

ANNOTATION

Master's dissertation on the topic: "Considering differences in the working environment during calibration and practical application of gas meters". The dissertation consists of introduction, seven sections, conclusions of work in general, list of used literature and applications. The total volume of the dissertation is 86 pages, 29 figures, 34 tables.

Constant growth of prices for natural gas, causes the issue of increasing the accuracy of its accounting. Existing requirements for the tolerance limits of errors of measuring transducers of expenditure (ERV), proofreaders or calculators used in commercial accounting can not satisfy the requirements of consumers, since the results are obtained when verified by air at atmospheric pressure, and ERWs are used to register natural gas with excess pressure . Because of the difference in the physical properties of air and natural gas, as well as the conditions of application and verification of ERW, there are unreliable estimates of volumes and volumetric consumption of natural gas in commercial accounting.

The purpose of the master's dissertation is to investigate the mismatch of working environments during calibration and practical application of natural gas meters, as well as to develop a verification procedure and calibration of the FTA in the air with maximum approximation to the results of calibration and calibration on natural gas. To achieve the goal of the research, the following problems were solved: such as: the state of the problems of measuring volume and volume consumption, the estimation of modern means of measuring the flow rate and the amount of gas, the analysis of the differences between the calibration and operation conditions, the complex of the calculation of the metering converter of the natural gas consumption taking into account the working environment, a computer modeling of the work of the measuring converter using CFD technologies was carried out, processing of experimental data of studies of measuring transducers of the cost and amount of gas.

The research object is ERW natural gas based on tachometric and acoustic methods widely used in various industries.

The research methods that underlie the work are based on the use of mathematical modeling of physical processes, basic laws of hydrodynamics, and methods of modern information technologies.

The scientific novelty of the results is as follows. The analysis of researches of nonconformity of working environments during calibration, calibration and practical application of natural gas meters is carried out.

The main scientific positions and results of the dissertation work were reported and discussed at two international conferences, among them: the XI All-Ukrainian Scientific and Practical Conference of Students and Postgraduates "A View to the Future of Instrumentation", Kyiv, 2018, XVII International Scientific and Technical Conference "Instrumentation: the state and prospects ", Kyiv, 2018.

The main positions and results of dissertation work are presented in 4 publications of materials of international and all-Ukrainian scientific and technical conferences.

Key words: measuring transducers of flow, turbine flowmeters, ultrasonic flowmeters, difference of working media, density.