

Title (en)
CONTROL VALVE FOR VARIABLE DISPLACEMENT COMPRESSOR

Title (de)
REGELVENTIL FÜR EINEN VERDICHTER MIT VARIABLER VERDRÄNGUNG

Title (fr)
SOUPAPE DE CONTRÔLE POUR COMPRESSEUR À DÉPLACEMENT VARIABLE

Publication
EP 2963295 A1 20160106 (EN)

Application
EP 15173253 A 20150623

Priority
JP 2014135948 A 20140701

Abstract (en)
A control valve (1) according to one embodiment includes a valve element (24) that autonomously operates so that a differential pressure (Pd - Ps) between a discharge pressure (Pd) of a discharge chamber (114) and a suction pressure (Ps) of a suction chamber (110) is kept at a preset differential pressure according to a value of current supplied to the solenoid (3), and a bleed hole (96) that is provided in the body (5) separately from the valve hole (18), that has a leak passage (98) whose diameter smaller than that of the valve hole (18), and that permits refrigerant to be leaked from a discharge chamber communication port (10) to a crankcase communication port (12) even while a valve section is closed. The bleed hole (96) is formed such that $Y > 2.145X + 0.24$ is satisfied, where X represents the diameter of the leak passage (98) and Y represents a diameter of a release passage (119).

IPC 8 full level
F04B 27/18 (2006.01)

CPC (source: EP)
F04B 27/1804 (2013.01); **F04B 2027/1813** (2013.01); **F04B 2027/1827** (2013.01); **F04B 2027/1831** (2013.01); **F04B 2027/185** (2013.01); **F04B 2027/1854** (2013.01); **F04B 2027/1859** (2013.01)

Citation (applicant)
• JP 2001132650 A 20010518 - TGK CO LTD
• JP 2006057506 A 20060302 - TGK CO LTD

Citation (search report)
• [A] US 5702235 A 19971230 - HIROTA HISATOSHI [JP], et al
• [A] EP 1081378 A2 20010307 - TOYODA AUTOMATIC LOOM WORKS [JP]
• [A] EP 1681466 A2 20060719 - TGK CO LTD [JP]
• [A] EP 1630419 A2 20060301 - TGK CO LTD [JP]
• [A] EP 1867873 A1 20071219 - EAGLE IND CO LTD [JP]
• [A] EP 1279831 A2 20030129 - TGK CO LTD [JP]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2963295 A1 20160106; EP 2963295 B1 20190410; JP 2016014334 A 20160128

DOCDB simple family (application)
EP 15173253 A 20150623; JP 2014135948 A 20140701