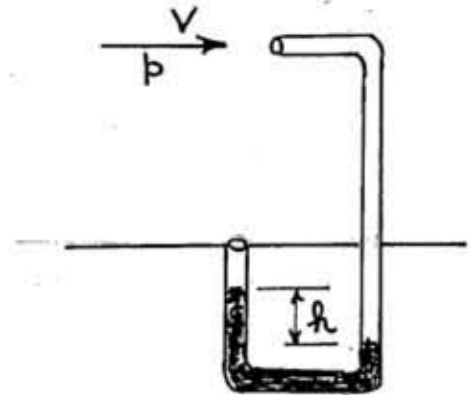


### Basic Laws for Finite Systems - 3

3.6 The Pitot probe measures the stagnation pressure in an fluid stream and a hole in the channel wall measures a static pressure. The gage fluid in the manometer is defected  $h=10\text{cm}$ . Determine the velocity of a stream of  
a) air with oil (s.g.=0.7) as the gage fluid, and  
b) water with mercury (s.g.=13.6) as the gage fluid.



3.7 A siphon drains water from the tank with a hose of diameter 2.5 cm. Find  
a) the volume flow rate, and  
b) the pressure in the hose at 3.

