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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
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(54) Title: PROCESS FOR ENHANCED TOTAL ORGANIC CARBON REMOVAL WHILE MAINTAINING OPTIMUM
MEMBRANE FILTER PERFORMANCE

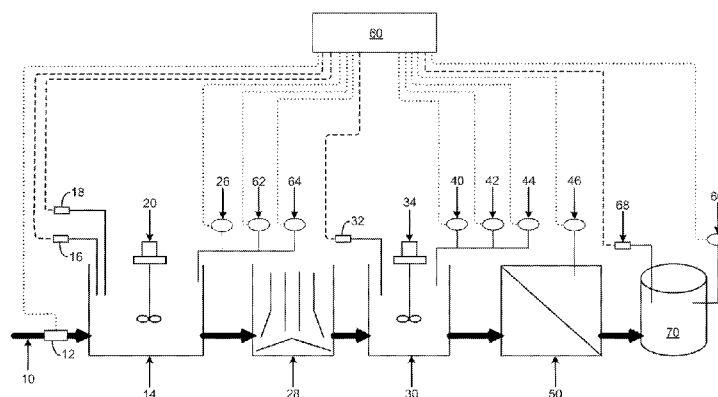


FIG. 1

(57) Abstract: A system and process for enhancing total organic carbon ("TOC") removal from raw, untreated water while maintaining optimum membrane filter performance. The present invention overcomes many of the disadvantages of prior art water filtration systems by controlling the pH level of the water, prior to the water being directed through said membrane filter, so that the particulate charge of the water aligns with the electromagnetic surface charge of membrane filter. Maintaining the particulate charge of the water within an optimum charge window for the particular membrane filter enhances the membrane filter's performance by decreasing the fouling rate of the membrane filter.

A. CLASSIFICATION OF SUBJECT MATTER***B01D 61/00(2006.01)i, B01D 65/08(2006.01)i, C02F 1/44(2006.01)i, C02F 101/30(2006.01)n***

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)

B01D 61/00; B01D 13/00; B01D 21/01; B01D 61/02; C02F 1/78; C02F 9/02; G01N 33/18; G01N 33/52

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

(Chinese Patents and application for patent)

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

eKOMPASS(KIPO internal) & Keywords:total organic carbon, water, membrane, filter, pH, electromagnetic, charge

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4610792 A1 (VAN GILS; GERARD J. et al.) 09 September 1986 See abstract and claims 1-12, figure 1	1-22
A	US 6113797 A1 (AL-SAMADI; RIAD A.) 05 September 2000 See abstract and claims 1-40, figure 1	1-22
A	US 2004-0168989 A1 (GERARD F. TEMPEST) 02 September 2004 See abstract and claim 1	1-22
A	EP 1094038 A1 (KOCH MICROELECTRONIC SERVICE COMPANY, INC.) 25 April 2001 See abstract and claim 1	1-22
A	KR 10-0728600 B1 (HAE DONG WATER TREATMENT CO., LTD.) 14 June 2007 See abstract and claims 1-14	1-22



Further documents are listed in the continuation of Box C.



See patent family annex.

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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
US 4610792 A1	09.09.1986	None	
US 6113797 A1	05.09.2000	US 6461514 B1	08.10.2002
US 2004-0168989 A1	02.09.2004	US 6824695 B2	30.11.2004
EP 1094038 A1	25.04.2001	IL 139158D0	25.11.2001
		US 6203705 B1	20.03.2001
KR 10-0728600 B1	14.06.2007	None	