

Title (en)  
Vacuum pump

Title (de)  
Vakuumpumpe

Title (fr)  
Pompe à vide

Publication  
**EP 1318308 A2 20030611 (EN)**

Application  
**EP 02258145 A 20021127**

Priority  
JP 2001370627 A 20011204

Abstract (en)  
A multiple cylinder (2) having a plurality of cylinders (4, 5) arranged concentrically and a rotor shaft (8) rotatably disposed on the center axis of the multiple cylinder are provided in a pump casing (1). Each of the cylinders that constitute the multiple cylinder has a mounting portion (10, 11), through which the cylinders are integrally fixed to the rotor shaft. <IMAGE>

IPC 1-7  
**F04D 19/04**; **F04D 29/26**

IPC 8 full level  
**F04D 19/04** (2006.01); **F04D 29/26** (2006.01)

CPC (source: EP KR US)  
**F04D 19/04** (2013.01 - KR); **F04D 19/044** (2013.01 - EP US); **F04D 19/046** (2013.01 - EP US); **F04D 29/266** (2013.01 - EP US)

Cited by  
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**EP 02258145 A 20021127**; CN 02154776 A 20021204; JP 2001370627 A 20011204; KR 20020073978 A 20021126; TW 91133405 A 20021114; US 30881902 A 20021203