 9/02**; **F28F 9/00**; **F28F 1/40**

IPC 8 full level
F28D 7/16 (2006.01); **F28D 9/00** (2006.01); **F28F 1/04** (2006.01); **F28F 1/40** (2006.01); **F28F 9/00** (2006.01); **F28F 9/02** (2006.01); **F28F 9/04** (2006.01); **F28F 13/12** (2006.01)

CPC (source: EP US)
F28D 7/1684 (2013.01 - EP US); **F28D 9/0031** (2013.01 - EP US); **F28F 1/04** (2013.01 - EP US); **F28F 9/00** (2013.01 - EP US); **F28F 9/0246** (2013.01 - EP US); **F28F 13/12** (2013.01 - EP US); **F28D 21/0003** (2013.01 - EP US); **Y10T 29/49373** (2015.01 - EP US); **Y10T 29/49391** (2015.01 - EP US)

Cited by
EP0851197A3; EP0851200A3; US6321835B1; US7055586B2; US7240723B2; US7559197B2

Designated contracting state (EPC)
DE ES FR GB IT SE

DOCDB simple family (publication)
EP 0772018 A2 19970507; **EP 0772018 A3 19980729**; **EP 0772018 B1 20010228**; BR 9605398 A 19980728; DE 19540683 A1 19970507; DE 59606495 D1 20010405; ES 2154375 T3 20010401; JP 3429143 B2 20030722; JP H09170891 A 19970630; US 2005189095 A1 20050901; US 6944947 B1 20050920; US 7246437 B2 20070724

DOCDB simple family (application)
EP 96115729 A 19961001; BR 9605398 A 19961031; DE 19540683 A 19951101; DE 59606495 T 19961001; ES 96115729 T 19961001; JP 28500396 A 19961028; US 11750305 A 20050429; US 74300296 A 19961101