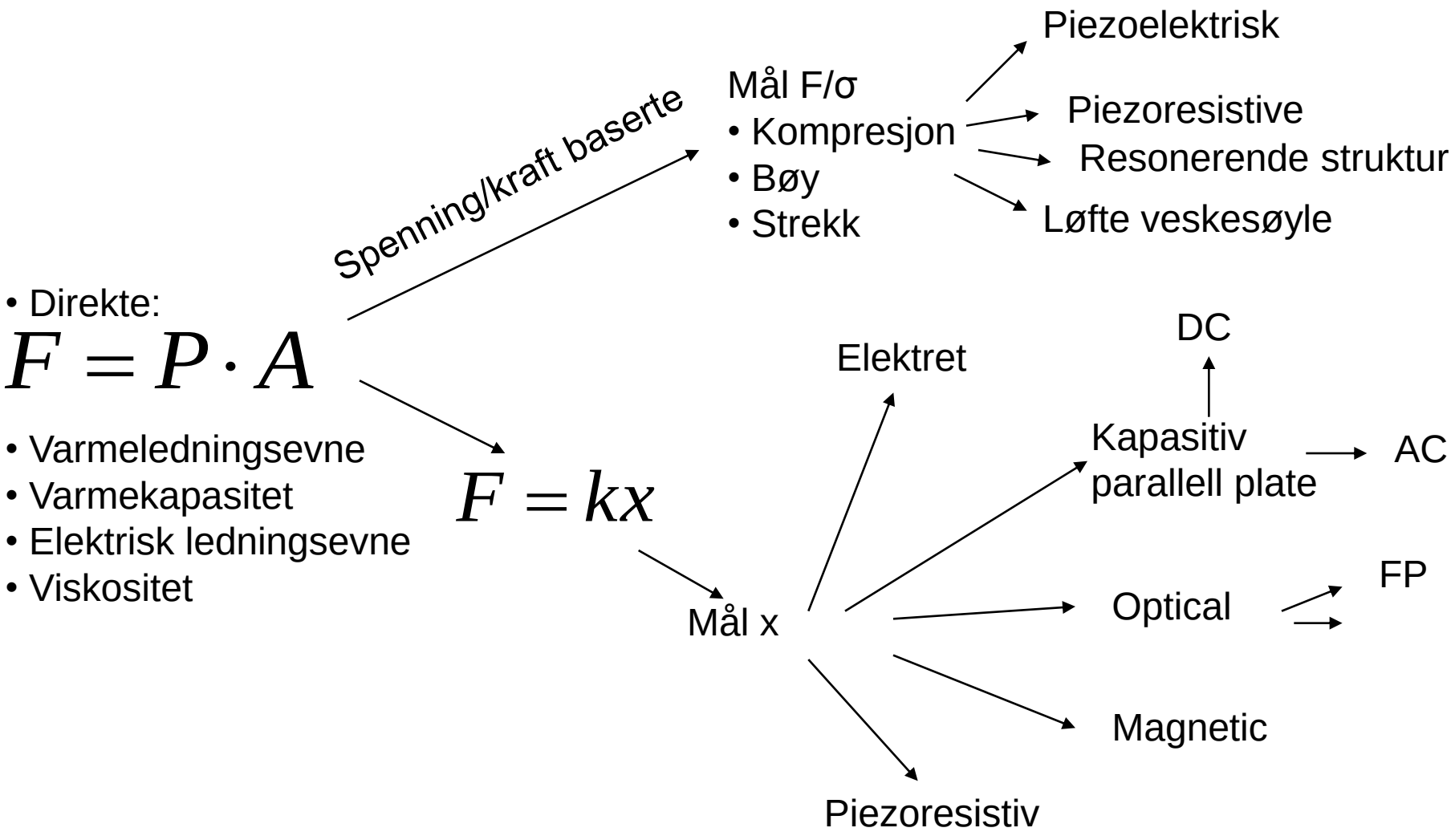
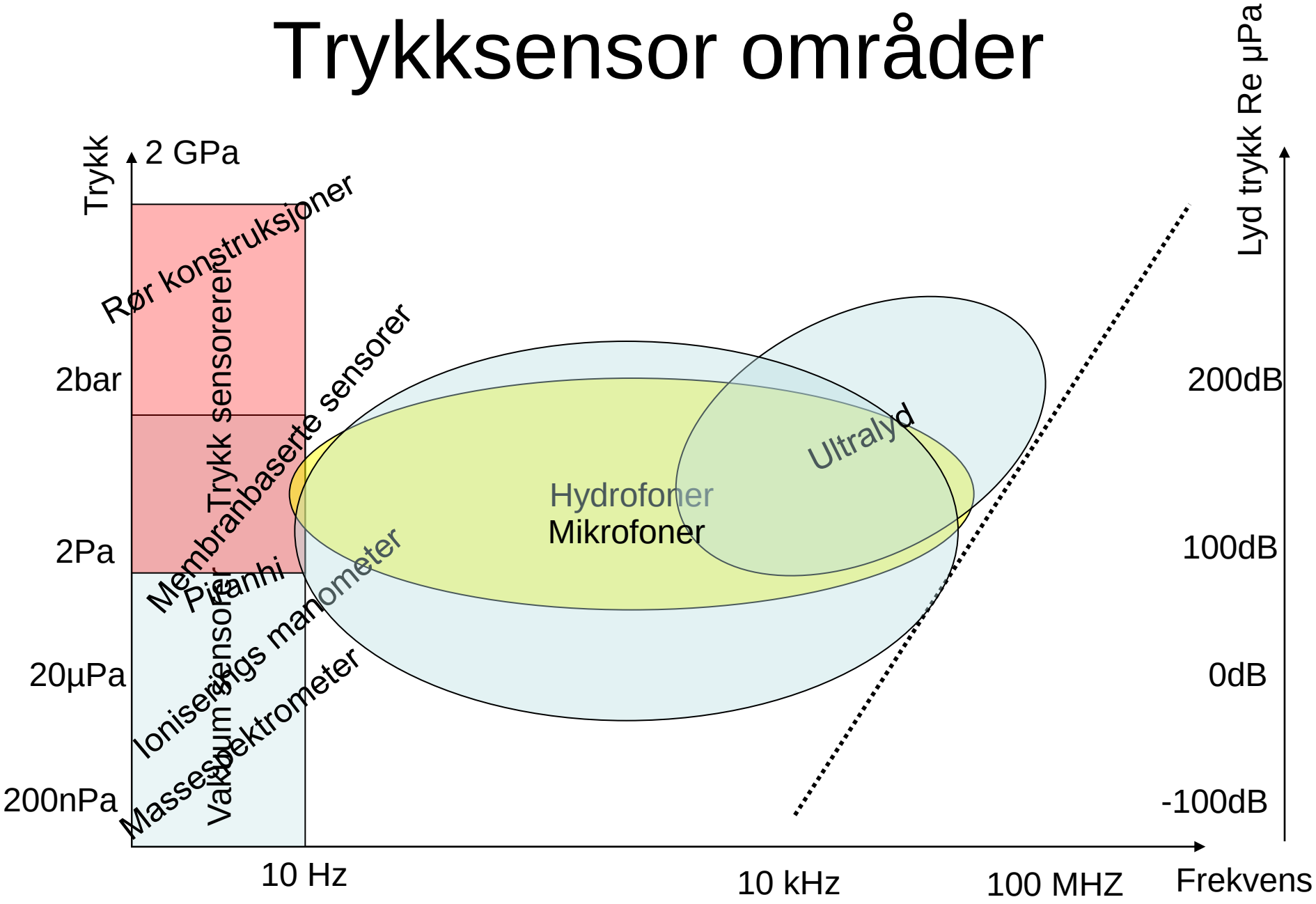
Trykksensor konsepter



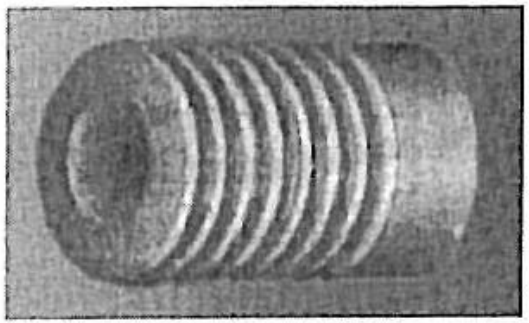
Trykksensor områder

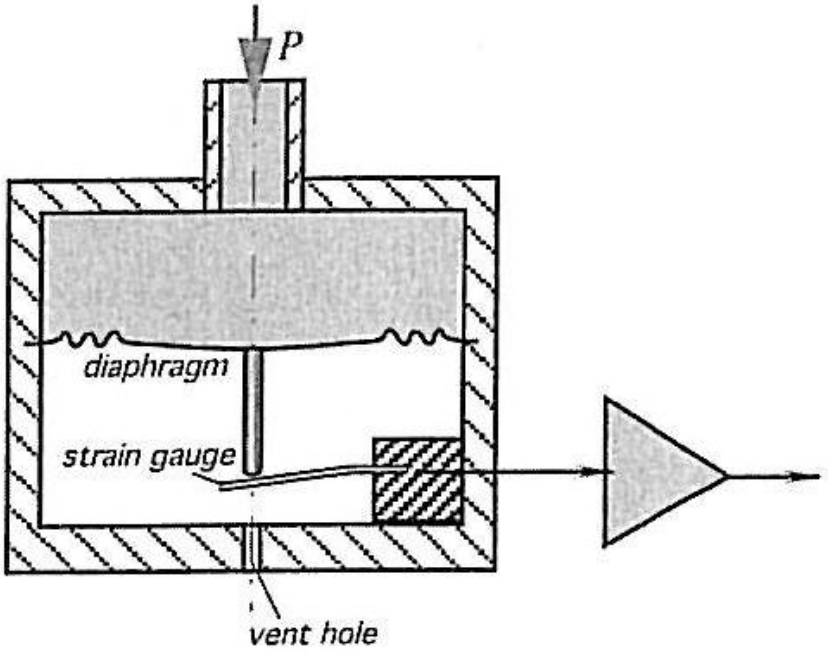


Trykk referanser

- 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

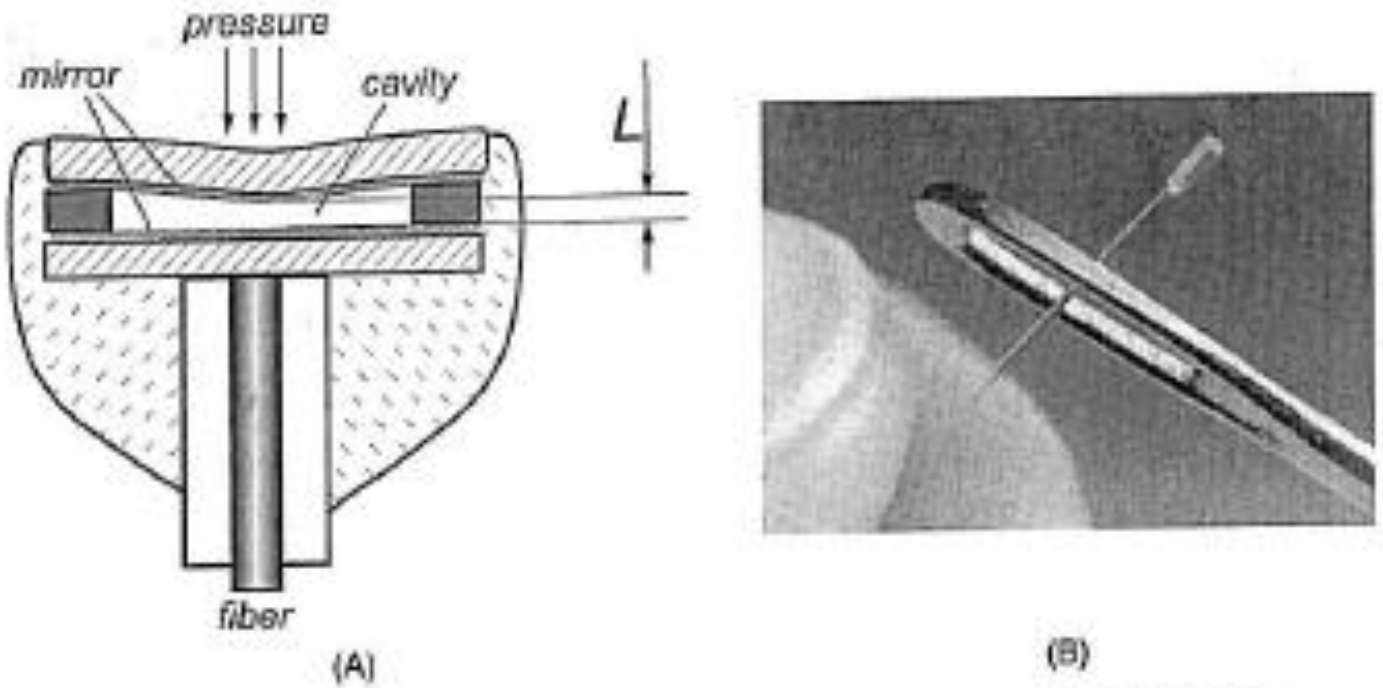


Fig. 7.31. Construction of a Fabry–Perot pressure sensor (A) and view of FISO FOP-M pressure sensor (B).

Kapasitive trykk sensorer

$$C = \frac{\varepsilon_0 \varepsilon_r A}{d}$$

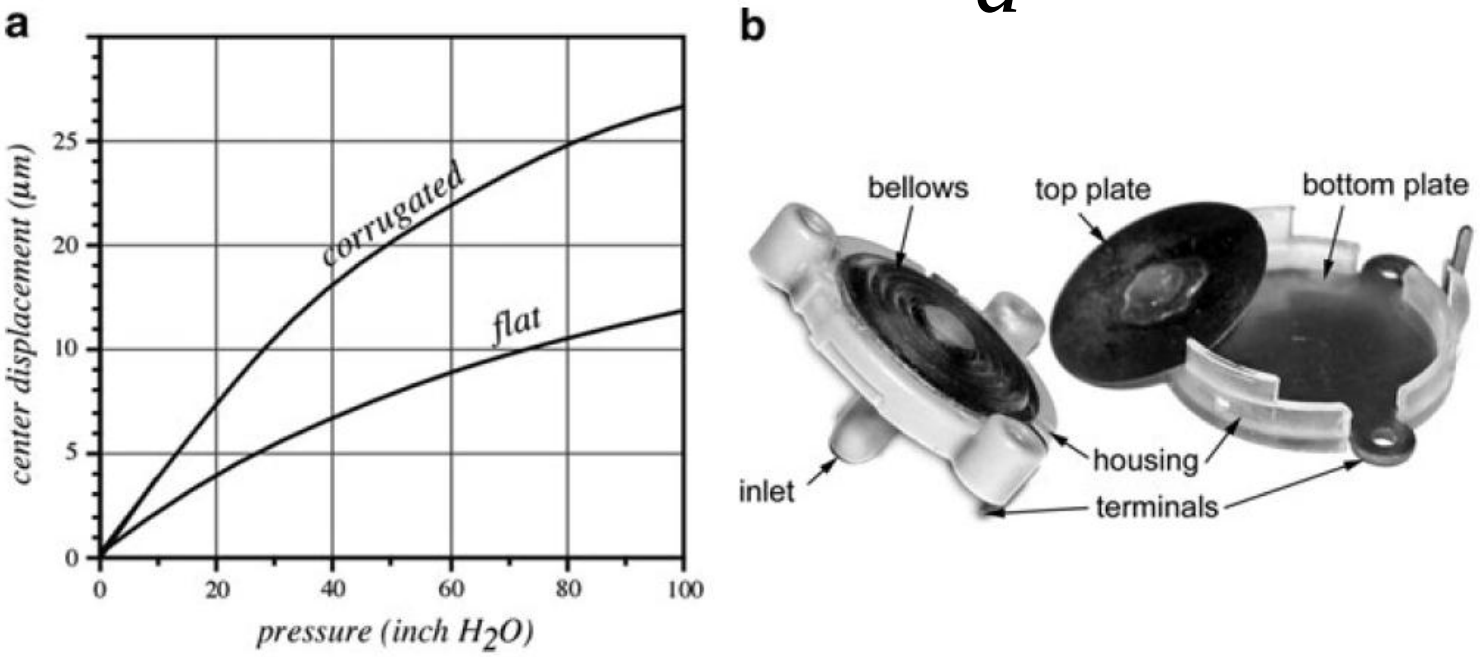


Fig. 10.11 Central deflection of flat and corrugated diaphragms of the same sizes under the in-plate tensile stresses (**a**); disassembled capacitive sensor with a bellows (**b**)

Piezoresistiv trykksensor

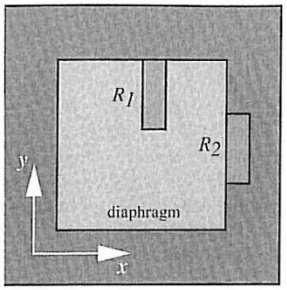
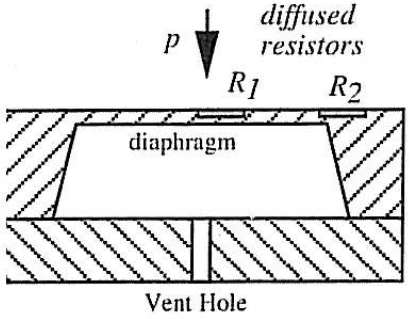


Fig. 10.4. Position of piezoresistors on a silicon diaphragm.



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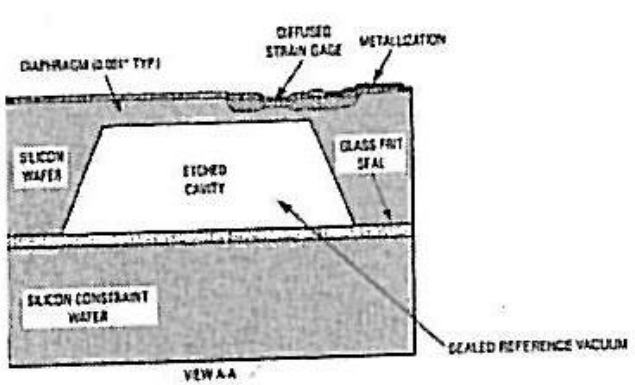
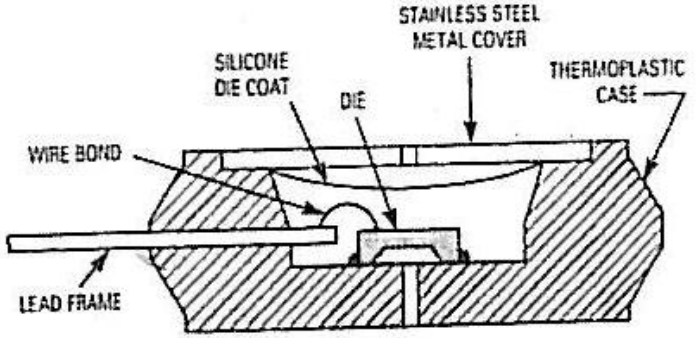


(A)



(B)

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

Resonerende kraft sensorer

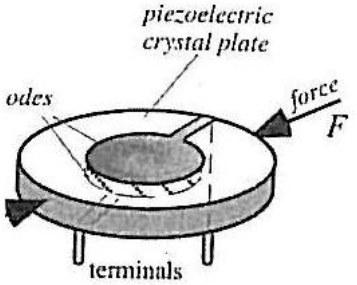
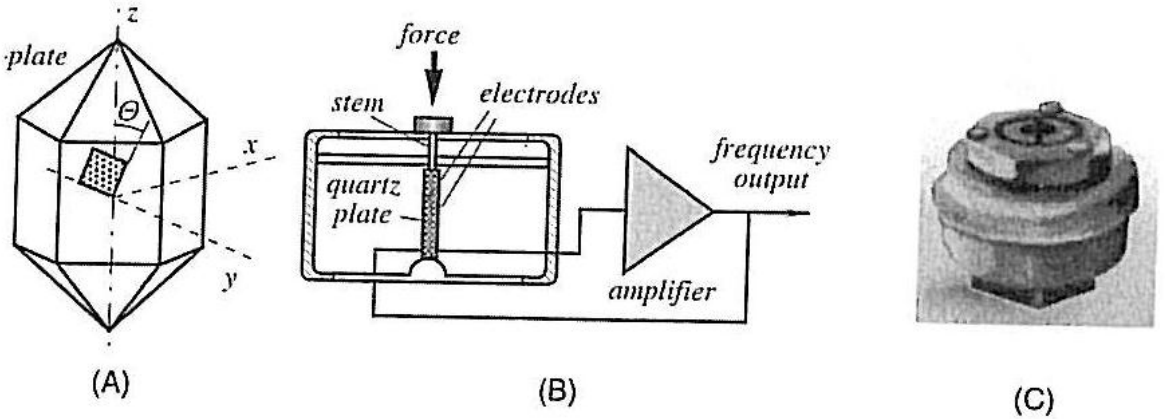


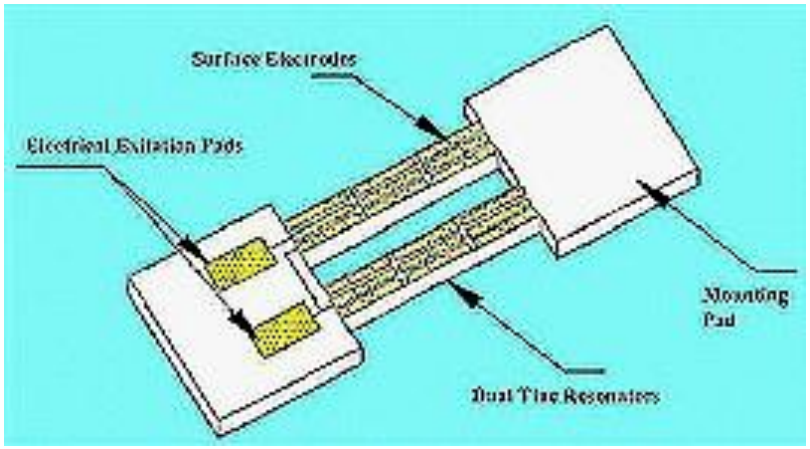
Fig. 9.12. A piezoelectric disk resonator as a diametric force sensor.

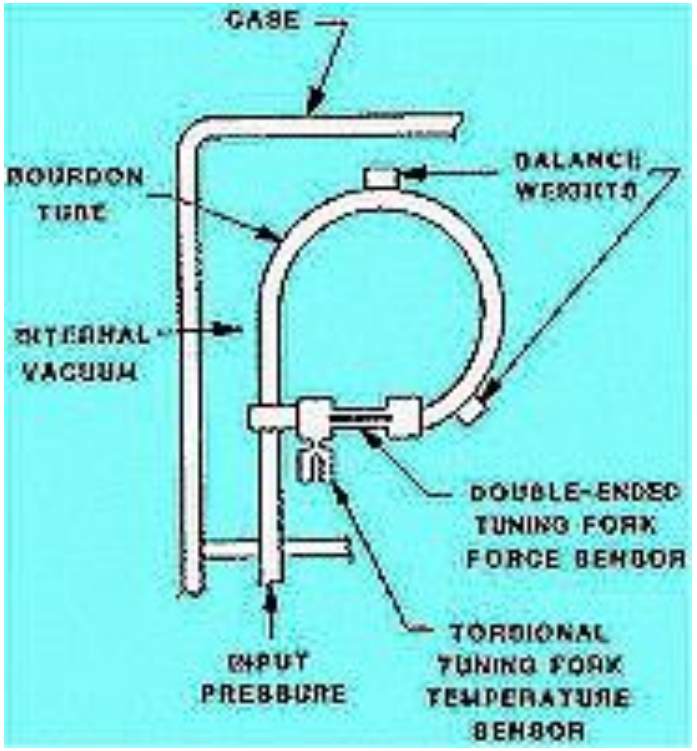


.13. Quartz force sensor: (A) AT-cut of a quartz crystal; (B) structure of the sensor; (C) itside appearance. (Courtesy of Quartzcell, Santa Barbara, CA.)

Quartz pressure sensor

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





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

U-rør

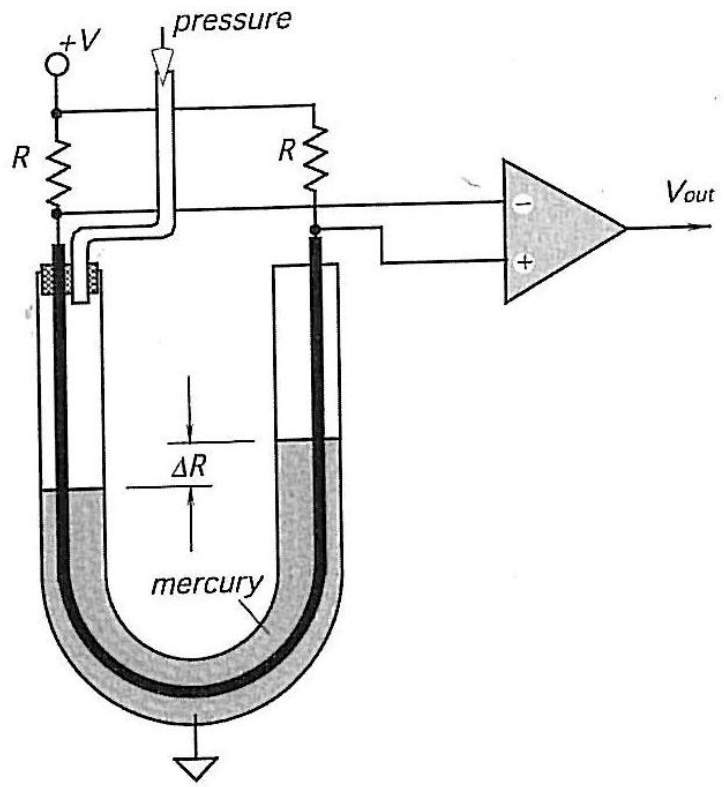


Fig. 10.1. Mercury-filled U-shaped sensor for measuring gas pressure.

Magnetisk ”reluctance” sensor

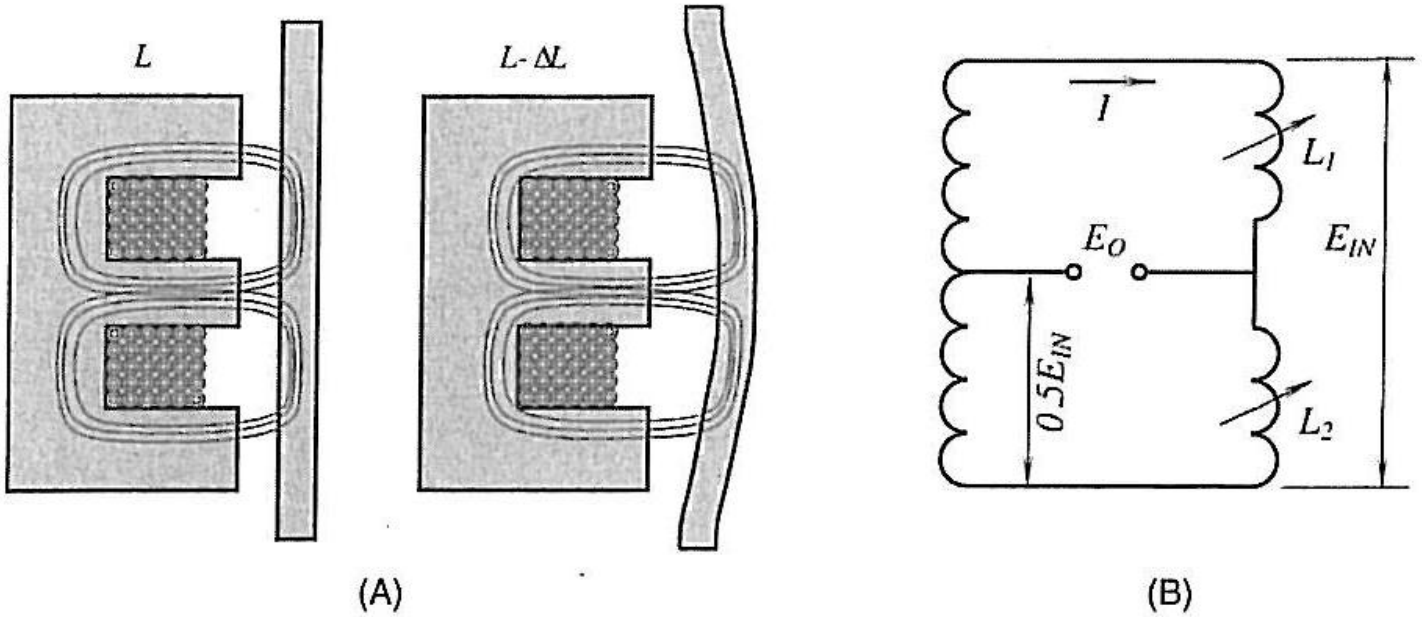


Fig. 10.11. Variable reluctance pressure sensor: (A) basic principle of operation; (B) an equivalent circuit.

Flow sensor 1

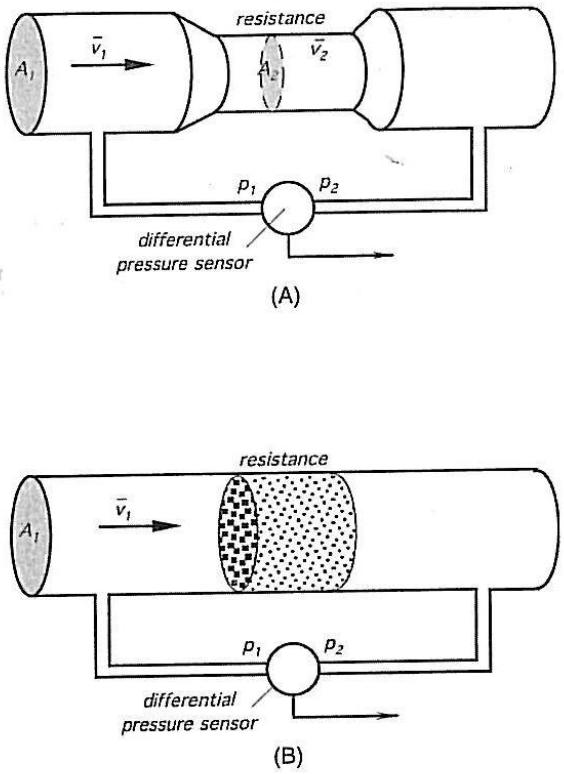
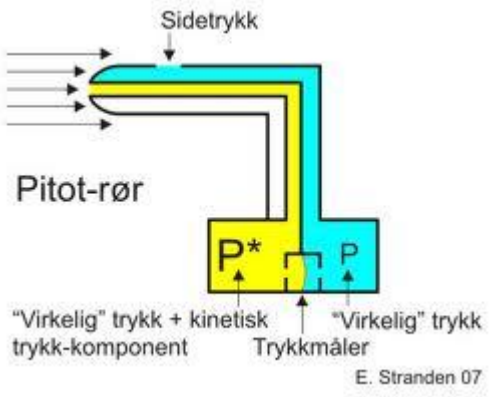


Fig. 11.3. Two types of flow resistor: a narrow channel (A) and a porous plug (B).

Lufthastighetsmåling



Legeforeningen

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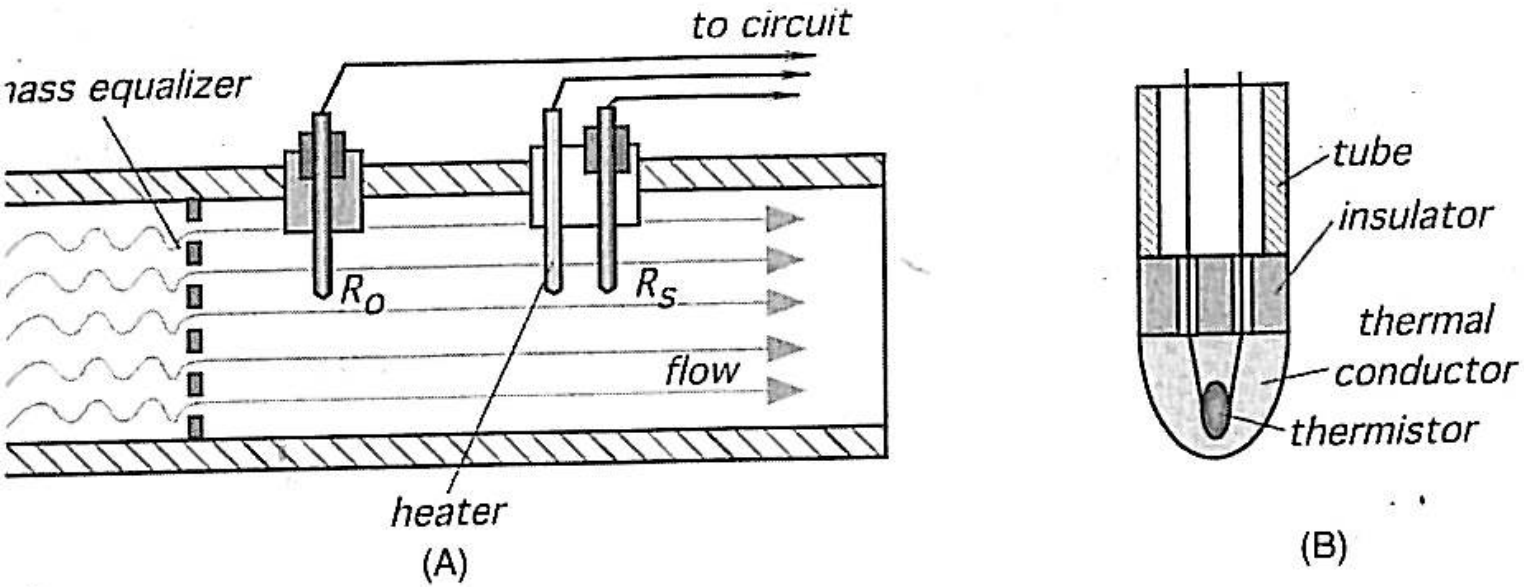
As Brazilian authorities retrieved 16 more bodies from the Air France Flight 447 crash this morning, investigators were focusing on airspeed indicators called pitot tubes as the cause of the disaster.

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

Scientific American

Flow sensor 2



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