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(12) **United States Patent**
Feltham

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(54) **SENSOR PROBE SEAL**

(56) **References Cited**

(71) Applicant: **Pall Corporation**, Port Washington, NY (US)

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(72) Inventor: **Nigel David Feltham**, Chandlers Ford Eastleigh (GB)

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(73) Assignee: **Pall Corporation**, Port Washington, NY (US)

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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 394 days.

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Primary Examiner — Jill Warden

Assistant Examiner — Dwayne K Handy

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(74) *Attorney, Agent, or Firm* — Leydig, Voit & Mayer, Ltd.

(57) **ABSTRACT**

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A sealing system is provided for preventing leakage of a fluid from a fluid-containing chamber when a sensor probe for measuring fluid conditions within the chamber is inserted into the chamber. The sealing system has at least one port in fluid communication with the fluid-containing chamber. The port has a stem projecting outwardly from the chamber, a tapered flange, and a stem passageway in fluid communication with the chamber interior. A probe seal which is adapted to attach to the stem forms a seal between the port and the sensor probe and prevents fluid in the processing chamber from leaking past the probe seal. The probe seal has spaced-apart inner and outer skirts. The inner skirt forms a seal passageway which is in fluid communication with the chamber, and an inner end disposed to enter the stem passageway when the probe seal is attached to the stem. The inner skirt has a seal member disposed near the inner end for sealably compressing against the probe sensor and the stem passageway to form a leak-tight seal in response to insertion of the sensor probe into the seal passageway. The inner and outer skirt also form a skirt channel adapted to receive the tapered flange of the stem when the inner skirt is inserted into the stem passageway.

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

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See application file for complete search history.

12 Claims, 5 Drawing Sheets

