

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 November 2001 (08.11.2001)

PCT

(10) International Publication Number
WO 01/84564 A3

- (51) International Patent Classification⁷: H01F 1/153, 41/02, 3/04
- (74) Agents: **CRISS, Roger, H.** et al.: Honeywell International Inc., 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).
- (21) International Application Number: PCT/US01/13750
- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (22) International Filing Date: 26 April 2001 (26.04.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/200,563 28 April 2000 (28.04.2000) US
Not furnished 25 April 2001 (25.04.2001) US
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant: **HONEYWELL INTERNATIONAL INC.** [US/US]; 101 Columbia Avenue, P.O. Box 2245, Morristown, NJ 07960 (US).
- Published:
— with international search report
- (72) Inventors: **DECRISTOFARO, Nicholas, J.**; 33 Lincoln Avenue, Chatham, NJ 07928 (US). **STAMATIS, Peter, J.**; 107 Washington Avenue, Morristown, NJ 07960 (US). **LINDQUIST, Scott, M.**; 4700 Touhey Drive, Unit #105, Myrtle Beach, SC 29579 (US). **FISH, Gordon, E.**; 103 Lorraine Avenue, Upper Montclair, NJ 07043 (US).
- (88) Date of publication of the international search report:
4 April 2002
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 01/84564 A3

(54) Title: BULK STAMPED AMORPHOUS METAL MAGNETIC COMPONENT

(57) Abstract: A bulk amorphous metal magnetic component has a plurality of laminations of ferromagnetic amorphous metal strips adhered together to form a generally three-dimensional part having the shape of a polyhedron. The component is formed by stamping, stacking and bonding. The bulk amorphous metal magnetic component may include an arcuate surface, and an implementation may include two arcuate surfaces that are disposed opposite each other. The magnetic component may be operable at frequencies ranging from between approximately 50 Hz and 20,000 Hz. When the component is excited at an excitation frequency "f" to a peak induction level B_{max} , it may exhibit a core-loss less than "L" wherein L is given by the formula $L = 0.0074 f (B_{max})^{1.3} + 0.000282 f^{1.5} (B_{max})^{2.4}$, said core loss, said excitation frequency and said peak induction level being measured in watts per kilogram, hertz, and teslas, respectively.

INTERNATIONAL SEARCH REPORT

International Application No
PC1/US 01/13750

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01F1/153 H01F41/02 H01F3/04

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)
IPC 7 H01F

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 practical, search terms used)

PAJ, EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 007, no. 267 (E-213), 29 November 1983 (1983-11-29) & JP 58 148419 A (MATSUSHITA DENKO KK), 3 September 1983 (1983-09-03) abstract	1
Y	---	
Y	PATENT ABSTRACTS OF JAPAN vol. 009, no. 102 (E-312), 4 May 1985 (1985-05-04) & JP 59 229812 A (MITSUI SEKIYU KAGAKU KOGYO KK), 24 December 1984 (1984-12-24) abstract	1
A	---	
	-/--	
		10,11

Further documents are listed in the continuation of box C.

Patent family members are listed in 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 document 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

26 October 2001

Date of mailing of the international search report

06/11/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Decanniere, L

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/13750

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 006, no. 103 (E-112), 12 June 1982 (1982-06-12) & JP 57 035308 A (HITACHI LTD;OTHERS: 01), 25 February 1982 (1982-02-25) abstract ---	1,6,9
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 078 (E-058), 22 May 1981 (1981-05-22) & JP 56 026412 A (TDK CORP), 14 March 1981 (1981-03-14) abstract ---	1,3,4
A	PATENT ABSTRACTS OF JAPAN vol. 007, no. 049 (E-161), 25 February 1983 (1983-02-25) & JP 57 198608 A (TOKYO DENKI KAGAKU KOGYO KK), 6 December 1982 (1982-12-06) abstract -----	1,3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/13750

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
JP 58148419	A	03-09-1983	NONE	
JP 59229812	A	24-12-1984	JP 1843991 C JP 5032887 B	12-05-1994 18-05-1993
JP 57035308	A	25-02-1982	NONE	
JP 56026412	A	14-03-1981	NONE	
JP 57198608	A	06-12-1982	JP 1230857 C JP 59008048 B	26-09-1984 22-02-1984