

Title (en)  
VACUUM DEVICE

Title (de)  
VAKUUMVORRICHTUNG

Title (fr)  
DISPOSITIF A VIDE

Publication  
**EP 1678446 B1 20080514 (DE)**

Application  
**EP 04740982 A 20040714**

Priority  
• EP 2004007763 W 20040714  
• US 49700203 P 20030820

Abstract (en)  
[origin: WO2005019744A1] A vacuum device comprises several cryopumps (10), connected to one or several vacuum chambers. The cryopumps (10) are connected to a compressor device (16), by means of medium supply lines (12) and medium return lines (14). An adjuster device (18), for controlling amounts of medium supplied to a cryopump, is arranged upstream of at least one of the cryopumps. The cryopumps (10) further comprise a temperature measuring device. The temperature measuring device and the adjuster device (18) are connected to a controller (28). According to the invention, in order to achieve the desired medium supply to the cryopumps (10), the adjuster devices (18) have throttle devices (24) in a medium supply line (12) and a controllable valve in a throttle bypass line (22).

IPC 8 full level  
**F25B 9/14** (2006.01); **F04B 37/08** (2006.01); **F04B 41/06** (2006.01); **F25B 9/10** (2006.01); **F25B 41/04** (2006.01)

CPC (source: EP KR US)  
**F04B 29/00** (2013.01 - KR); **F04B 37/08** (2013.01 - EP KR US); **F04B 37/14** (2013.01 - EP US); **F04B 41/06** (2013.01 - EP US); **F25B 9/10** (2013.01 - EP KR US); **F25B 9/14** (2013.01 - EP KR US); **F25B 41/20** (2021.01 - EP KR US); **F25B 2309/002** (2013.01 - EP US); **F25B 2309/1428** (2013.01 - EP US); **F25B 2400/0411** (2013.01 - EP US); **F25B 2600/2501** (2013.01 - EP US)

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

DOCDB simple family (publication)  
**WO 2005019744 A1 20050303**; AT E395565 T1 20080515; CN 100422660 C 20081001; CN 1833145 A 20060913; DE 502004007169 D1 20080626; EP 1678446 A1 20060712; EP 1678446 B1 20080514; ES 2307022 T3 20081116; HK 1093093 A1 20070223; JP 2007502928 A 20070215; KR 20060067958 A 20060620; TW 200508496 A 20050301; US 2006272338 A1 20061207; US 7481066 B2 20090127

DOCDB simple family (application)  
**EP 2004007763 W 20040714**; AT 04740982 T 20040714; CN 200480022767 A 20040714; DE 502004007169 T 20040714; EP 04740982 A 20040714; ES 04740982 T 20040714; HK 06110606 A 20060922; JP 2006523539 A 20040714; KR 20067003136 A 20060215; TW 93124142 A 20040812; US 56854906 A 20060217