

Title (en)  
Vacuum pump

Title (de)  
Vakuumpumpe

Title (fr)  
Pompe à vide

Publication  
**EP 1890040 A2 20080220 (DE)**

Application  
**EP 07022290 A 20031112**

Priority  
• EP 03779691 A 20031112  
• DE 10252769 A 20021113

Abstract (en)  
Vacuum pump (1), especially for brake boosters for motor vehicles, which is normally driven by an internal combustion engine in a forward rotational direction comprises a device for limiting damage resulting from rotation in the opposite direction. Preferred Features: The device has an outlet valve (15), a bypass connection and a storage reservoir for residual oil. The outlet valve represents an additional valve which can be combined with the pump outlet valve (13).

Abstract (de)  
Vakuumpumpe, insbesondere für Bremskraftverstärker für Kraftfahrzeuge, wobei die Pumpe normalerweise von einem Kraftfahrzeugverbrennungsmotor in einer Drehrichtung ("vorwärts") angetrieben wird, wobei die Pumpe eine Vorrichtung zur Vermeidung von Beschädigungen beim Rückwärtsdrehen aufweist und, wobei die Vorrichtung ein Speichervolumen für das Restöl aufweist.

IPC 8 full level  
**F04C 18/344** (2006.01); **F04C 18/46** (2006.01); **F04C 28/04** (2006.01); **F04C 28/26** (2006.01); **F04C 28/28** (2006.01); **F04C 29/00** (2006.01); **F04C 29/12** (2006.01)

CPC (source: EP)  
**F04C 18/3441** (2013.01); **F04C 28/04** (2013.01); **F04C 28/28** (2013.01); **F04C 2220/10** (2013.01); **F04C 2250/101** (2013.01)

Cited by  
DE102016207123A1; DE102016202426A1; DE102009016048A1; DE102016207115A1; DE102016122903A1; DE102009016048B4; WO2015101904A1; US11346343B2; US11306718B2; US8469684B2; US9017051B2

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AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

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**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