(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 196 462 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
16.08.2017 Bulletin 2017/33

(43) Date of publication A2:
26.07.2017 Bulletin 2017/30

(21) Application number: **17151956.4**

(22) Date of filing: **18.01.2017**

(51) Int Cl.:
F04B 39/02 *(2006.01)* ***F04B 39/06*** *(2006.01)*

(84) Designated Contracting States:
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 States:
BA ME
Designated Validation States:
MA MD

(30) Priority: **19.01.2016 CN 201610254910**

(71) Applicant: **Whirlpool S.A.**
04578-000 São Paulo - SP (BR)

(72) Inventors:
- **MANKE, Adilson Luiz**
  89221-103 Joinville (BR)
- **SACOMORI, Diego**
  89223-340 Joinville (BR)

(74) Representative: **Soldatini, Andrea et al**
Società Italiana Brevetti S.p.A.
Corso dei Tintori, 25
50122 Firenze (IT)

(54) OIL PUMP ASSEMBLY ARRANGEMENT IN COOLING COMPRESSOR

(57) The present application relates to an oil pump assembly arrangement for cooling compressors. Such invention aims to provide said compressor with a better use of the inner space defined by the housing thereof, in order to allow its miniaturization. To this end, it is proposed that fastening rod (70), which is able to anchor pin (51) of the oil pump in a fixed portion (80) of electric engine (20), is supported, in the median portion thereof, in a hole (53) provided next to pin (51) and, in the ends thereof (71), in respective cribs (81) defined in a fixed portion (80) of electric engine (20), wherein the housing in these cribs (81) takes place by inner sides thereof (82) and, still, wherein fastening rod (70) extends through free spaces (33) defined between coils (31), guaranteeing the minimum electrical distances required by rules.

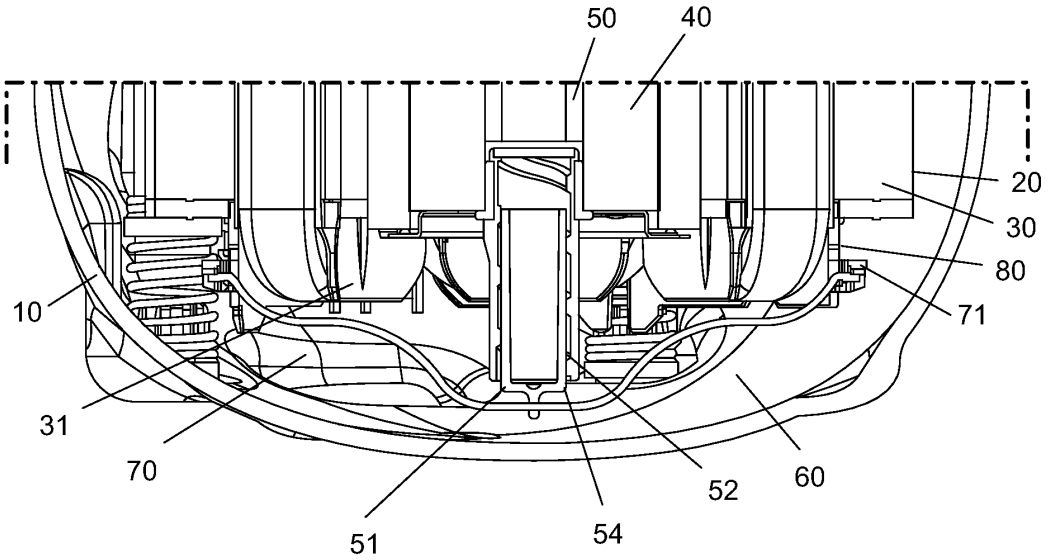


FIG.2

EP 3 196 462 A3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 17 15 1956

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 2010/040195 A1 (WHIRLPOOL SA [BR]; HUELSE EMILIO RODRIGUES [BR]; JOVITA LUIZ FABIANO [] 15 April 2010 (2010-04-15) * pages 8-12; figures 4,5 *	1-5	INV. F04B39/02 F04B39/06
A,D	& BR PI0 804 302 A2 (WHIRLPOOL SA [BR]) 13 July 2010 (2010-07-13) * figures 4,5 *	1-5	
A,D	EP 1 605 163 A1 (MATSUSHITA ELECTRIC IND CO LTD [JP]) 14 December 2005 (2005-12-14) * figures 1,3 *	1-5	
A	WO 2013/097973 A1 (ARCELIK AS [TR]; KOC YUSUF [TR]) 4 July 2013 (2013-07-04) * paragraph [0023] - paragraph [0033]; figure 1 *	1-5	

TECHNICAL FIELDS SEARCHED (IPC)

F04B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	4 July 2017	Ziegler, Hans-Jürgen

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 17 15 1956

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-07-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010040195 A1	15-04-2010	BR PI0804302 A2	13-07-2010
		CN 101878369 A	03-11-2010
		EP 2331820 A1	15-06-2011
		EP 2916005 A1	09-09-2015
		ES 2557900 T3	29-01-2016
		JP 5538405 B2	02-07-2014
		JP 2012505331 A	01-03-2012
		KR 20110074998 A	05-07-2011
		US 2011229353 A1	22-09-2011
		US 2016017871 A1	21-01-2016
		WO 2010040195 A1	15-04-2010
EP 1605163 A1	14-12-2005	EP 1605163 A1	14-12-2005
		JP 4380630 B2	09-12-2009
		JP WO2004081383 A1	15-06-2006
		KR 20050083696 A	26-08-2005
		KR 20060108780 A	18-10-2006
		KR 20060110010 A	23-10-2006
		US 2006013706 A1	19-01-2006
		WO 2004081383 A1	23-09-2004
WO 2013097973 A1	04-07-2013	CN 104011386 A	27-08-2014
		EP 2798218 A1	05-11-2014
		WO 2013097973 A1	04-07-2013

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82