ANALYSIS OF THE INFLUENCE OF GAS CHARACTERISTICS ON THE EFFECTIVE PERFORMANCE OF REDUCTION ASSEMBLY

Background
The reduction of feed gas pressure for inlet separation is the main method of generating cold to ensure an effective process of low-temperature separation in the field treatment of gas and gas condensate. The effectiveness of this process is determined by throttling effect. Knowledge of the analytical dependences between Joule-Thompson coefficient and characteristics of the feed flow ensures the development of effective technical solutions for gas treatment processes.

Aims and Objectives
To determine the dependence of Joule-Thompson coefficient on the gas composition and temperature and pressure conditions at the entrance to the reduction assembly and to develop recommendations on improving effectiveness of the gas field treatment process.

Methods
Integrated modeling of isoenthalpic gas pressure reduction process in gas and gas condensate treatment by low-temperature separation method.

Results
A systematic analysis of the process efficiency depending on the feed stream composition and operating conditions of the reduction assembly has been conducted. The characteristic dependences of Joule-Thompson effect on the specified parameters have been identified and described. On the basis of the conducted analysis recommendations for the process of gas field treatment were developed, providing the greatest temperature decrease in the reduction assembly.

Key words: pressure reduction assembly, Joule-Thompson [throttling] effect, gas field treatment, low-temperature separation

References
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