(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 April 2014 (10.04.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/053036 A1

(51) International Patent Classification:
F16C 3/14 (2006.01) *F16C 33/20* (2006.01)
F16C 25/04 (2006.01) *F04B 39/00* (2006.01)
F16C 33/10 (2006.01) *F16C 3/22* (2006.01)
F16C 33/12 (2006.01)

(21) International Application Number:
PCT/BR2013/000383

(22) International Filing Date:
1 August 2013 (01.08.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
BR 10 2012 025039 0
1 October 2012 (01.10.2012) BR

(71) Applicant: **WHIRLPOOL S.A.** [BR/BR]; Avenida das Nações Unidas, 12.995 - 32° andar - Brooklin Novo, 04578-000 São Paulo - SP (BR).

(72) Inventors: **MANKE, Adilson Luiz**; Rua Ex-Combatentes, 125 - Condomínio Lagos - Casa 2E - Saguaçú -, 89221-103 Joinville - SC (BR). **PUFF, Rinaldo**; Rua Jaó, 280 -, 89220-160 Joinville - SC (BR). **SACOMORI, Diego**; Rua Balneário de Camboriú, 98 -, 89223-140 Joinville - SC (BR).

(74) Agents: **ARNAUD, Antonio M.P.** et al.; Rua José Bonifácio, 93 - 9th floor, 01003-901 São Paulo - SP (BR).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*

(54) Title: BEARING ARRANGEMENTS IN A REFRIGERATION RECIPROCATING COMPRESSOR

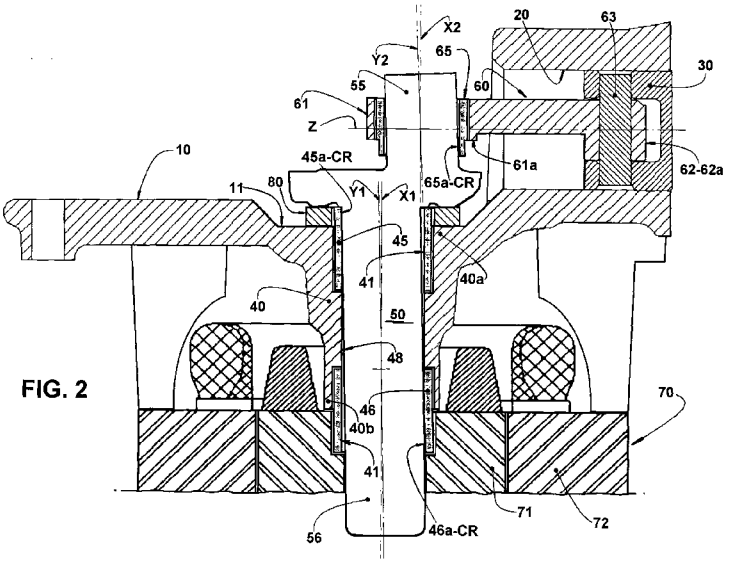

FIG. 2

(57) Abstract: The compressor comprises: a crankcase (10) carrying a cylinder (20) and a bearing hub (40) having a first and a second end portions (40a, 40b) and defining a radial bearing (41), in which is housed a crankshaft (50); and a connecting rod (60) coupled to a piston (30) housed in the cylinder (20) and having a larger eye (61) mounted in an eccentric end portion (55) of the crankshaft (50). Each of said end portions (40a, 40b) is defined by a bushing extension (45, 46) affixed in the interior of the bearing hub (40) and having an end portion (45a, 46a) projecting outwards from the bearing hub (40), in order to be elastically and radially deformed when pressed by a confronting portion of the crankshaft (50), which presents coaxiality deviation in relation to the axis (X1) of the radial bearing (41).

WO 2014/053036 A1