

Study of flow over a circular and a square cylindrical body in laminar region

Abstract: This project aims to study the flow over a circular cylinder and a square cylinder in a laminar flow regime and compare the resulting drag, vortex shedding frequency and Strouhal number with the available literature's. The domain of the geometries will be created in Gmsh version 2.10.1 and simulated in OpenFOAM version 4.1 in pimpleFoam solver.

Problem Statement

This case involves a steady, incompressible, laminar flow across a cylinder and a square. The geometries used are shown in figure 1.a and figure 2.b, along with the boundary conditions.

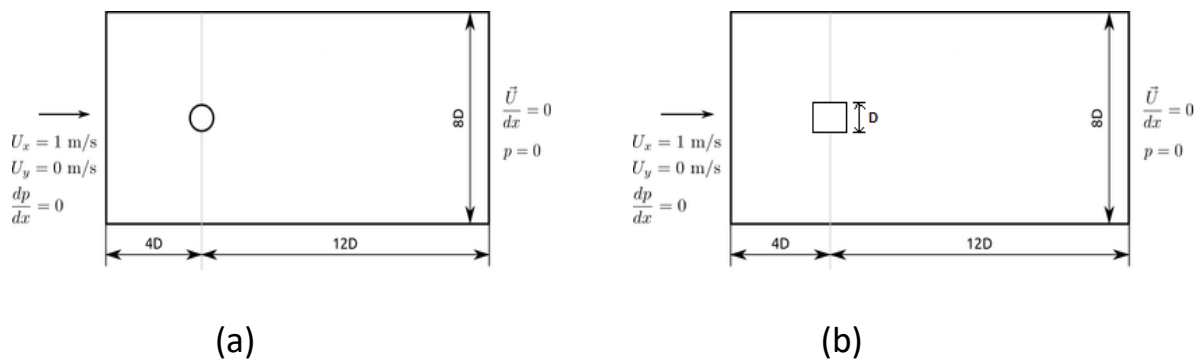


Figure 1: Schematic diagram of domain of circular cylinder and Square domain