

Title (en)  
Turbomolecular pump

Title (de)  
Turbomolekularpumpe

Title (fr)  
Pompe turbomoléculaire

Publication  
**EP 1580435 B2 20201118 (DE)**

Application  
**EP 05003720 A 20050222**

Priority  
DE 102004012713 A 20040316

Abstract (en)  
[origin: EP1580435A2] A housing (1) is divided into a high vacuum side (2) and a vacuum side (3). Groups of rotor discs (8) and stator discs (9) are located adjacent to the pump outlet and to an outlet flange (3), each disc having blades. The blades located in the vicinity of the high vacuum side has a steeper angle than the blades at the vacuum side, the blade angle at the vacuum side amounting less than 8 degrees. The blades have an axial thickness of less than 5 millimeters, and have a cross-section that resembles the shape of a parallelogram. An independent claim is also included for a method of manufacturing rotor and stator discs.

IPC 8 full level  
**F04D 29/32** (2006.01); **F04D 19/04** (2006.01); **F04D 29/54** (2006.01)

CPC (source: EP US)  
**F04D 19/042** (2013.01 - EP US); **F04D 29/324** (2013.01 - EP US); **F04D 29/544** (2013.01 - EP US); **F05D 2250/70** (2013.01 - EP US)

Citation (opposition)  
Opponent :

- US 3644051 A 19720222 - SHAPIRO ASCHER H
- US 3969039 A 19760713 - SHOULDERS KENNETH R
- CHANDRAN M AND KRISHNA MURTHI M V: "A Markov chain model for a turbomolecular pump - theory and experiments", VACUUM, vol. 48, no. 11, 1997, pages 899 - 911

Cited by  
EP3002459A1

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 1580435 A2 20050928; EP 1580435 A3 20091230; EP 1580435 B1 20110831; EP 1580435 B2 20201118**; AT E522725 T1 20110915; DE 102004012713 A1 20051006; JP 2005264932 A 20050929; US 2005207884 A1 20050922; US 8398362 B2 20130319

DOCDB simple family (application)  
**EP 05003720 A 20050222**; AT 05003720 T 20050222; DE 102004012713 A 20040316; JP 2005058364 A 20050303; US 7964905 A 20050314