

# Efficiency Evaluation for Cylindrical Flow Meter Shape Nozzles Modifying

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## key words

nozzle design, narrowing device,  
pipeline measuring section, fluid  
flow simulation

In the study, we have evaluated the effectiveness of nozzle shape modifying when replacing the outlet edge with a collar. Based on the test results, the results of numerical simulation of the liquid flow through a restricting device — a cylindrical nozzle of a variable pressure drop meter were presented.

The results obtained allowed us to conclude that modification of the flow meters cylindrical nozzles' shape by replacing the edge at the outlet with an annular protrusion reduces the effect of blunting of the edges on the value of the pressure drop, therefore, leads to an increase in the stability of the flow meters.

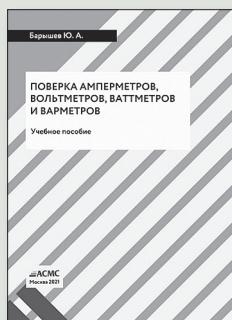
The bluntness of the edges reduces the speed in the middle layer of the fluid flow for cylindrical nozzles with or without a protrusion at the outlet, which should help to reduce abrasive wear of their inner surfaces.

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