

Title (en)

Current to pressure transducer employing magnetic fluid with self-correcting nozzle.

Title (de)

Strom-Druckwandler mit selbstkorrigierender Düse unter Verwendung eines magnetischen Fluids.

Title (fr)

Transducteur courant-pressure comportant un fluide magnétique et une base autocorrectrice.

Publication

**EP 0380762 B1 19940119 (EN)**

Application

**EP 89119767 A 19891024**

Priority

- US 28112588 A 19881207
- US 41439589 A 19890929

Abstract (en)

[origin: EP0380762A1] A current-to-pressure transducer that is insensitive to shock employs a magnetic fluid (30) that deforms a flexible diaphragm (13) in response to an electrical input current that is applied to a coil (33) and magnetic circuit. The deformed diaphragm (13) varies the air space between the diaphragm (13) and a nozzle (10) connected to the air line so that the pressure within the air line is effectively controlled. A nozzle (10) and pole piece (11) are formed from a single magnetic part so that the ends of the nozzle (10) and pole piece (11) are substantially coplanar. When used with a current-to-pressure transducer, the coplanar design allows proper alignment of the diaphragm (13) employed for sealing the nozzle (10) without canting and misalignment of the diaphragm (13). The integral nozzle (10) and pole piece (11) structure is relatively easy to machine and manufacture.

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**F15B 5/00**

IPC 8 full level

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CPC (source: EP)

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