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(54) **FLOW SENSOR**

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G01F 25/00 (2006.01)

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CPC ***G01F 25/0007*** (2013.01); ***G01F 1/56*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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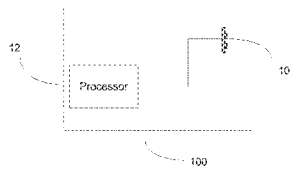
(57) **ABSTRACT**

A method and apparatus for measuring the rate of flow of an ion-containing fluid in a channel are disclosed herein. The apparatus includes a captive sensor operable to detect changes in capacitance value due to the deflection of the ions in the fluid by a magnetic field, and a processor operable to determine a flow speed of fluid from the detected change in capacitance value and a predetermined value of magnetic field strength. Such apparatus may be implemented using CMOS technology. The apparatus may operate in a magnetic field generated by a permanent magnet and measure the flow reliably.

15 Claims, 6 Drawing Sheets



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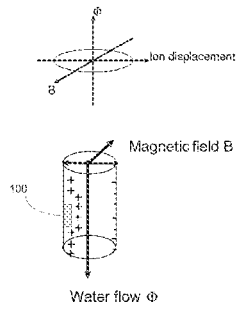

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