

Title (en)

Control valve for variable displacement compressor

Title (de)

Kontrollventil für variablen Verdrängungskompressor

Title (fr)

Souape de contrôle pour un compresseur à capacité variable

Publication

EP 1462650 A3 20060705 (EN)

Application

EP 04005114 A 20040304

Priority

JP 2003089841 A 20030328

Abstract (en)

[origin: EP1462650A2] In a control valve for a variable displacement compressor, a valve section 10 for controlling the refrigerant flow rate at discharge pressure Pd to supply refrigerant at a control pressure Pc to a crankcase is implemented by a spool valve structure. A spool valve element 15 and a coaxial shaft 18 are configured such that the spool valve element 15 and the shaft 18 oppositely receive the discharge pressure Pd and the suction pressure Ps, respectively. The differential pressure between the discharge pressure Pd and suction pressure Ps, which is to be controlled, is set by a duty ratio controlled solenoid section 20. The spool valve element 15 performing micro vibrations due to duty ratio control is prevented from colliding against a valve seat 16 when it is close to the valve-closing position, so that it is possible to enhance the valve lift characteristics, and to improve durability of valve component parts.

IPC 8 full level

F04B 27/18 (2006.01); **F04B 49/00** (2006.01); **F04B 27/14** (2006.01)

CPC (source: EP US)

F04B 27/1804 (2013.01 - EP US); **F04B 2027/1827** (2013.01 - EP US); **F04B 2027/1854** (2013.01 - EP US); **F04B 2027/1859** (2013.01 - EP US)

Citation (search report)

- [X] EP 1279831 A2 20030129 - TGK CO LTD [JP]
- [DX] EP 1098091 A2 20010509 - TGK CO LTD [JP]
- [A] EP 1091124 A2 20010411 - FUJIKOKI CORP [JP]

Cited by

US2012234275A1; US8662039B2; CN110462212A; EP3604806A4; US11401922B2; US11536389B2; US9127575B2

Designated contracting state (EPC)

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