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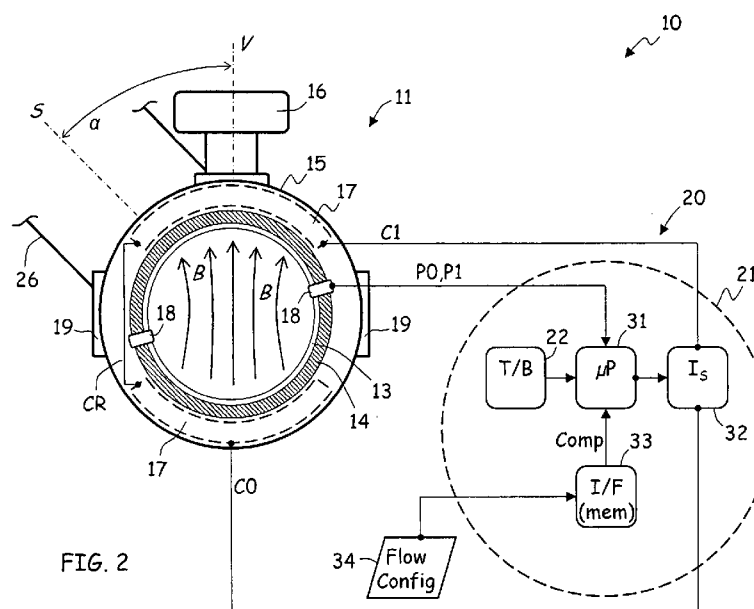
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[Continued on next page]

(54) Title: FLOW DISTURBANCE COMPENSATION FOR MAGNETIC FLOWMETER



(57) Abstract: A transmitter for a magnetic flowmeter comprises a current source, memory and a signal processor. The current source energizes the flowmeter, such that the flowmeter generates an induced electromotive force in response to a process flow. The memory stores a flow configuration that describes a flow pipe disturbance in the process flow. The signal processor determines the flow rate as a function of the induced electromagnetic force, and as a further function of the flow configuration.



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A. CLASSIFICATION OF SUBJECT MATTER***G01F 1/56(2006.01)i, G01F 1/60(2006.01)i***

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: G01F1/56, G01F1/58, G01F1/60

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

Korean Utility Models and applications for Utility Models

Japanese Utility Models and applications for Utility Models

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

eKOMPASS(KIPO internal) & Keyword: disturbance

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2-71225 U1 (SHIMADZU CORP.) 30 May 1990 See column 2, line 13 - column 8, line 14 and figures 1-3.	1-23
A	JP 2006-118938 A (YAMATAKE CORP.) 11 May 2006 See paragraphs [0050]-[0051].	1-23
A	US 7,093,500 B2 (SCHULZ et al.) 22 Aug. 2006 See the whole document.	1-23
A	US 6,186,179 B1 (HILL) 13 Feb. 2001 See the whole document.	1-23



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

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"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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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JP 2-071225 U1

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None

JP 2006-118938 A

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None

US 07093500 B2

22.08.2006

US 2005-126305 A1

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US 06186179 B1

13.02.2001

None