

Title (en)

Control valve for variable displacement compressor

Title (de)

Kontrollventil für einen verstellbaren Taumelscheibenkompressor

Title (fr)

Soupape de contrôle pour un compresseur à capacité variable

Publication

**EP 1630418 A1 20060301 (EN)**

Application

**EP 05016774 A 20050802**

Priority

- JP 2004239162 A 20040819
- JP 2004289520 A 20041001

Abstract (en)

A valve section 13 for controlling the flow rate of refrigerant flowing through a control valve 11 for a variable displacement compressor from a discharge chamber into a crankcase co-acts with a pressure-sensing section 12 provided at the side of a high-pressure port 18 that receives discharge pressure Pd. The pressure-sensing section 12 comprises a pressure-sensing piston 19 having a larger pressure-receiving area than a valve element 25. The pressure sensing piston 19 responds to a change of the discharge pressure Pd as caused by a rapid change of the rotational speed of an engine. Then a differential pressure is produced between the discharge pressure Pd and the pressure in a pressure-adjusting chamber 23, which temporarily produces a force for axially moving the pressure sensing piston 19. This force is transmitted via a shaft 24 to the valve element 25 to accelerate the opening and/or closing motion of the valve element 25 which motion is initiated by the differential pressure between the discharge pressure Pd and the suction pressure Ps. This action more promptly restores the compressor to a predetermined discharge capacity operation.

IPC 8 full level

**F04B 27/18** (2006.01)

CPC (source: EP KR US)

**F04B 27/08** (2013.01 - KR); **F04B 27/14** (2013.01 - KR); **F04B 27/18** (2013.01 - KR); **F04B 27/1804** (2013.01 - EP US); **F04B 49/00** (2013.01 - KR); **F04B 2027/1813** (2013.01 - EP US); **F04B 2027/1827** (2013.01 - EP US); **F04B 2027/185** (2013.01 - EP US); **F04B 2027/1854** (2013.01 - EP US); **F04B 2027/1859** (2013.01 - EP US)

Citation (applicant)

- JP 2001132650 A 20010518 - TGK CO LTD
- EP 1098091 A2 20010509 - TGK CO LTD [JP]

Citation (search report)

- [X] EP 1103721 A2 20010530 - TOYODA AUTOMATIC LOOM WORKS [JP]
- [X] EP 1098091 A2 20010509 - TGK CO LTD [JP]
- [X] US 5071321 A 19911210 - SKINNER TIMOTHY J [US], et al
- [A] EP 0935107 A2 19990811 - TOYODA AUTOMATIC LOOM WORKS [JP]

Cited by

US9885508B2; US10619903B2

Designated contracting state (EPC)

DE FR

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**EP 1630418 A1 20060301**; **EP 1630418 B1 20071017**; DE 602005002899 D1 20071129; DE 602005002899 T2 20080221; JP 2006083837 A 20060330; KR 20060050535 A 20060519; US 2006039799 A1 20060223

DOCDB simple family (application)

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