

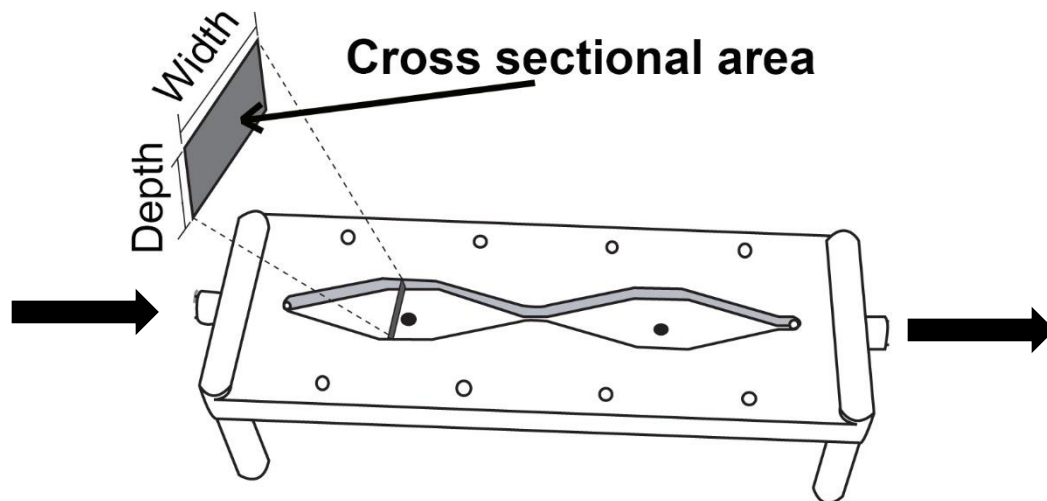
Name: _____ Date: _____ Course: _____ Professor: _____

F9a Prelab (1007): Fluid Mechanics & Bernoulli's Principle



Read the lab instructions before answering questions

- 1) During your experiment, you will have air flowing at a constant flow rate through four different sized ports in a chamber as shown in the picture.



Calculate the cross sectional area for port #1 if its dimension are:

Width = 7.2160×10^{-3} m

Depth = 8.0260×10^{-3} m

- 2) The relationship between Flow Rate (R), Cross Sectional Area (A) and Velocity (v) is called the Continuity equation: $R = Av$

Use the area from question 1 to calculate the velocity of the air at port #1 if the air is flowing at a rate of $R = 0.0011366 \frac{m^3}{s}$.