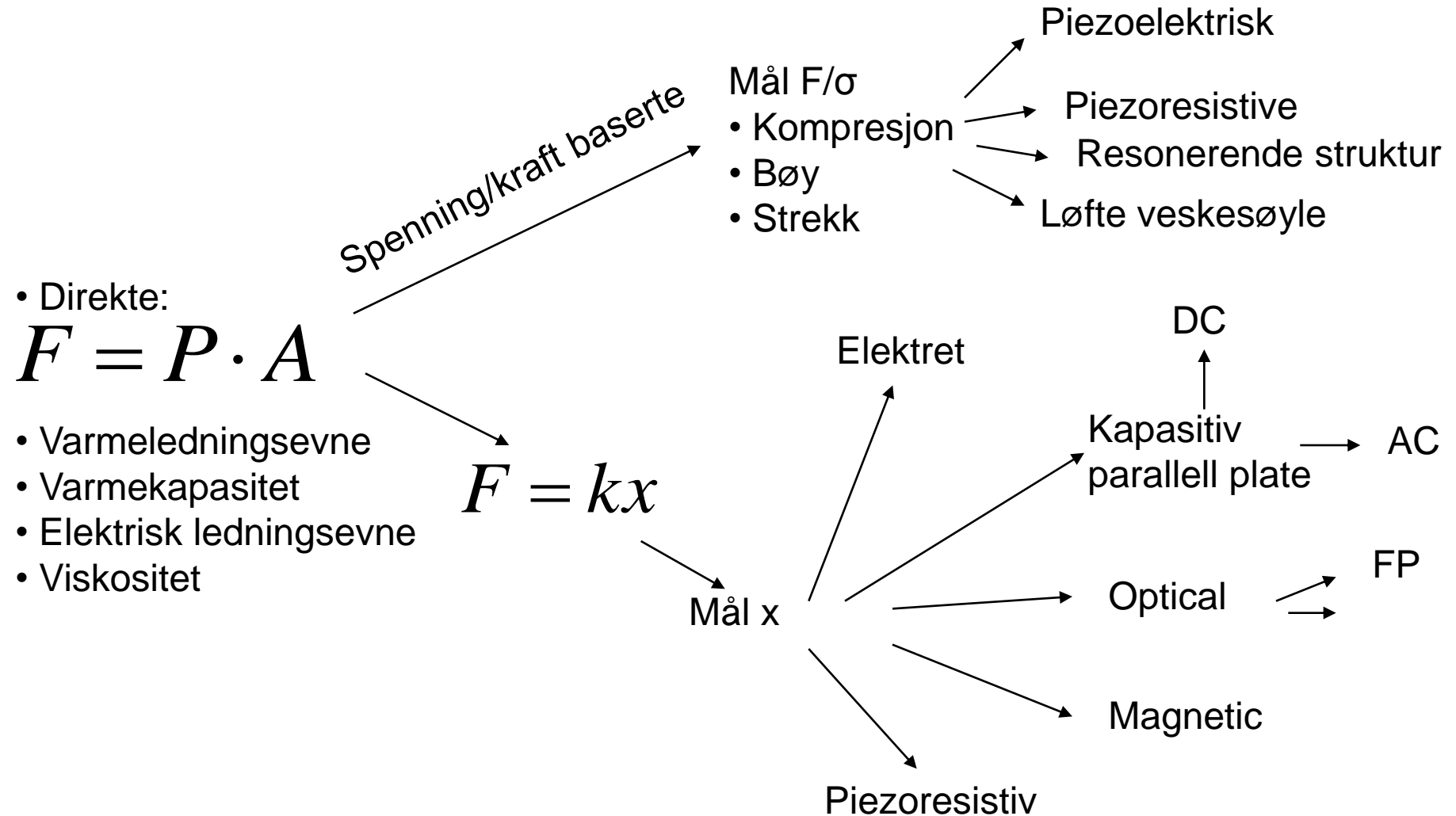
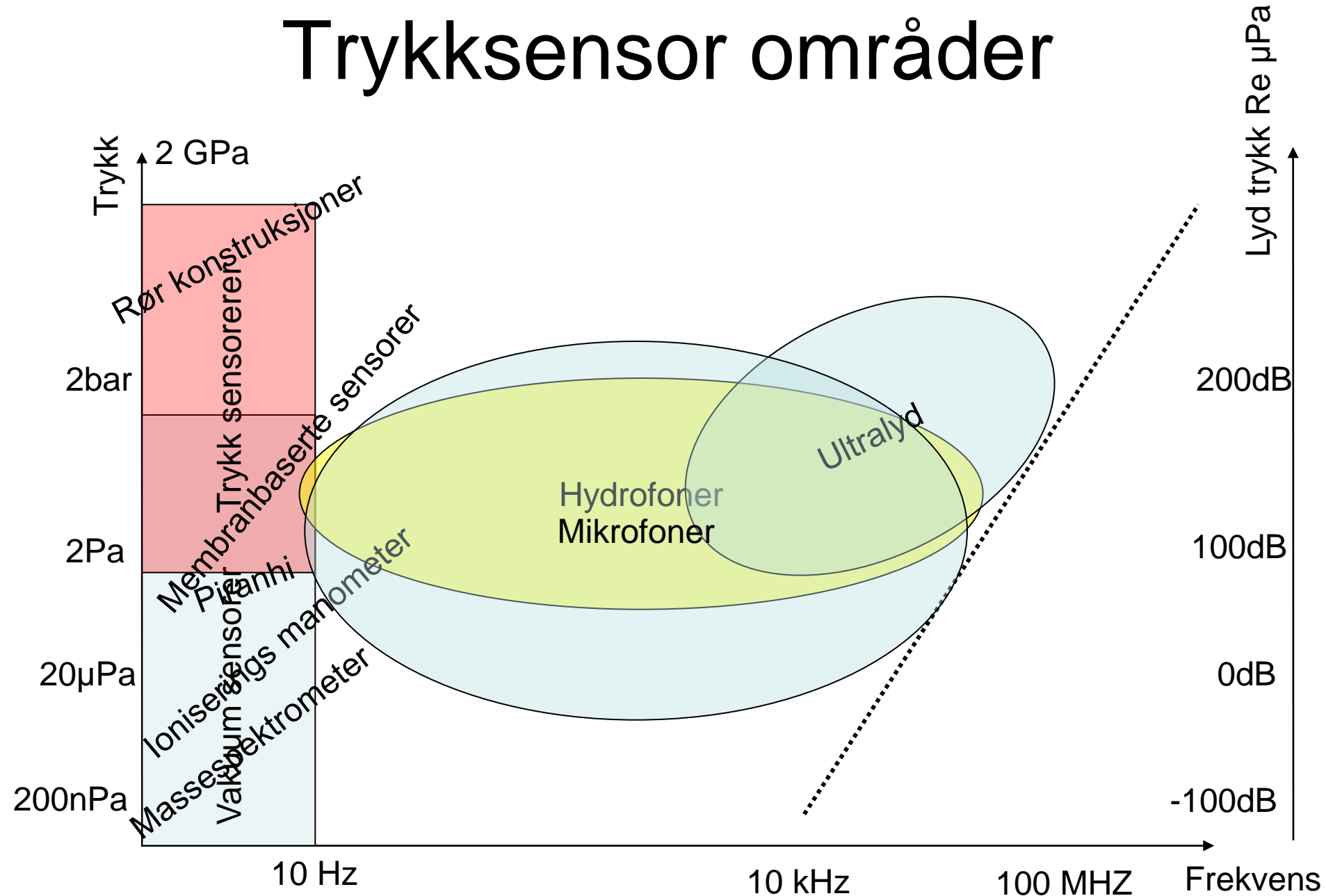


Trykksensor konsepter



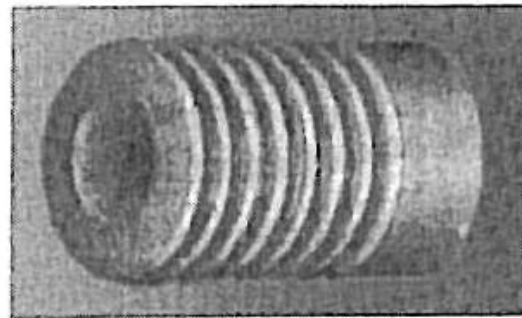
Trykksensor områder



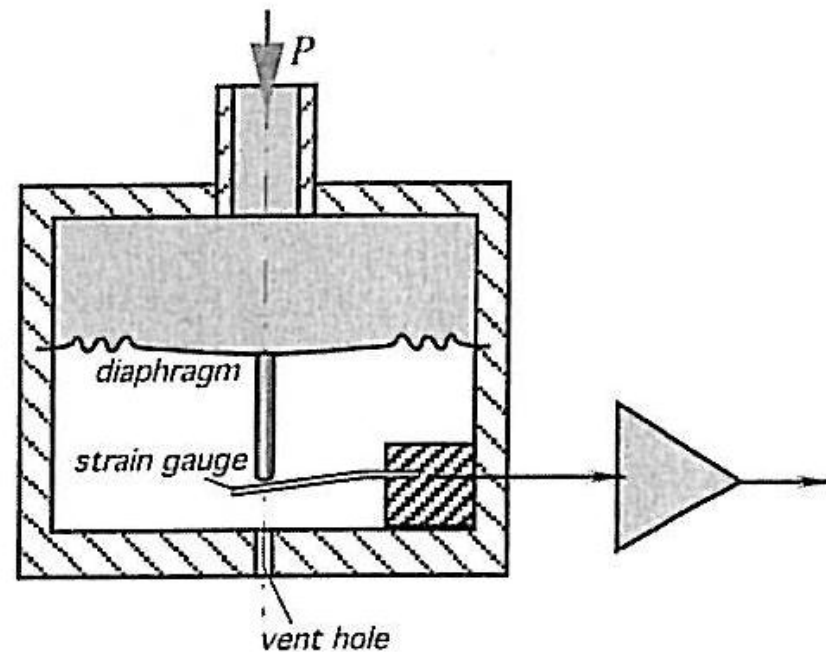
Trykk referanser

- Absolutt
- Differensiell (relativ)
- Gauge

Trykk -> Avstand



(A)



(B)

Fig. 10.2. (A) Steel bellows for a pressure transducer (fabricated by Servometer Corp., Cedar Grove, NJ); (B) metal corrugated diaphragm for conversion of pressure into linear deflection.

Fabry perot sensor

80 7 Position, Displacement, and Level

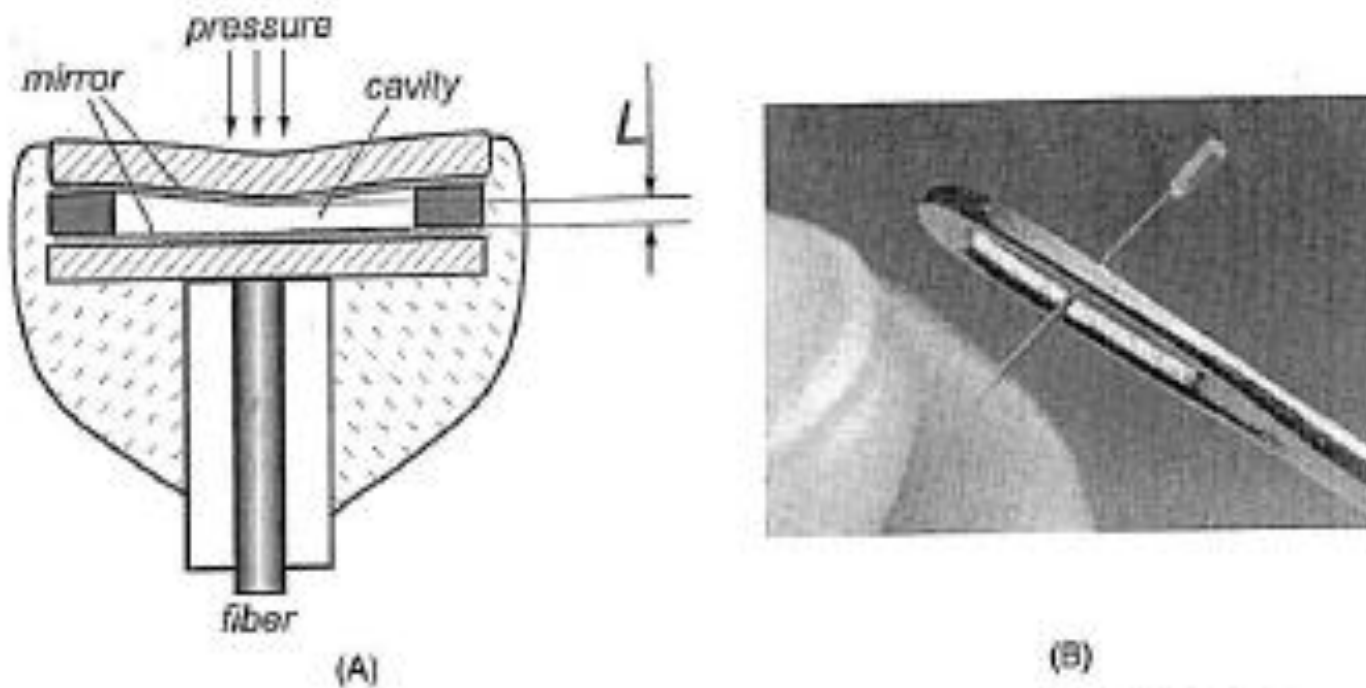


Fig. 7.31. Construction of a Fabry-Perot pressure sensor (A) and view of FISO FOP-M pressure sensor (B).

Kapasitive trykk sensorer

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$$C = \frac{\epsilon_0 \epsilon_r A}{d} \quad \text{10 Pressure Sensors}$$

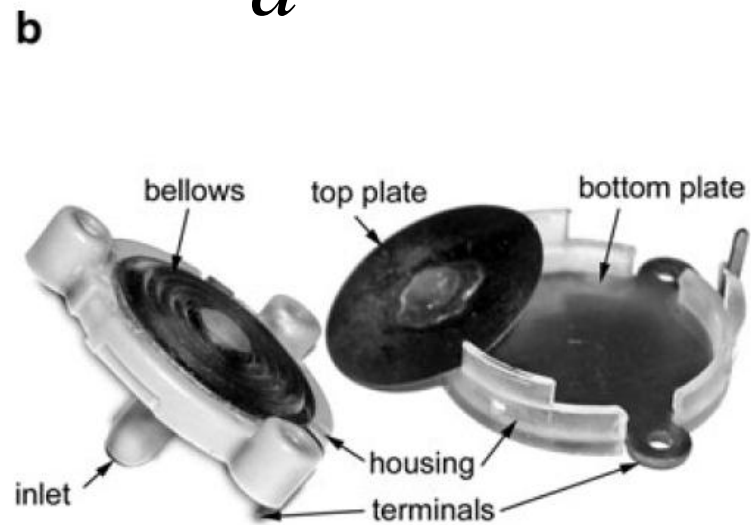
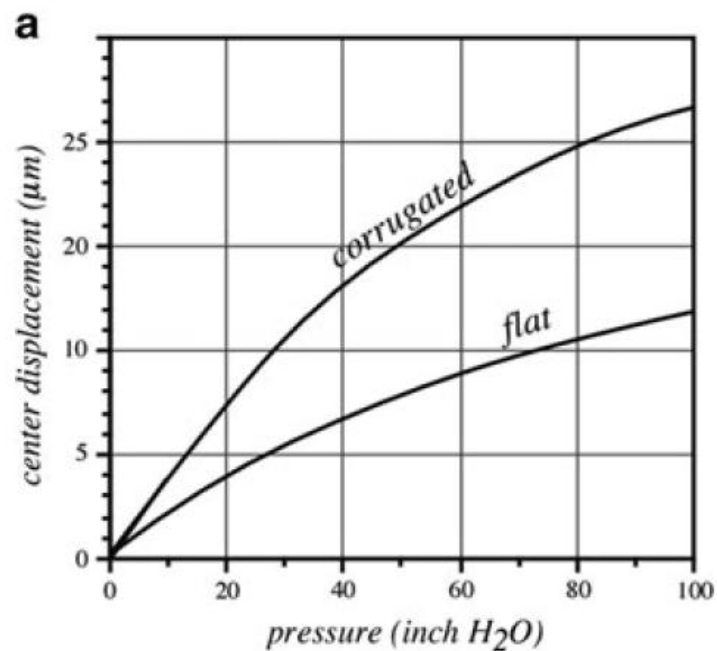


Fig. 10.11 Central deflection of flat and corrugated diaphragms of the same sizes under the in-plate tensile stresses (a); disassembled capacitive sensor with a bellows (b)

Piezoresistiv trykksensor

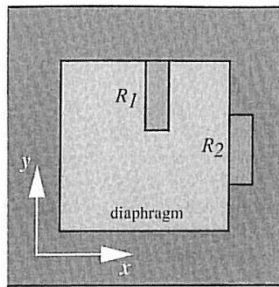
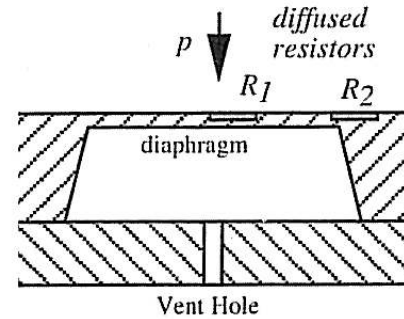
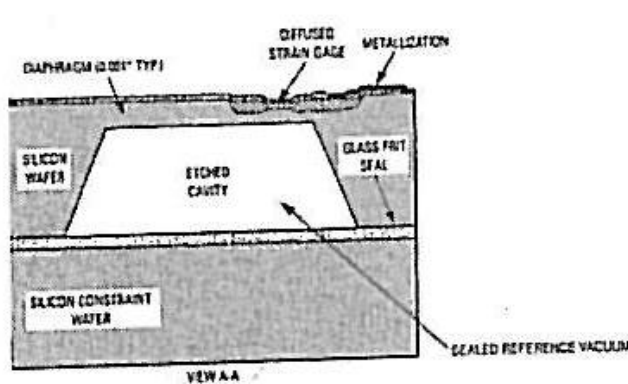


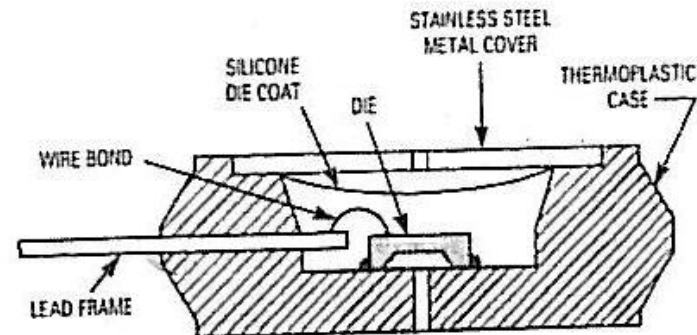
Fig. 10.4. Position of piezoresistors on a silicon diaphragm.



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(A)



(B)

Fig. 10.7. Absolute (A) and differential (B) pressure sensor packagings. (Copyright Motorola, Inc. Used with permission.)

Resonerende kraft sensorer

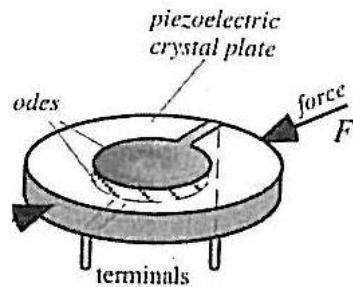


Fig. 9.12. A piezoelectric disk resonator as a diametric force sensor.

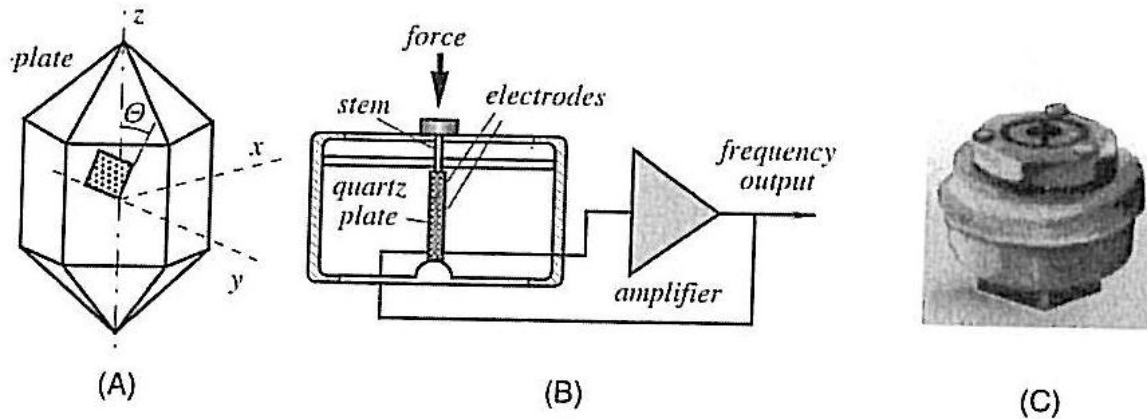
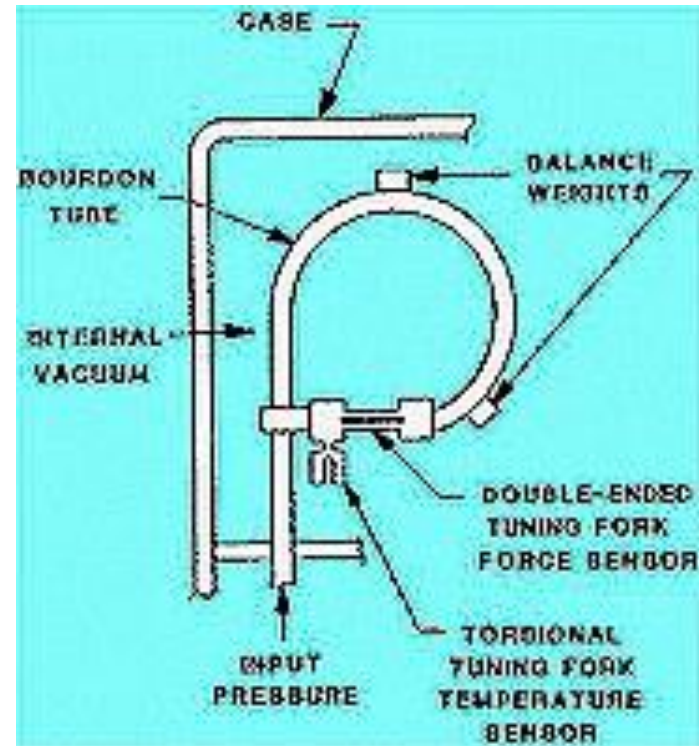
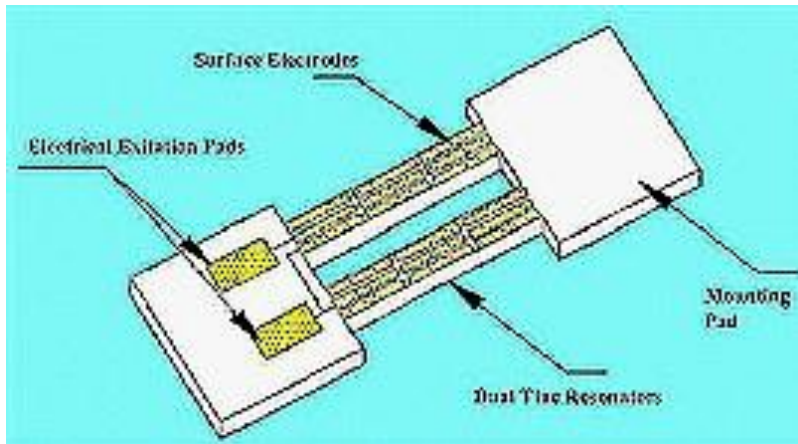


Fig. 9.13. Quartz force sensor: (A) AT-cut of a quartz crystal; (B) structure of the sensor; (C) outside appearance. (Courtesy of Quartzcell, Santa Barbara, CA.)

Quartz pressure sensor

$$f = \frac{1}{2\pi} \sqrt{\frac{k + \Delta k}{M}}$$



<http://www.paroscientific.com/qtechnology.htm>

U-rør

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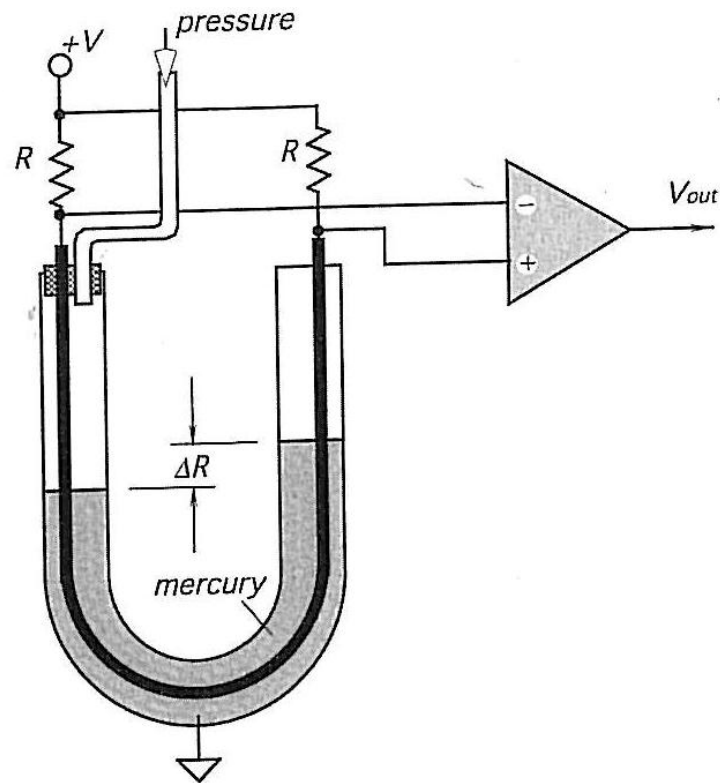


Fig. 10.1. Mercury-filled U-shaped sensor for measuring gas pressure.

Magnetisk "reluctance" sensor

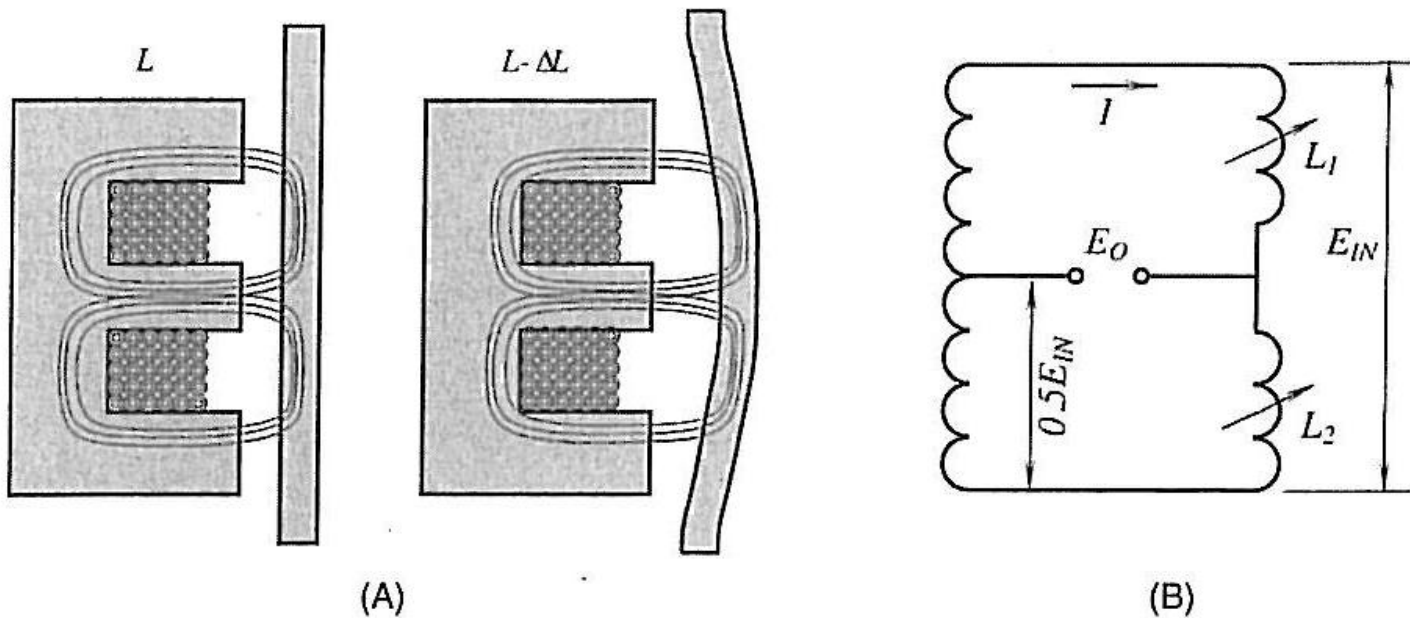


Fig. 10.11. Variable reluctance pressure sensor: (A) basic principle of operation; (B) an equivalent circuit.

Flow sensor 1

i2 11 Flow Sensors

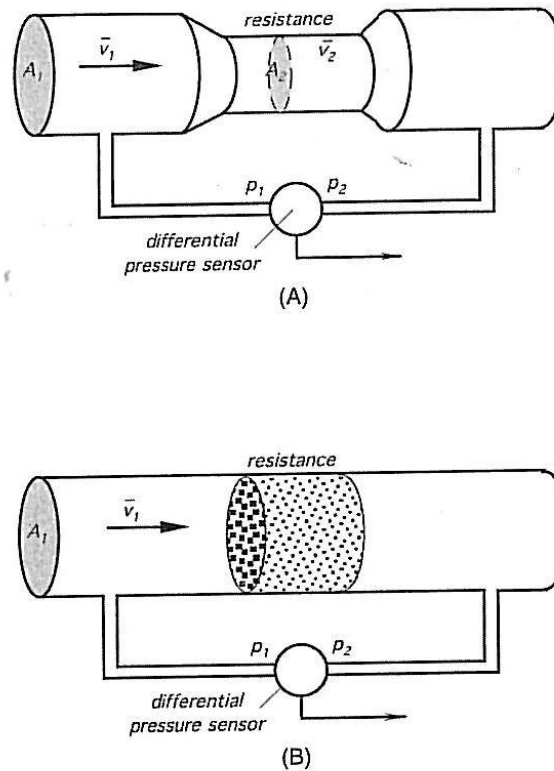


Fig. 11.3. Two types of flow resistor: a narrow channel (A) and a porous plug (B).

Lufthastighetsmåling

What is a pitot tube?

Investigators are looking into the possibility that faulty airspeed indicators caused the crash of Air France Flight 447

By Brendan Borrell | June 9, 2009 | 32

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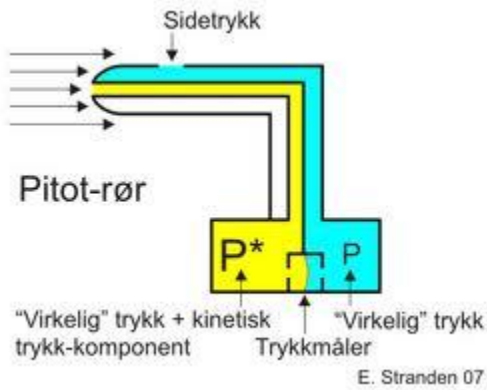
As Brazilian authorities [retrieved 16 more bodies](#) from the Air France Flight 447 crash this morning, investigators were focusing on airspeed indicators called pitot tubes as the cause of the disaster.

On May 31, the Airbus A330 jet was flying from Rio de Janeiro to Paris when [it vanished during a thunderstorm](#) with 228 people on board. Initial speculation centered around the possibility of a [lightning strike](#), but last week Airbus released a memo stating that "[there was inconsistency between the different measured airspeeds](#)" coming from different pitot tubes. The pitot tube is a classic fluid dynamic sensor named for its inventor, Henri



PITOT TUBE: Investigators are looking into the possibility that ice build-up on the airspeed sensors of Air France Flight 447 led to the May 31 crash

Image: NEEPSTER/FLICKR



Legeforeningen

Scientific American

Flow sensor 2

64 11 Flow Sensors

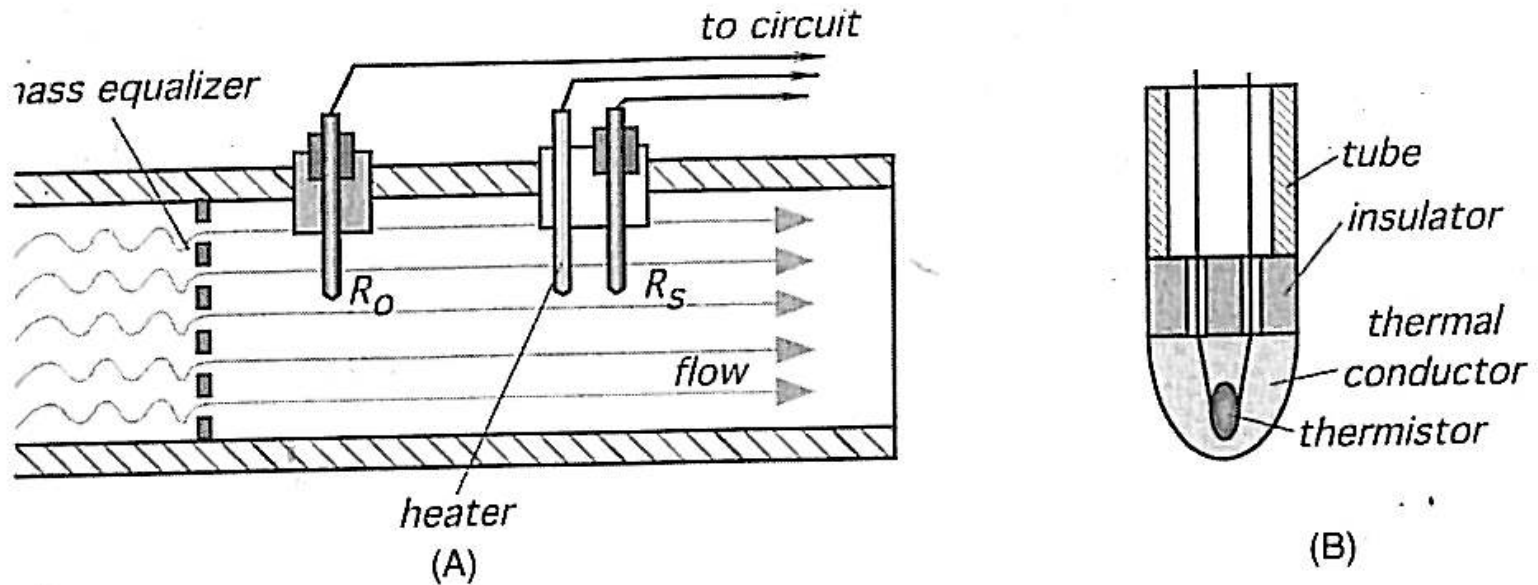


Fig. 11.4. Thermoanemometer. (A) a basic two-sensor design; (B) cross-sectional view of a temperature detector.