Title (en)
  Engine exhaust apparatus

Title (de)
  Abgasanlage für Brennkraftmaschinen

Title (fr)
  Système d'échappement pour moteurs à combustion interne

Publication
  EP 1798390 B2 20141112 (DE)

Application
  EP 06022147 A 20061023

Priority
  • DE 102005060053 A 20051215
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Abstract (en)
  [origin: EP1798390A2] An exhaust silencer, especially for a turbo charged IC engine, has a small volume straight through chamber linked to a larger volume expansion chamber. The silencer has inlet and outlet (4, 5) ports and comprises a perforated tube linked to cross tubes which connect to an array of expansion chambers whose size and layout provides enhanced damping in the lower engine speeds. The design is optimized to provide progressive increase in sound with engine speed.

IPC 8 full level
  F01N 1/00 (2006.01); **F01N 1/02** (2006.01); **F01N 13/18** (2010.01)

CPC (source: EP)
  F01N 1/003 (2013.01); **F01N 1/006** (2013.01); **F01N 1/02** (2013.01); **F01N 13/1888** (2013.01)

Citation (opposition)
 Opponent :
  • EP 1380734 A2 20040114 - EBERSPAECHER J GMBH & CO [DE]
  • DE 19743446 A1 19981203 - BAYERISCHE MOTOREN WERKE AG [DE], et al
  • WO 2005113955 A1 20051201 - PORSCHE AG [DE], et al
  • EP 1686246 A2 20060802 - PORSCHE AG [DE]
  • US 4501341 A 19850226 - JONES ADRIAN D [AU]
  • US 2004050618 A1 20040318 - MAROCCO GREGORY M [US]
  • JP S58148215 A 19830903 - NISSAN MOTOR
  • JP H0412145 A 19920116 - MAZDA MOTOR
  • US 2139151 A 19381206 - DEREMER FLOYD E
  • US 3500954 A 19700317 - WILLETTE EARL G
  • WO 2005033485 A1 20050414 - BAYERISCHE MOTOREN WERKE AG [DE], et al
  • EP 1798390 A2 20070620 - BOYSEN FRIEDRICH GMBH CO KG [DE]

Cited by
  US2011000186A1; US8418445B2; DE102016106340A1; EP1798390B2

Designated contracting state (EPC)
  AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

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DOCDB simple family (application)
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