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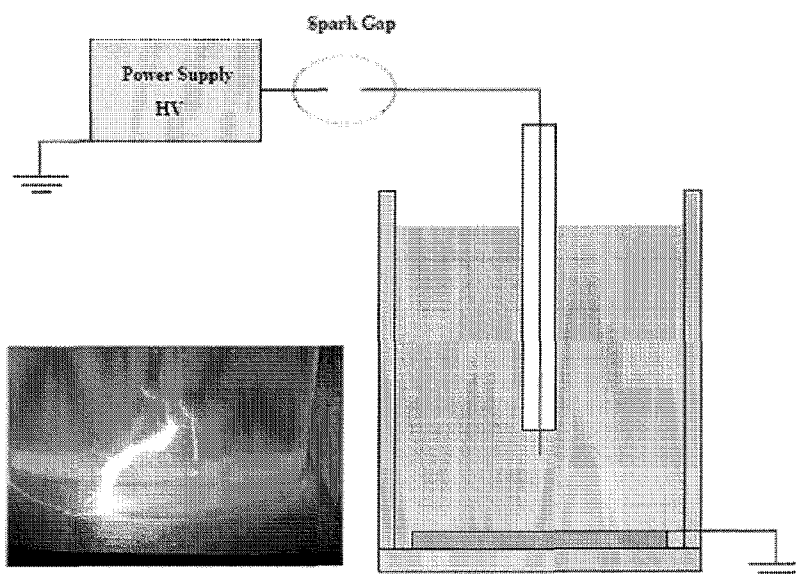
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(54) Title: FLUID TREATMENT USING PLASMA TECHNOLOGY



(57) Abstract: A method for the treatment of fluid including the step of exposing the fluid to a pulsed plasma discharge. The pulsed plasma discharge will be generated using a suitable electrode configuration to generate the plasma discharge in the fluid. Apparatus useful in the method may include a vessel, at least two electrodes for generating a plasma discharge in water, and a flow inlet and a flow outlet to allow water to be passed through the vessel. Also described is an in-line water treatment, where a pulsed plasma discharge is used in a pipe carrying moving water. Plasma based fluid treatment system may have many advantages in comparison to other treatment methods, such as very minimal maintenance, low operating power, and minimal pressure loss through the device.

WO 2007/147097 A3



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A. CLASSIFICATION OF SUBJECT MATTER*C02F 1/46(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 8 C02F, B01D

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 since 1975

Japanese Utility Models and applications for Utility Models since 1975

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

eKIPSS(KIPO internal) "keyword : fluid, pulsed, plasma, microorganism, mixer, discharge"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,749,759 B2 (FERENCZ S.DENES. et al.) 15 JUNE 2004 See abstract, columns 10-12, claims 1 and 27, fig 1	1-4
Y X	KR 10-2003-0015622 A (ECO-TEC 21 CO., LTD.) 25 FEBRUARY 2003 See abstract, page 3, claims 1 and 2, figs 1a and 1b	1-4 11, 13, 18
A	KR 10-2004-0103400 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) 08 DECEMBER 2004 See abstract, page 3, claims, figs 1 and 2	1-25
A	US 6,054,097 A (BARTON MASS. et al.) 25 APRIL 2000 See abstract, claims, fig 1	1-25

☐ 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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"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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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