

Methods of calibration of new device for human blood pressure measurement

The paper presents two methods of determining calibration curve of new pneumatic sensor for blood pressure measurement. Mentioned pneumatic sensor was invented at Wrocław University of Science and Technology. First method is based on parallel measurement of systolic and diastolic pressure measurement with use of reference device such as sphygmomanometer and researched new device with pneumatic sensor equipped with voltage type output. Obtained data (systolic p_s and diastolic p_d pressure, maximum u_s and minimum u_d voltage) was then used to determine individual pressure-voltage characteristic of the device, which can be represented as a linear equation.

Second method is based on substitution of experimentally proved coefficient b with its analytical equivalent extracted from mathematical model of described pneumatic sensor.

Described methods were verified experimentally and compared, the metrological parameters of new device were designated.

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