

Title (en)  
VACUUM PUMP

Title (de)  
VAKUUMPUMPE

Title (fr)  
POMPE A VIDE

Publication  
**EP 1563190 A2 20050817 (DE)**

Application  
**EP 03779691 A 20031112**

Priority  
• DE 0303747 W 20031112  
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Abstract (en)  
[origin: WO2004044431A2] The invention concerns a vacuum pump designed in particular for motor vehicle braking power amplifiers, the pump being normally driven by an internal combustion engine of the vehicle, in a ( front ) rotational direction, the pump including a device for limiting damage resulting from rotations in the opposite direction.

IPC 1-7  
**F04C 18/344**

IPC 8 full level  
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Citation (search report)  
See references of WO 2004044431A2

Citation (third parties)  
Third party :  
• JP H0749094 A 19950221 - HITACHI LTD  
• JP H0749094 K1  
• JP 2000205159 A 20000725 - HITACHI LTD, et al  
• JP 2000205159 K1

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DOCDB simple family (publication)  
**WO 2004044431 A2 20040527**; **WO 2004044431 A3 20040916**; AU 2003287863 A1 20040603; AU 2003287863 A8 20040603;  
DE 10393279 D2 20050602; EP 1563190 A2 20050817; EP 1890040 A2 20080220; EP 1890040 A3 20080227; EP 1890040 B1 20120627

DOCDB simple family (application)  
**DE 0303747 W 20031112**; AU 2003287863 A 20031112; DE 10393279 T 20031112; EP 03779691 A 20031112; EP 07022290 A 20031112