

Title (en)  
Exhaust apparatus for motor vehicles

Title (de)  
Abgasanlage für Kraftfahrzeuge

Title (fr)  
Dispositif d'échappement pour véhicules automobiles

Publication  
**EP 1288456 A3 20030521 (DE)**

Application  
**EP 02019509 A 20020831**

Priority  
DE 10143364 A 20010904

Abstract (en)  
[origin: EP1288456A2] The exhaust system has a heat exchanger with outer and inner tubes (1,2) and an intermediate radial gap (3). The gap has a seal at its front end (7) facing against flow direction (4), to prevent entry of exhaust gas. The section of the inner pipe next to the seal is interrupted by bypass openings (9). The rear end (8) of the inner pipe with outlet, facing in flow direction, is constricted to form a nozzle. The nozzle is connected to the radial gap. The outer surface of the outer tube has surface-increasing cooling ribs.

IPC 1-7  
**F01N 3/08**; **F01N 3/05**; **F01N 7/14**; **F01N 3/28**

IPC 8 full level  
**F01N 3/05** (2006.01); **F01N 3/08** (2006.01); **F01N 13/02** (2010.01)

CPC (source: EP US)  
**F01N 3/05** (2013.01 - EP US); **F01N 3/0842** (2013.01 - EP US); **F01N 13/009** (2014.06 - EP US); **F01N 2240/02** (2013.01 - EP US); **F01N 2470/30** (2013.01 - EP US)

Citation (search report)

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