FLUENT - Partially Premixed Combustion

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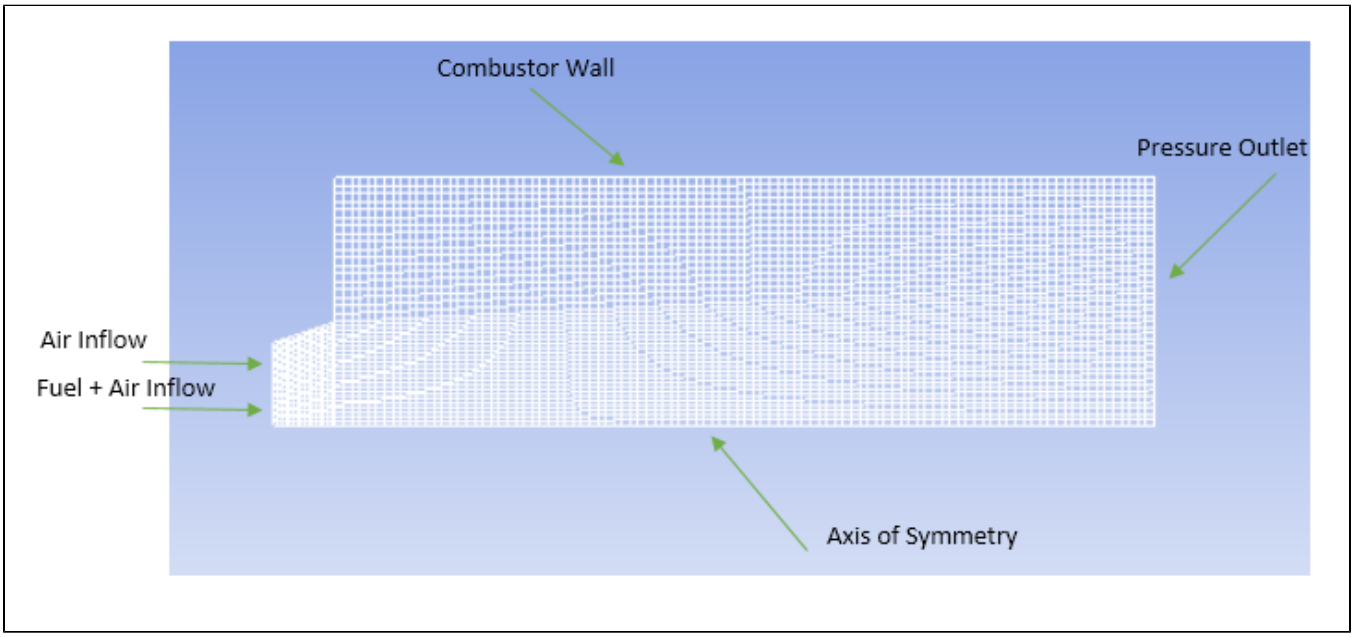
Partially Premixed Combustion

Created using ANSYS 14.5

Problem Specification



This is a partially premixed combustion case, which has inflows that reflect both premixed (fuel inflow) and nonpremixed (fuel and air mixing) conditions.

The fuel (CH4) and air mixture has an equivalence ratio of 0.8, defined in the Physics Setup. It is injected at T = 300K with an axial velocity of 50m/s and swirl velocity (direction) of 30m/s. The air inflow is at T = 650K and is injected at 10m/s axially, with no swirl. This case is axisymmetric and so the physical combustion chamber is assumed to be cylindrical; rotated about the axis of symmetry. The outflow is the pressure outlet at atmospheric pressure.

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