

Title (en)
REFRIGERANT COMPRESSOR AND REFRIGERATION APPARATUS USING SAME

Title (de)
KÄLTEMITTELVERDICHTER UND KÜHLVORRICHTUNG MIT VERWENDUNG DAVON

Title (fr)
COMPRESSEUR FRIGORIFIQUE ET APPAREIL FRIGORIFIQUE L'UTILISANT

Publication
EP 3879101 A1 20210915 (EN)

Application
EP 19882174 A 20191105

Priority
• JP 2018210882 A 20181108
• JP 2019043312 W 20191105

Abstract (en)
In a refrigerant compressor including a sealed container in which refrigerating machine oil is stored, a shaft part that includes a main shaft and an eccentric shaft, or a bearing part that includes a main bearing and an eccentric bearing, is provided with tapered portions, the tapered portions being respectively formed on one end side and another end side of the shaft part or the bearing part in an axial direction of the bearing part such that a diameter of the shaft part or the bearing part changes from an outer side toward a central side in a longitudinal direction of a crankshaft, each tapered portion allowing the shaft part and the bearing part to come into line contact with each other in a state where an axis of the shaft part is tilted relative to an axis of the bearing part. A ratio C/D , which is a ratio of a clearance C between the shaft part and the bearing part to a diameter D of the shaft part, is set to a value within a range of not less than 4.0×10^{-4} and not greater than 3.0×10^{-3} . A taper depth d_B of each tapered portion is set to a value not less than 2.0×10^{-3} mm. In a combination of the shaft part and the bearing part corresponding thereto, a ratio G/D , which is a ratio of a maximum gap G to the diameter D of the shaft part, is set to a value not greater than 4.0×10^{-3} . The maximum gap G is a sum of the clearance C and a total value of the taper depths d_B .

IPC 8 full level
F04B 39/00 (2006.01)

CPC (source: EP US)
F04B 35/04 (2013.01 - US); **F04B 39/0094** (2013.01 - EP US); **F04B 39/023** (2013.01 - EP); **F04B 53/006** (2013.01 - US)

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 3879101 A1 20210915; **EP 3879101 A4 20211229**; CN 112567133 A 20210326; CN 112567133 B 20220531; JP 7142100 B2 20220926; JP WO2020095903 A1 20210902; US 2021340967 A1 20211104; WO 2020095903 A1 20200514

DOCDB simple family (application)
EP 19882174 A 20191105; CN 201980052149 A 20191105; JP 2019043312 W 20191105; JP 2020556082 A 20191105; US 201917282664 A 20191105