

Title (en)  
VACUUM EXHAUST DEVICE

Title (de)  
VAKUUMABFÜHRVORRICHTUNG

Title (fr)  
DISPOSITIF D'ECHAPPEMENT A VIDE

Publication  
**EP 1811176 A4 20081119 (EN)**

Application  
**EP 05745938 A 20050601**

Priority  
• JP 2005010044 W 20050601  
• JP 2004165221 A 20040603

Abstract (en)  
[origin: EP1811176A1] 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)

Citation (search report)  
• [X] DE 3032967 A1 19820415 - LEYBOLD HERAEUS GMBH & CO KG [DE]  
• [A] DE 3716221 A1 19871126 - JAPAN ATOMIC ENERGY RES INST [JP], et al  
• [A] EP 0280984 A1 19880907 - CIT ALCATEL [FR]  
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• [A] EP 1043505 A2 20001011 - PFEIFFER VACUUM GMBH [DE]  
• See references of WO 2005119060A1

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Designated contracting state (EPC)  
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