

Title (en)

Exhaust manifold for an internal combustion engine

Title (de)

Abgaskrümmer einer Abgasanlage für eine Brennkraftmaschine

Title (fr)

Tubulures d'échappement pour moteur à combustion interne

Publication

**EP 1288459 A3 20040609 (DE)**

Application

**EP 02015741 A 20020713**

Priority

DE 10142979 A 20010901

Abstract (en)

[origin: EP1288459A2] The exhaust manifold has a pipe elbow with exhaust pipes opening into it. The exhaust pipes (5a) are aligned within the pipe manifold (8), with their triangular ends shaped like a quarter circle segment, and four forming a circle. The free ends of the pipes are connected via a defined edge contact surface (11), while in the remaining areas, the pipes are at a gap (21) to each other. Each edge has a width of approx. 5mm, and the gap has a width of approx. 2mm.

IPC 1-7

**F01N 7/10**

IPC 8 full level

**F01N 13/10** (2010.01); **F01N 13/00** (2010.01)

CPC (source: EP US)

**F01N 13/102** (2013.01 - EP US); **F01N 13/00** (2013.01 - EP US); **F01N 2260/10** (2013.01 - EP US); **Y10T 29/49398** (2015.01 - EP US)

Citation (search report)

- [Y] DE 19526084 A1 19970123 - PORSCHE AG [DE]
- [Y] FR 2203426 A5 19740510 - LUCHAIRE SA [FR]
- [Y] US 5787709 A 19980804 - WATANABE YOSHIMASA [JP], et al
- [A] US 5907134 A 19990525 - NORDING THOMAS [DE], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 274 (M - 841) 23 June 1989 (1989-06-23)
- [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 392 (M - 865) 30 August 1989 (1989-08-30)
- [Y] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 02 30 January 1998 (1998-01-30)
- [A] PATENT ABSTRACTS OF JAPAN vol. 006, no. 246 (M - 176) 4 December 1982 (1982-12-04)

Designated contracting state (EPC)

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

DOCDB simple family (publication)

**EP 1288459 A2 20030305**; **EP 1288459 A3 20040609**; **EP 1288459 B1 20060322**; AT E321197 T1 20060415; DE 10142979 C1 20030528; DE 50206114 D1 20060511; ES 2257491 T3 20060801; JP 2003129839 A 20030508; US 2003056505 A1 20030327; US 6959543 B2 20051101

DOCDB simple family (application)

**EP 02015741 A 20020713**; AT 02015741 T 20020713; DE 10142979 A 20010901; DE 50206114 T 20020713; ES 02015741 T 20020713; JP 2002246700 A 20020827; US 23146502 A 20020830