Abstract

The aim of this project is to simulate a flow across a cylinder oscillating in the cross-flow using OpenFOAM. Dynamic meshing is used for the simulation. The project investigates the phenomenon of vortex shedding and it is observed using velocity contours and streamlines.

Problem Statement

This case involves unsteady, incompressible flow of Reynolds number, $Re = 200$ across a cylinder oscillation at a rate of 0.2 Hz.

The geometry used is shown in fig. 1.

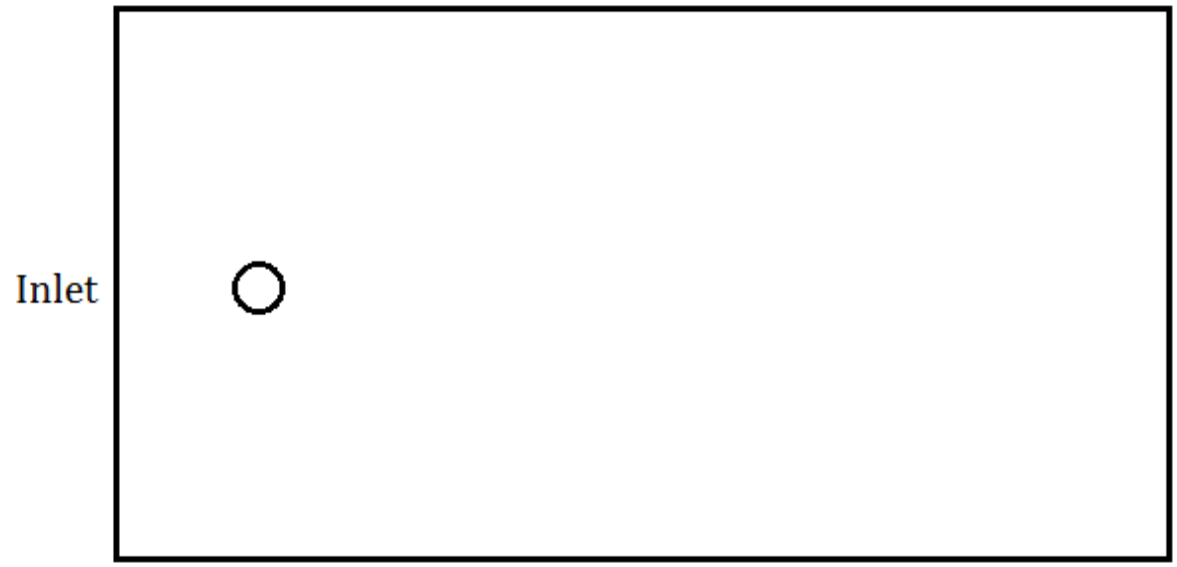

Figure 1. The configuration of flow across an oscillating cylinder.

The flow behind the cylinder is observed and analysed.