

Algorithm for Calculating Measurement Uncertainty During Calibration of a Pressure Gauge

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key words

calibration, measurement
uniformity ensuring, methodology,
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Calibration of measuring instruments is widely used all over the world as a tool to ensure the uniformity of measurements. For calibration laboratories accredited in the national accreditation system, the requirements for performing calibration work are set out in GOST ISO / IEC 17025–2019 and other documents, for example, in the Recommendations for Interstate Standardization RMG 120–2013. All of them have requirements for calculating uncertainty during calibration. Therefore, the task of calculating the uncertainty of the calibration result remains relevant. To solve it, an appropriate methodology is needed, which should contain the calculation of the uncertainty of measurement results during calibration to ensure their metrological traceability.

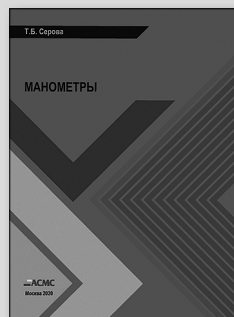
In our work, we considered two variants of the algorithm (for multiple and single measurements) for calculating the measurement uncertainty during the calibration of the MP4U pressure gauge. The uncertainty budget was drawn up, the calculation of the extended uncertainty was given when the amendment was introduced and without it.

References

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НОВАЯ КНИГА

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Манометры

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Приведены основные сведения о методах измерения давления, механических (шкальных) приборах избыточного давления, методах и средствах их поверки и калибровки. Описаны принципы действия, основные схематические решения, технические и метрологические характеристики приборов. Подробно анализируются вопросы поверки манометров: правильный выбор эталонных средств, особенности методов поверки, представление конечных результатов. Рассмотрены типы грузопоршневых манометров и методика их поверки. Пособие может быть полезно специалистам в области эксплуатации, поверки и калибровки средств измерений давления, ремонта манометров, студентам, обучающимся по данному направлению.

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