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STEP 26.490

AUTHOR: (5) Mayzel', M.B.

TITLE: (6) A six-diaphragm pressure transducer

PERIODICAL: (15) Priborostroyeniye, no. 12, 1962, 24

TEXT: The transducer has six diaphragms, distorted by the pressure difference. Bridge-type strain gauges are bonded to each diaphragm, with their outputs connected in such a manner that the unbalance signals add together and operate directly either a digital recorder or an oscillograph. The expression for the sensitivity of the transducer is given. The pressure transducers of this type are calibrated within the linear part of their characteristic. Practice shows that their sensitivity, if diaphragms of equal dimensions are used, is equal to the sensitivity of an instrument with one diaphragm multiplied by the number of diaphragms. The increase in the sensitivity is accompanied by the decrease of the overall error by $\sqrt{n}$ times. (n-number of summable bridges). Practice also shows that the instrument is reliable in operation and that the r.m.s.

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error, when working with a digital recorder, is 0.2%. There are 2 figures.

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