

Title (en)  
Air gap insulation exhaust manifold

Title (de)  
Luftspaltisolierter Abgaskrümmer

Title (fr)  
Collecteur d'échappement isolé par couche d'air

Publication  
**EP 0717179 B1 20000322 (DE)**

Application  
**EP 95118922 A 19951201**

Priority  
DE 4444760 A 19941216

Abstract (en)  
[origin: EP0717179A1] The manifold (1) is made from sheet metal inner (6) and outer (5) tubing, and has an outlet opening (2) at one end, and lateral inlet openings (4). Exhaust gases are guided by inner tubing only in the regions where they combine with flows from other inlets, and in the region of a single inlet opening are guided only by outer tubing. The inner tubing may be assembled from segments, and these may also have thin walls, in order for their reduced heat capacity to assist with the rapid warming of downstream emission control equipment. It may also be made using a hydrostatic deformation process.

IPC 1-7  
**F01N 7/10**; **F01N 7/14**

IPC 8 full level  
**F01N 7/10** (2006.01); **F01N 7/14** (2006.01); **F01N 13/10** (2010.01); **F01N 13/14** (2010.01); **F01N 7/18** (2006.01); **F01N 13/18** (2010.01)

CPC (source: EP)  
**F01N 13/102** (2013.01); **F01N 13/141** (2013.01); **F01N 13/1883** (2013.01); **F01N 13/1888** (2013.01)

Citation (examination)  
DE 4200611 A1 19930715 - BENTELER WERKE AG [DE]

Cited by  
EP1359294A1; EP0955453A3; EP0919703A3; EP2333265A1; EP1367234A1; DE10261879B4; DE10112707C1; EP0933509A1; US8549851B2

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