

Title (en)
Vacuum pump

Title (de)
Vakuumpumpe

Title (fr)
Pompe à vide

Publication
EP 1243796 A3 20030827 (DE)

Application
EP 02005166 A 20020308

Priority
DE 10114585 A 20010324

Abstract (en)

[origin: EP1243796A2] The pump consists of two single/multistage gas friction pumps (6,7) and a multistage pump (8). The gas friction pumps are positioned parallel in direction of flow, so that the intake gas flow is divided into two part flows in the suction area (22). Each part flow is conveyed by the associated friction pump from the suction area to the ejection areas (23,24). The two part flows are subsequently united via connection elements (26) in an ejection chamber (25). This chamber is connected to the suction chamber (27) of the third pump via pipes (28), so that this pump further compresses the gas.

IPC 1-7
F04D 19/04; F04D 17/16; F04D 23/00; F04D 29/26

IPC 8 full level
F04D 17/16 (2006.01); **F04D 19/04** (2006.01); **F04D 23/00** (2006.01); **F04D 29/26** (2006.01); **F04D 29/54** (2006.01)

CPC (source: EP US)

F04D 17/168 (2013.01 - EP US); **F04D 19/044** (2013.01 - EP US); **F04D 19/046** (2013.01 - EP US); **F04D 23/008** (2013.01 - EP US);
F04D 29/263 (2013.01 - EP US)

Citation (search report)

- [XY] US 4090815 A 19780523 - NAKAMURA KAZUAKI
- [XY] DE 3442843 A1 19850605 - HITACHI LTD [JP]
- [X] US 5040949 A 19910820 - CRINQUETTE JEAN-MARIE [FR], et al
- [X] US 3536418 A 19701027 - BREAU ONEZIME P
- [A] US 4183719 A 19800115 - BOZUNG HANNS-GUNTHER [DE]

Cited by
EP2886870A1; EP2886870B1

Designated contracting state (EPC)
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DOCDB simple family (publication)

EP 1243796 A2 20020925; EP 1243796 A3 20030827; EP 1243796 B1 20061108; DE 10114585 A1 20020926; DE 50208630 D1 20061221;
JP 2002310092 A 20021023; US 2002136643 A1 20020926; US 6676384 B2 20040113

DOCDB simple family (application)

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