

Title (en)
CONTROL VALVE FOR VARIABLE DISPLACEMENT COMPRESSOR

Title (de)
STEUERVENTIL FÜR KOMPRESSOR MIT VERÄNDERLICHER VERDRÄNGUNG

Title (fr)
SOUPAPE DE COMMANDE POUR COMPRESSEUR A CYLINDREE VARIABLE

Publication
EP 1837520 A1 20070926 (EN)

Application
EP 05816798 A 20051213

Priority

- JP 2005022845 W 20051213
- JP 2005007701 A 20050114

Abstract (en)

To provide a control valve for variable displacement compressor employing ON/OFF control, which is capable of taking measures for occurrence of an abnormally high pressure. When a solenoid is OFF, a spring (17) causes a movable core (16) to move a stopper (19) in a direction away from a stationary core (14) and to thereby separate a shaft (18) fixed to the stopper (19) from a valve seat (13), resulting in opening the control valve. When the solenoid is ON, the movable core (16) is attracted by the stationary core (14) by a stroke longer than that of the shaft (18), and a spring (20) causes the shaft (18) to seat on the valve seat (13), resulting in closing the control valve. If a discharge pressure Pd increases to an abnormally high pressure, a differential pressure between the discharge pressure Pd and a pressure Pc in a crankcase pushes the shaft (18) while compressing the spring (20), so that the discharge pressure Pd flows out to the crankcase. Therefore, the pressure Pc in the crankcase increases and the variable displacement compressor shifts to operate at a minimum discharge capacity, resulting in decreasing the abnormally high pressure.

IPC 8 full level
F04B 27/14 (2006.01); **F04B 49/00** (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)

Citation (search report)
See references of WO 2006075471A1

Designated contracting state (EPC)
DE FR

DOCDB simple family (publication)
EP 1837520 A1 20070926; JP 2006194175 A 20060727; US 2007264134 A1 20071115; WO 2006075471 A1 20060720

DOCDB simple family (application)
EP 05816798 A 20051213; JP 2005007701 A 20050114; JP 2005022845 W 20051213; US 82625007 A 20070713