



US008997576B2

(12) **United States Patent**
Ferran et al.

(10) **Patent No.:** **US 8,997,576 B2**
(45) **Date of Patent:** **Apr. 7, 2015**

(54) **METHOD AND SYSTEM FOR MONITORING GAS PRESSURE FOR REFERENCE CAVITY OF CAPACITANCE DIAPHRAGM GAUGE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **14/155,294**

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(22) Filed: **Jan. 14, 2014**

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(65) **Prior Publication Data**

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US 2014/0202254 A1 Jul. 24, 2014

Related U.S. Application Data

(60) Provisional application No. 61/754,120, filed on Jan. 18, 2013.

(51) **Int. Cl.**

G01L 9/12 (2006.01)
G01L 21/34 (2006.01)
G01L 9/00 (2006.01)

(57) **ABSTRACT**

A system and method detect the presence of an unacceptable quantity of gas molecules in the reference vacuum cavity of a capacitance diaphragm gauge (CDG). An independent pressure transducer has an active portion exposed to the reference vacuum cavity. The transducer includes a ring anode, a cylindrical inner wall surface that forms at least one cathode, and a magnet positioned with respect to the ring anode such that the magnetic flux of the magnet is generally aligned with the central axis of the ring anode. A high voltage source applies a voltage between the ring anode and the cathode. A current sensor senses a magnitude of any current flowing between the ring anode and the cathode via ionized gas molecules. A monitoring unit monitors the magnitude of the current sensed by the current sensor and activates an alarm when the magnitude of the current exceeds an acceptable magnitude.

(52) **U.S. Cl.**

CPC **G01L 9/0072** (2013.01); **G01L 21/34** (2013.01); **G01L 9/0075** (2013.01)

(58) **Field of Classification Search**

CPC G01L 21/34; G01L 9/0072; G01L 9/0075; H01J 21/18; H01J 31/06; H01J 17/14
USPC 324/463; 313/157; 340/605; 70/40.7; 73/724

See application file for complete search history.

3 Claims, 6 Drawing Sheets

