

Title (en)  
Exhaust pipe

Title (de)  
Abgasleitung

Title (fr)  
Conduit d'échappement

Publication  
**EP 0789137 B1 20020116 (DE)**

Application  
**EP 97101684 A 19970203**

Priority  
DE 19604367 A 19960207

Abstract (en)  
[origin: EP0789137A2] The exhaust pipe has an inner tube (2) which can be moved inside an outer tube (3), so that an annular air gap (4) is created. The outer tube is associated with an extension compensator (9,10), which is formed by hydraulic deformation of the wall (11) of the outer tube, in the manner of a bellows. The air gap may be formed by hydraulic expansion of the outer tube. Each extension compensator may be arranged in a region (13,14) which reduces the tensions on the components. Corrugations (12), which are formed in the wall of the outer tube, and which can accommodate length alterations due to thermal effects, are also discussed.

IPC 1-7  
**F01N 7/08**; **F01N 7/14**

IPC 8 full level  
**F01N 7/08** (2006.01); **F01N 7/14** (2006.01); **F01N 7/18** (2006.01); **F01N 13/08** (2010.01); **F01N 13/14** (2010.01); **F01N 13/18** (2010.01)

CPC (source: EP)  
**F01N 13/08** (2013.01); **F01N 13/14** (2013.01); **F01N 13/1816** (2013.01); **F01N 13/1883** (2013.01)

Citation (examination)  
• EP 0737803 A1 19961016 - DAIMLER BENZ AG [DE]  
• EP 0779418 A1 19970618 - ZEUNA STAERKER KG [DE]

Cited by  
DE19816259A1; EP1211397A1; EP0837230A3; CN108457735A; EP1101997A1; US2011056582A1; US8291943B2; US9822916B2; US10046510B2; US9927053B2; US10697575B2

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