

Problem 321A

A large reservoir of compressed air (pressure = 10^7 kg/m s^2 , temperature = 30°C) has a small hole of cross-sectional area 0.0002 m^2 punched in it. Air is therefore discharged to the atmosphere (pressure = 10^5 kg/m s^2). Show that the flow through this hole is choked. Find the mass flow rate out of the reservoir and the pressure and velocity of the flow in the throat formed by the hole.