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THIN FILM PRESSURE SENSOR

The principle of operation of the proposed pressure sensor is based on the properties of the sensor strain gauge: when the pressure in the working volume in relation to the external atmospheric pressure, the deformation of the sensor element, causing mechanical stresses, which lead to a change in electrical resistance.

Pressure sensing element has been created on the basis of two-or multilayer film systems Cu / Cr and Fe / Cr, which are characterized by stable performance at pressures of 10-1 Pa and at a temperature in the range 300 - 1000 K.

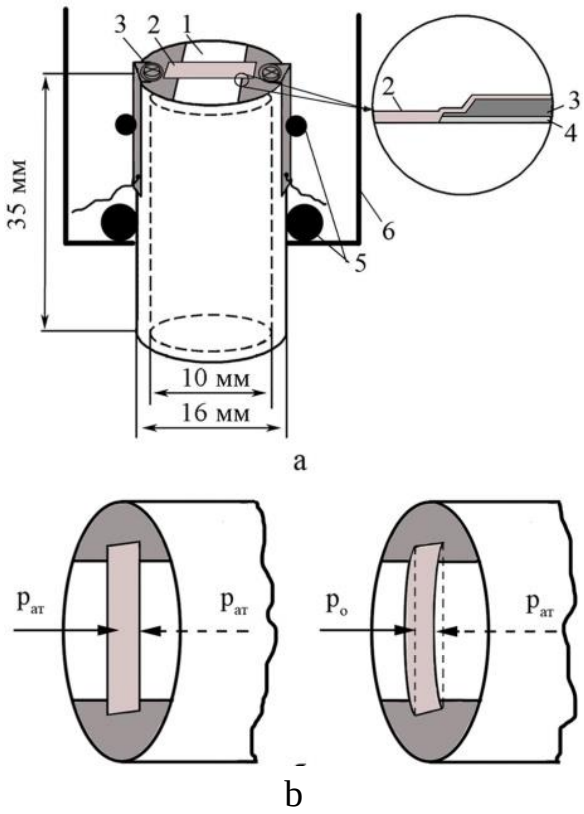

Fig. The schematic structure of the pressure sensor (s) and how it works (b): 1 - PTFE membrane; 2 - sensing element; 3 - copper contact pads; 4 - Film Cr; 5 - rubber seals; 6 - the wall of the vacuum chamber. po - the pressure of the residual atmosphere, p_{at} - atmospheric pressure

This sensor can be used to measure the pre-evacuation vacuum facilities of various types.