

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PALGE09347	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/KR 2009/003953	International filing date (day/month/year) 17 July 2009 (17.07.2009)	(Earliest) Priority Date (day/month/year) -----
Applicant LG ELECTRONICS INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see continuation of this first sheet.

2. Certain claims were found unsearchable (see continuation of this first sheet)

3. Unity of invention is lacking (see continuation of this first sheet)

4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in the continuation of this first sheet. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

Continuation of first sheet**Continuation No. II:****Observations where certain claims were found unsearchable
(Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

Claims Nos.: 4 because they relate to subject matter not required to be searched by this Authority, namely:

Said claim 4 contains just features of a method, although the beginning of claim 4 refers to a device.

Continuation No. IV:**Text of the abstract****(Continuation of item 5 of the first sheet)**

Disclosed is a reciprocating compressor, including a latching unit (140) which uses a magnetic force and by which a piston (123) is reciprocated by two times a total eccentric amount obtained by adding an eccentric amount of an eccentric portion to an eccentric amount of an eccentric sleeve (121) in a power mode, while the piston (123) is reciprocated by two times the eccentric amount of the eccentric portion in a saving mode, whereby the piston (123) can have an upper dead point same in the power mode and the saving mode of the compressor, resulting in reducing a dead volume between the piston (123) and a discharge valve and increasing a variable ratio of a cooling capacity of the compressor in the saving mode.

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International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC⁸: **F04B 49/12** (2006.01); **F04B 49/16** (2006.01); **F04B 49/24** (2006.01)
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC⁸: F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPODOC, WPI, XFULL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2008/096999 A1 (LG ELECTRONICS INC.) 14 August 2008 (14.08.2008) <i>Abstract; fig. 4-16; page 6, line 9 - page 14, line 1; claims 1-24;</i> --	1,3,5-9
Y	WO 2003/064857 A2 (BRISTOL COMPRESSORS, INC.) 07 August 2003 (07.08.2003) <i>Abstract; fig. 1,17,18; paragraphs 121-131;</i> ----	1,3,5-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search
27 January 2011 (27.01.2011)

Date of mailing of the international search report
08 April 2011 (08.04.2011)

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR 2009/003953

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO A 2008096999		US A1 2010322790	2010-12-23
		CN A 101605991	2009-12-16
		EP A1 2122170	2009-11-25
		WO A1 2008096999	2008-08-14
		KR B1 100830944B	2008-05-20
WO A 03064857		WO A2 03064857	2003-08-07
		EP A2 1478853	2004-11-24
		AU A1 2003212781	2003-09-02
		US A1 2002187057	2002-12-12