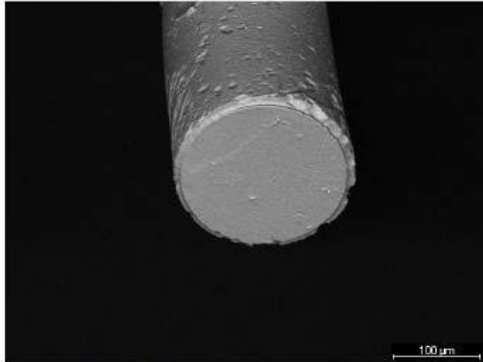




Fibre Optic Pressure Sensor

Overview



Tip of the pressure sensor

Optical Fibre Sensors Research Centre have developed a small diameter temperature compensated pressure sensor using fibre optic technology. The sensor is made from class (silica) and is 250µm in diameter.

Technology

- When the fibre optic sensor is exposed to a given pressure, the silica glass diaphragm deflects and causes to a modulation of the light within the device.
- To avoid the errors in pressure measurements resulting from temperature variations, the all silica fibre optic pressure sensor has an integrated temperature measurement element.
- The temperature measurement element is used as a temperature reference sensing device and hence is used to eliminate the temperature cross-sensitivity of the all-silica fibre optic pressure sensing element.
- Performance:
 - Accuracy: 0.26%FS; Pressure sensitivity: +/- 2mmHg;
 - Temperature range: tested range: 0°C to 450°C, however a range of -20°C to 800°C is feasible.

Commercial Opportunity

Fibre optic pressure sensors can be constructed entirely from fused-silica, i.e. made entirely of glass. They offer many advantages such as biocompatibility, miniature size, simple and low-cost fabrication process, mechanically robust, immune to electromagnetic interference, do not conduct electricity, and are capable of operating in high temperature environments. This opportunity is available for licensing and collaboration.

IP Status

Granted Patent, US 8764678B2.

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