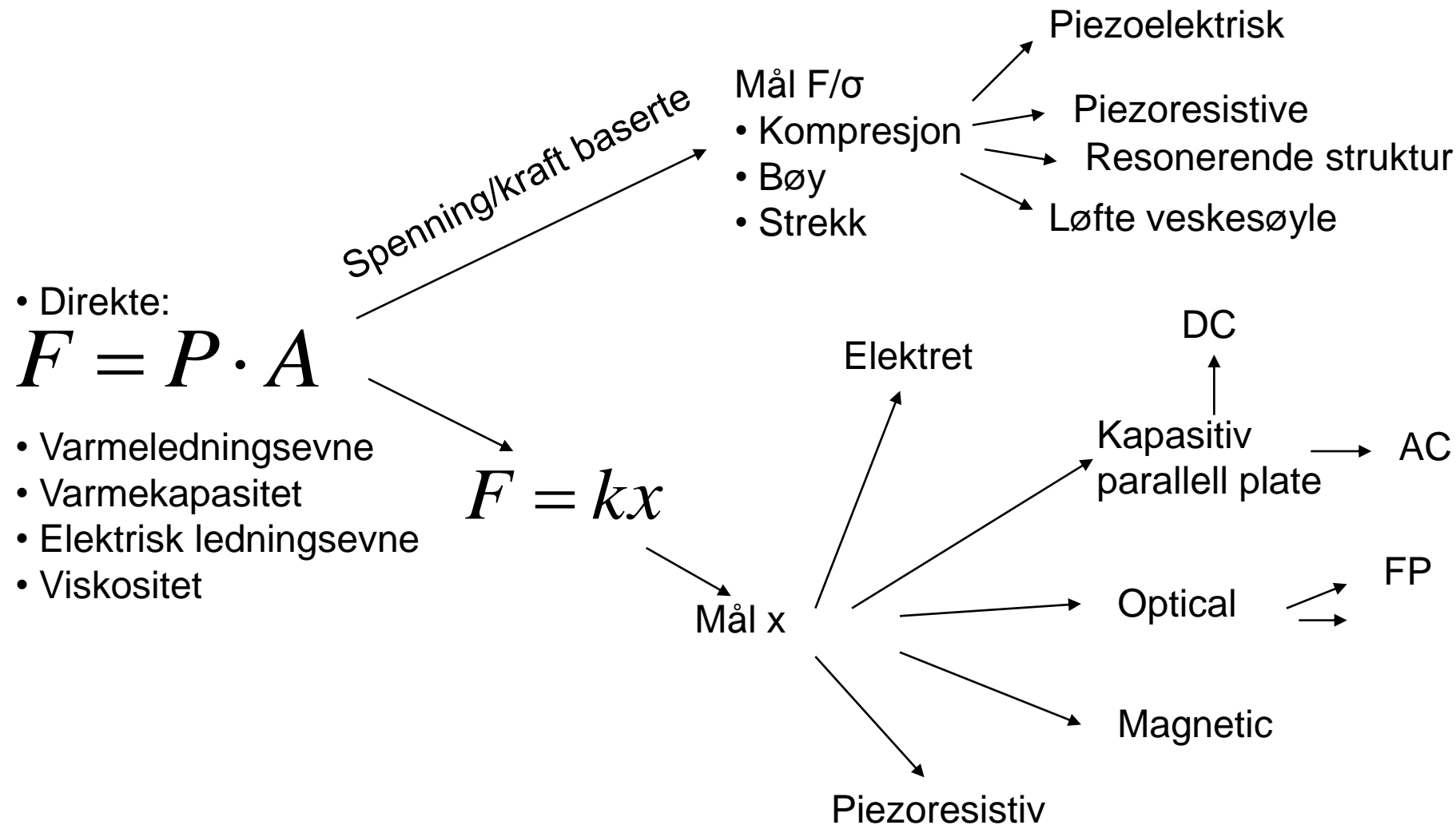
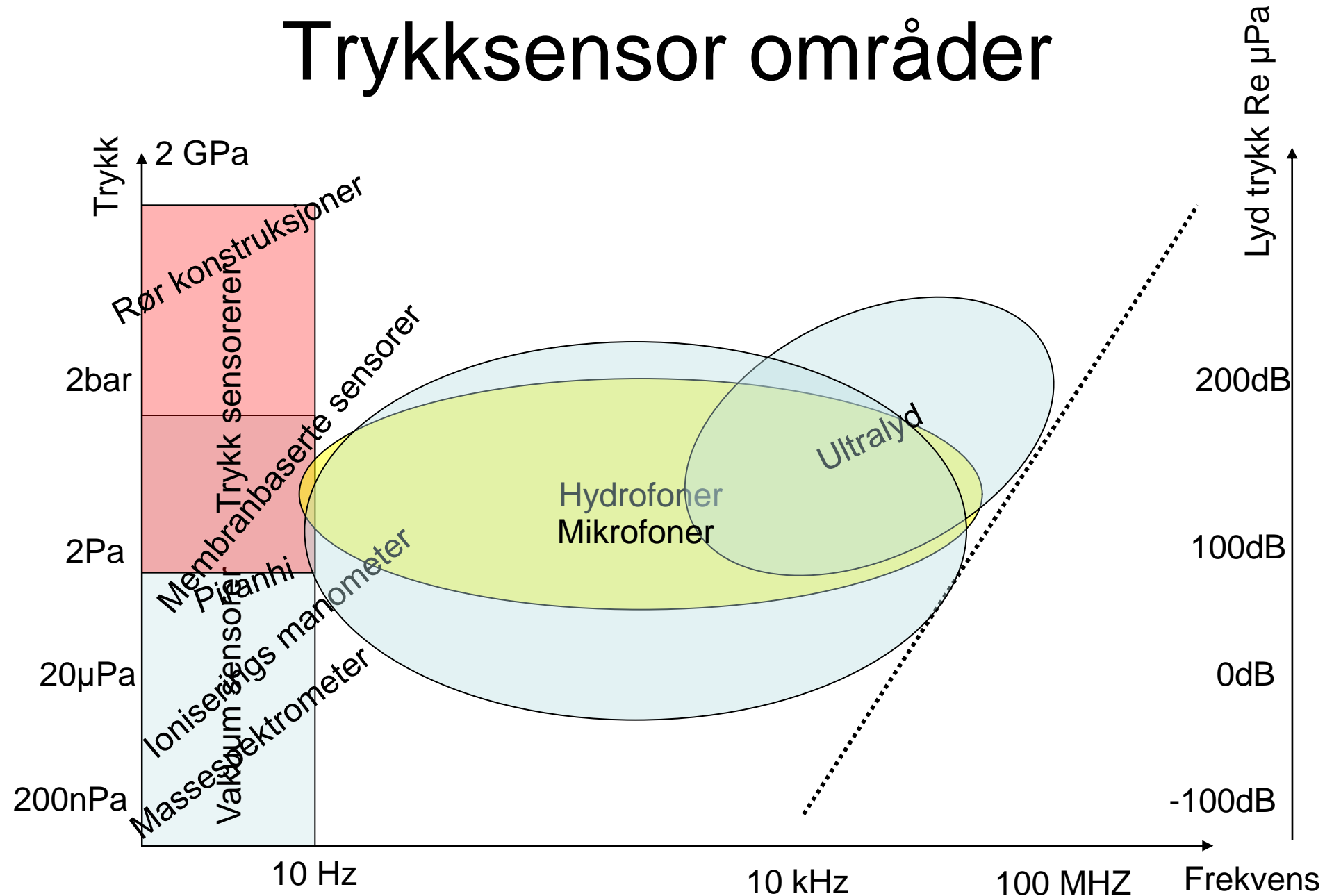


Trykksensor konsepter



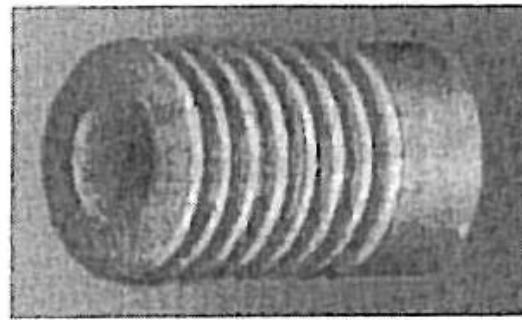
Trykksensor områder



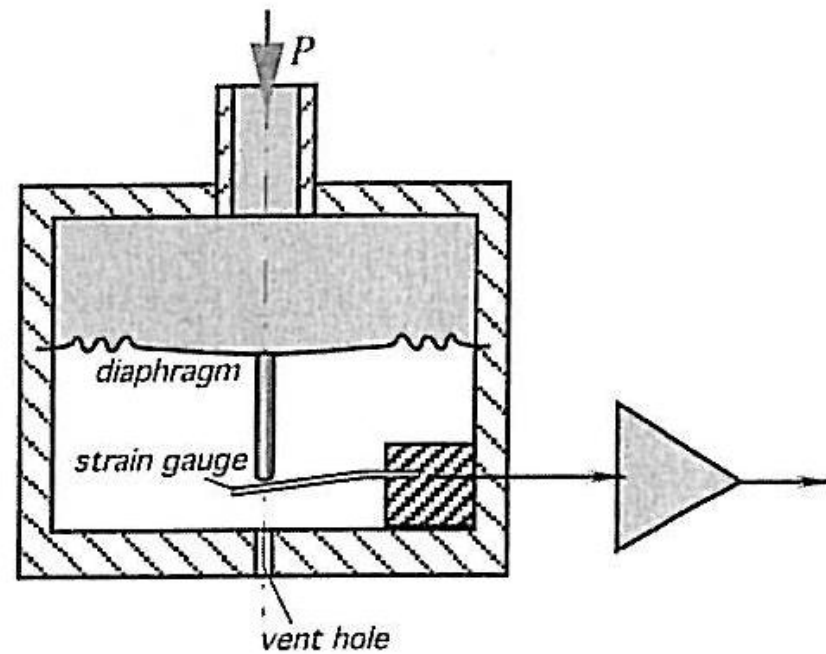
Trykk referanser

- 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

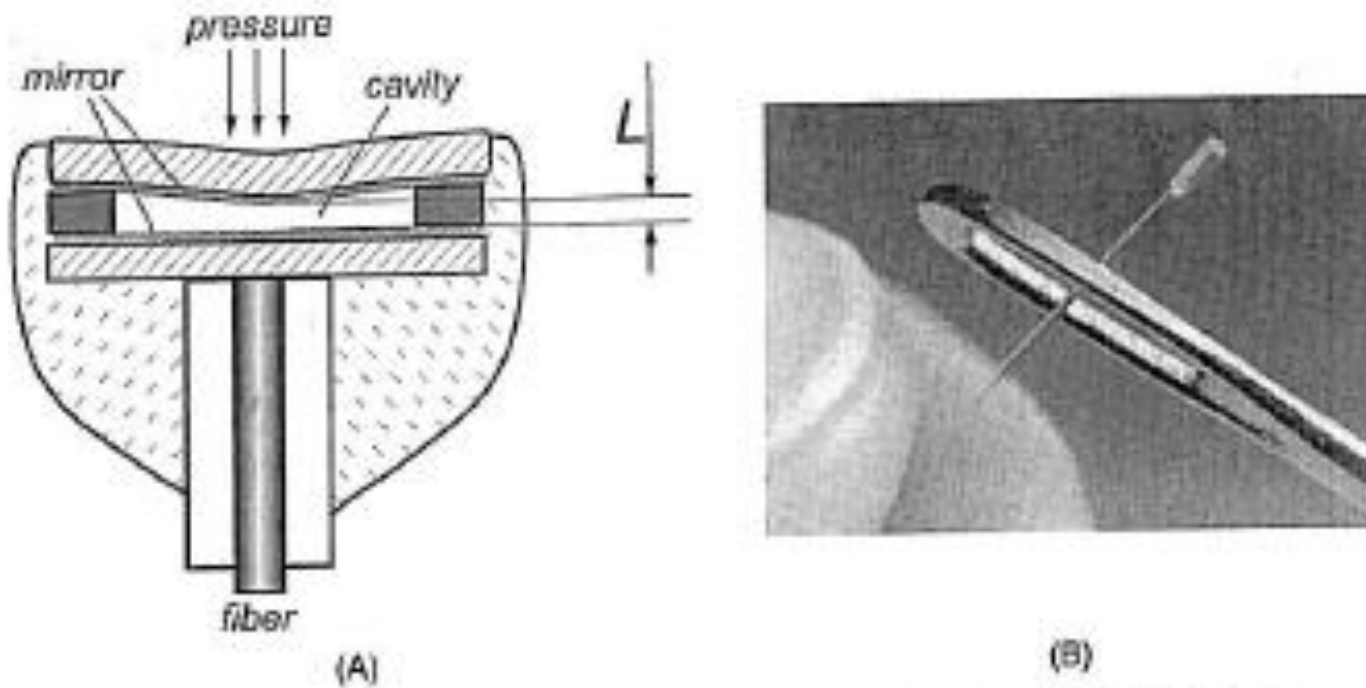


Fig. 7.31. Construction of a Fabry-Perot pressure sensor (A) and view of FISO FOP-M pressure sensor (B).

Kapasitive trykk sensorer

388

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

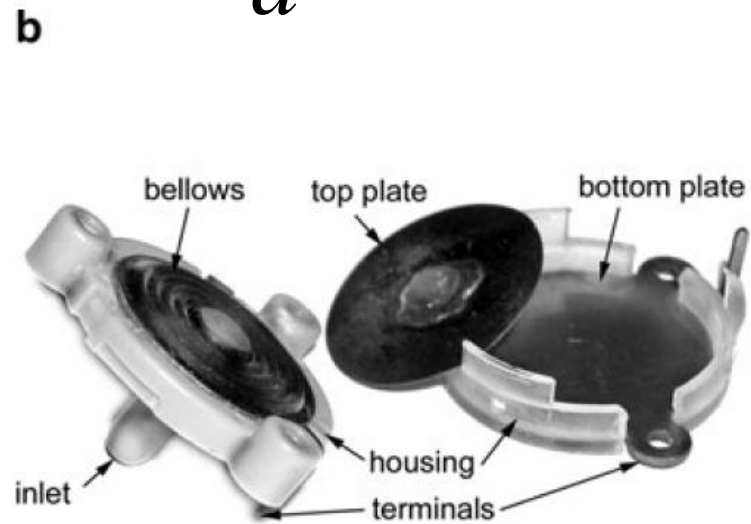
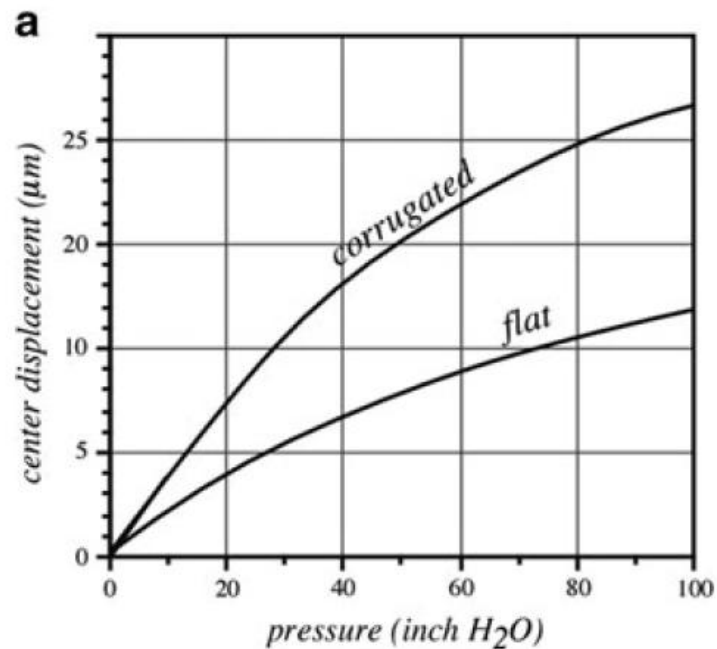


Fig. 10.11 Central deflection of flat and corrugated diaphragms of the same sizes under the in-plate tensile stresses (a); disassembled capacitive sensor with a bellows (b)

Piezoresistiv trykksensor

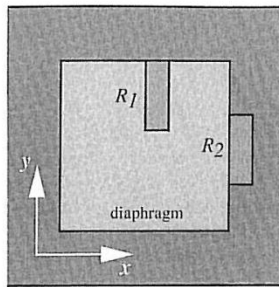
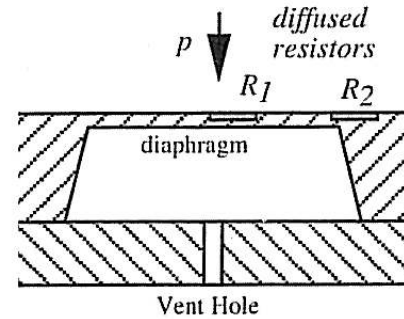


Fig. 10.4. Position of piezoresistors on a silicon diaphragm.



348 10 Pressure Sensors

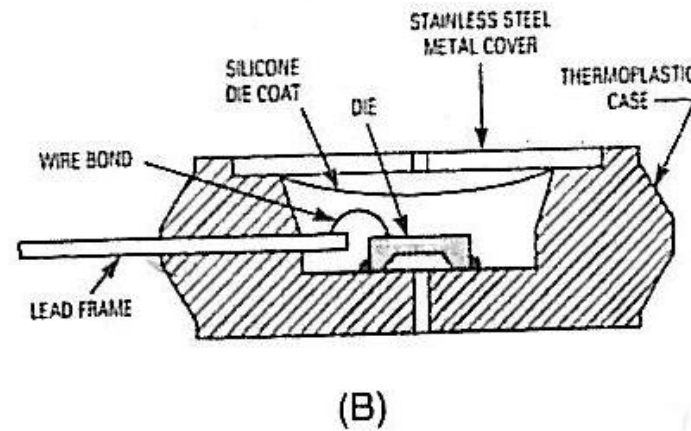
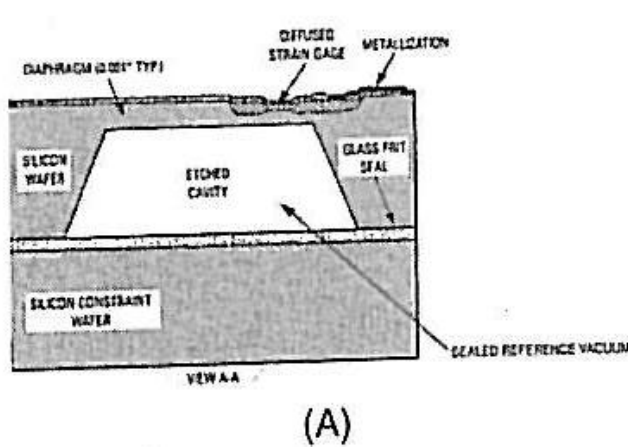


Fig. 10.7. Absolute (A) and differential (B) pressure sensor packagings. (Copyright Motorola, Inc. Used with permission.)

Resonerende kraft sensorer

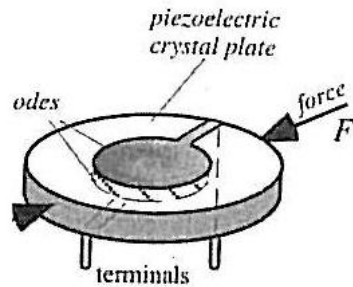


Fig. 9.12. A piezoelectric disk resonator as a diametric force sensor.

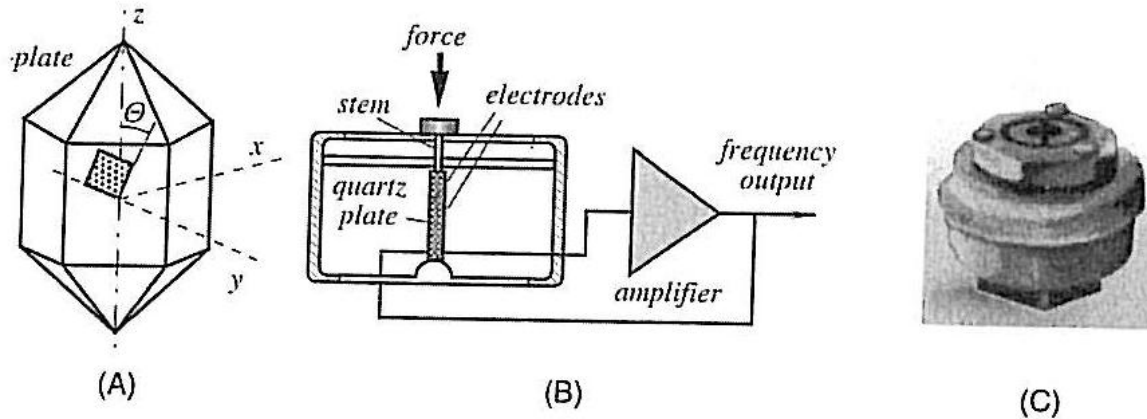
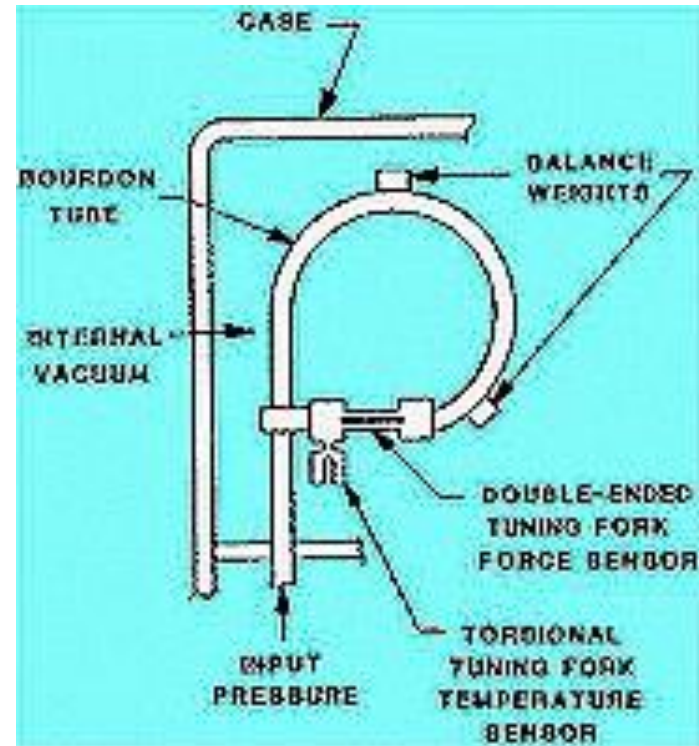
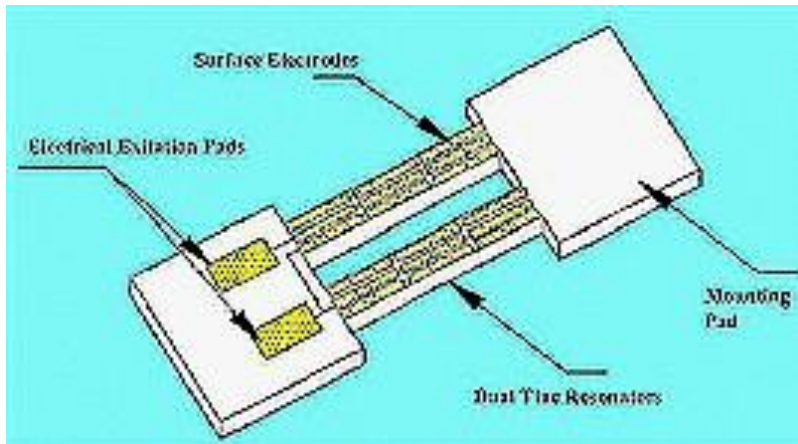


Fig. 9.13. Quartz force sensor: (A) AT-cut of a quartz crystal; (B) structure of the sensor; (C) outside appearance. (Courtesy of Quartzcell, Santa Barbara, CA.)

Quartz pressure sensor

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



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

U-rør

142 10 Pressure Sensors

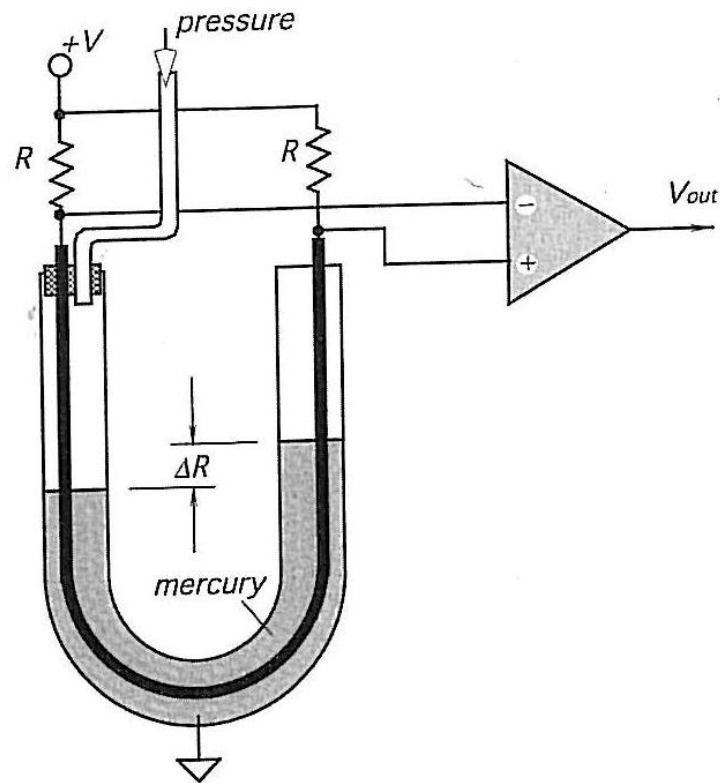


Fig. 10.1. Mercury-filled U-shaped sensor for measuring gas pressure.

Magnetisk "reluctance" sensor

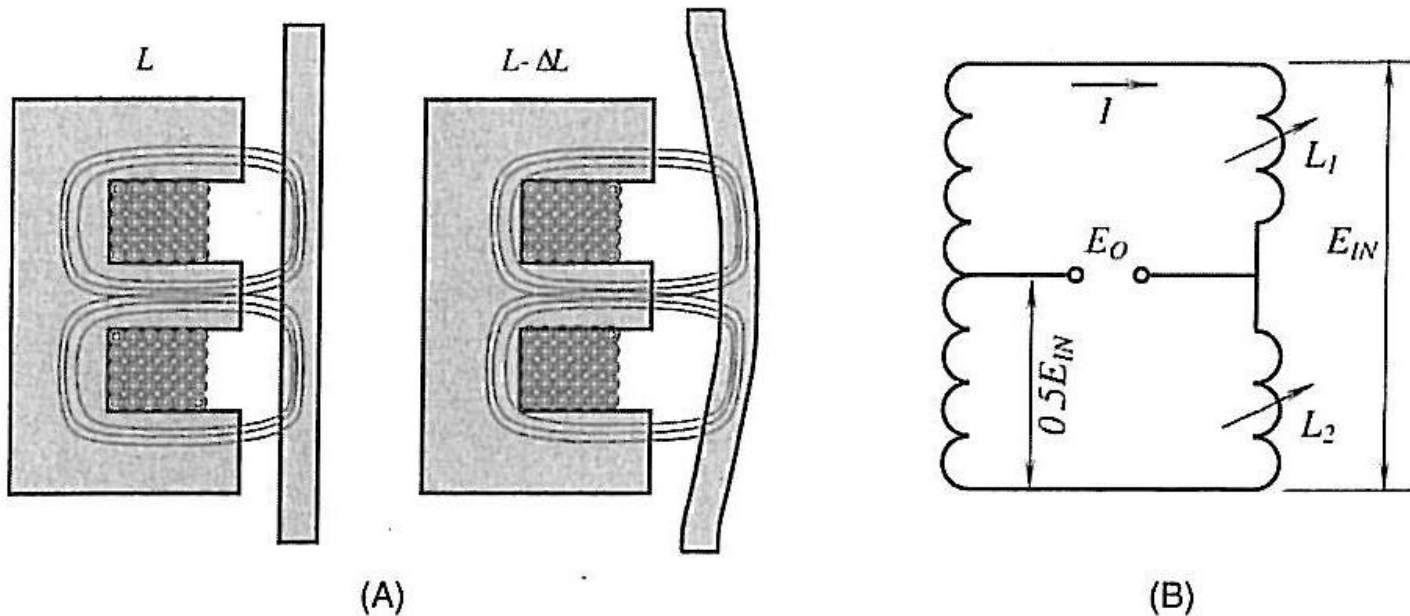


Fig. 10.11. Variable reluctance pressure sensor: (A) basic principle of operation; (B) an equivalent circuit.

Flow sensor 1

i2 11 Flow Sensors

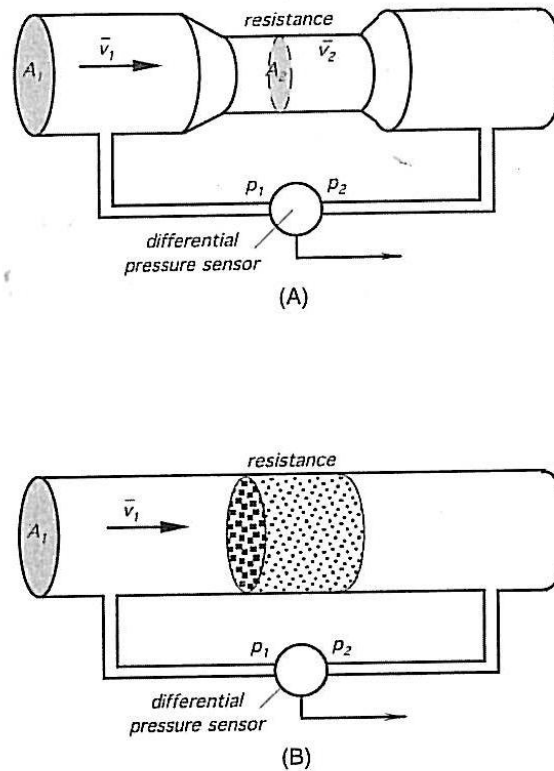


Fig. 11.3. Two types of flow resistor: a narrow channel (A) and a porous plug (B).

Flow sensor 2

64 11 Flow Sensors

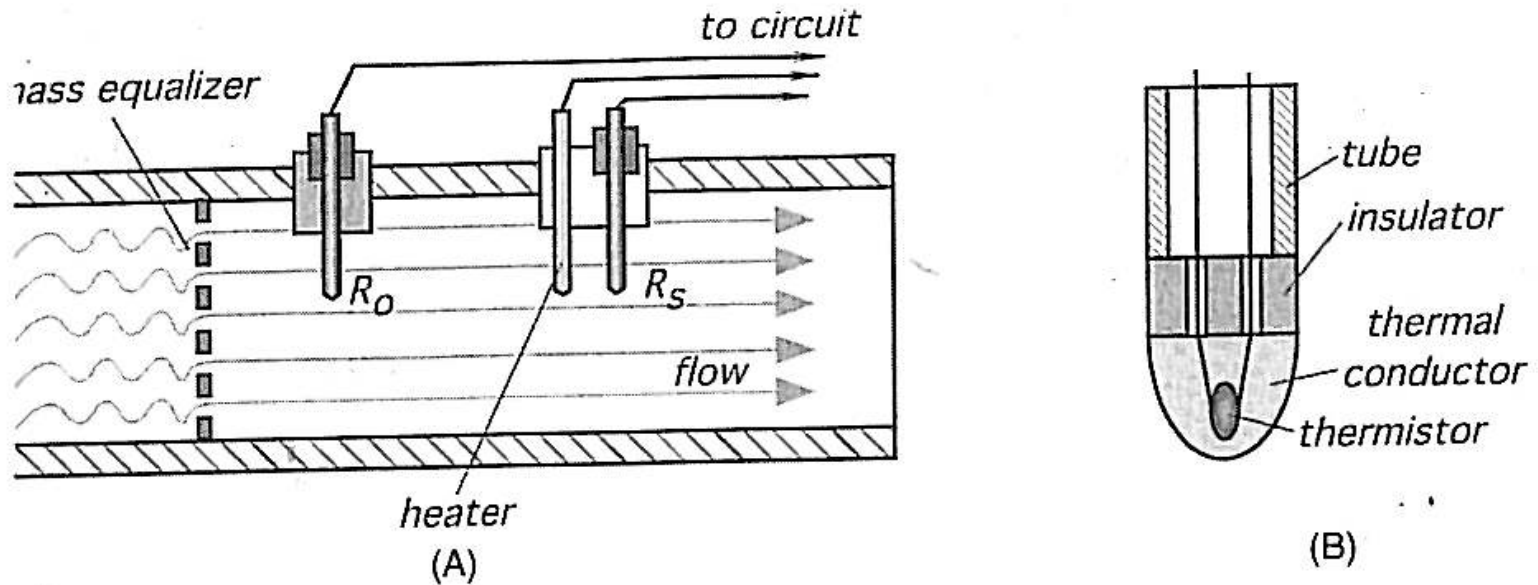


Fig. 11.4. Thermoanemometer. (A) a basic two-sensor design; (B) cross-sectional view of a temperature detector.