

Title (en)

Exhaust gas manifold isolated by air gap

Title (de)

Luftspaltisolierter Abgaskrümmmer

Title (fr)

Collecteur de gaz d'échappement isolé par interstice d'air

Publication

EP 2112345 B1 20130529 (DE)

Application

EP 09154094 A 20090302

Priority

DE 102008019999 A 20080421

Abstract (en)

[origin: EP2112345A2] The air gap-insulated exhaust gas manifold has housing (2), which has multiple inlet ports (3) and a common outlet opening (4). Distance elements (11) are formed at sub shells (7) in an integral manner. The respective distance element is fixed at an outer shell (6) or an inner shell (5).

IPC 8 full level

F01N 13/10 (2010.01); **F01N 13/14** (2010.01); **F01N 13/18** (2010.01)

CPC (source: EP)

F01N 13/102 (2013.01); **F01N 13/1894** (2013.01); **F01N 13/143** (2013.01); **F01N 2310/14** (2013.01); **F01N 2450/22** (2013.01)

Cited by

DE102016116995A1; US2018023461A1; US10465598B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 2112345 A2 20091028; EP 2112345 A3 20091209; EP 2112345 B1 20130529; DE 102008019999 A1 20091022

DOCDB simple family (application)

EP 09154094 A 20090302; DE 102008019999 A 20080421