

## Simulation of Liquid Flow in Pipe

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**The paper deals with the mathematic modeling of the liquid turbulent flow in the pipe with circular cross-section. The aim is to compare two methods of solution for various geometries and Reynolds numbers. One of the methods is simulation of the system in the commercial software ANSYS Fluent, the second one is analytical solution for simple geometry by equation usually applied in the common design process. The work arises from the requirement to design the computational model based on the FVM, which enables to simulate the various physical phenomena which appear at liquid flow. The solved problem is quite range and therefore the work is only the first part of the systematic investigation. This basic part is important for the decision of the suitable software tools, turbulent model, etc. The investigation of the heat transfer on the cross flow over the tube placed in the bounded surrounding.**

**Keywords:** fluid flow, turbulence, Reynolds number, circular tube

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