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NUCL 355 Experiment #3

Pre-lab problem

1) A pitot probe is inserted in a water flow to measure the flow velocity in a tube of diameter 2.5 cm. Downstream an orifice plate is to be installed. At certain flow rate of water in the tube shows a height difference of 10 cm of mercury level in the pitot manometer. Determine the size of orifice plate diameter that would give a pressure drop of 300 kPa in the orifice meter for taps placed at 1 diameter upstream and half diameter downstream from the plate.

