ANSYS AIM - Steady Flow over a Cylinder

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Steady Flow over a Cylinder

Created using ANSYS 18.1

Problem Specification

Consider the case of a fluid flowing past a cylinder, as illustrated above. Obtain the velocity and pressure distributions when the Reynolds number is chosen to be 20. In order to simplify the computation, the diameter of the cylinder is set to 1 m, the x component of the velocity is set to 1 m/s and the density of the fluid is set to 1 kg/m^3. Thus, the dynamic viscosity must be set to 0.05 kg/m*s in order to obtain the desired Reynolds number.

Go to Step 1: Pre-Analysis & Start-Up

Go to all ANSYS AIM Learning Modules