

Title (en)  
VACUUM EXHAUST DEVICE

Title (de)  
VAKUUMABFÜHRVORRICHTUNG

Title (fr)  
DISPOSITIF D'ÉCHAPPEMENT À VIDE

Publication  
**EP 1811176 A1 20070725 (EN)**

Application  
**EP 05745938 A 20050601**

Priority  
• JP 2005010044 W 20050601  
• JP 2004165221 A 20040603

Abstract (en)  
To improve the isolation rate of vibrations propagating from a vacuum pump to a vacuum device. A turbo-molecular pump 1 is connected to a main vacuum chamber 2 via a vacuum seal structure 4. Further, a sub-vacuum chamber 3 is provided so as to contain the main vacuum chamber 2, the vacuum seal structure 4, and an inlet 110 of the turbo-molecular pump 1. The roughing evacuation of the sub-vacuum chamber 3 is accomplished by using a roughing vacuum pump 6 to make the sub-vacuum chamber 3 in a medium vacuum state. Since the vacuum seal structure 4 is arranged in the sub-vacuum chamber 3 in a medium vacuum state, a difference in pressure between the main vacuum chamber 2 and the sub-vacuum chamber 3 can be made extremely small. Thereby, the amount of gas leakage to the main vacuum chamber 2 can be kept at a small value. Also, the vacuum seal structure 4 can use, for example, a non-contact seal structure or a highly flexible seal member because it does not perform a function of supporting the turbo-molecular pump 1.

IPC 8 full level  
**F04B 37/16** (2006.01); **F04D 19/04** (2006.01); **F04D 29/08** (2006.01); **F04D 29/16** (2006.01); **F16J 15/10** (2006.01); **F16J 15/447** (2006.01)

CPC (source: EP)  
**F04B 37/16** (2013.01); **F04D 19/04** (2013.01); **F04D 29/083** (2013.01); **F04D 29/668** (2013.01)

Cited by  
US8403566B2; GB2459233A; GB2459233B

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 MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1811176 A1 20070725; EP 1811176 A4 20081119**; JP 2005344610 A 20051215; WO 2005119060 A1 20051215

DOCDB simple family (application)  
**EP 05745938 A 20050601**; JP 2004165221 A 20040603; JP 2005010044 W 20050601