

Process Fluid Mechanics

Review of Basics of Fluid Flow: Fluid Statics, pressure measurement; Basic equations of fluid flow, viscosity, newtonian and non-newtonian fluids, laminar and turbulent flows, Boundary layer theories; Bernoulli theorem and applications; Flow of incompressible fluids, friction factor, piping systems; Flow of compressible fluids, adiabatic and isothermal flows, sedimentation and flotation, centrifugal separation, packed beds and fluidized beds; Transportation and metering of fluids, pump types, pump curves, blowers and compressors, direct flow measurement (pitot tube, rotameter, orifice meter etc., indirect methods and commercial flow meters; Mixing and Agitation, power consumption, impeller types and flow patterns, mixing times.