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Pressure in fluids

Manometers measure a pressure difference by balancing the weight of a fluid column between the two pressures of interest.

Large pressure differences are measured with heavy fluids, such as mercury (e.g. 760 mm Hg = 1 atmosphere).

Small pressure differences, such as those experienced in experimental wind tunnels are measured by lighter fluids such as water (1 cm H2O = 98.1 Pa).

To calculate the pressure indicated by the manometer



Po= Atmospheric pressure = 100,000Pa Approximately

1. Using mercury density=14000kg/m3 calculate the pressure if
	1. h=10cm
	2. h =6cm
	3. h=750mm
	4. h=0.008m
2. Using water density=1000kg/m3
	1. h=2cm
	2. h =10cm
	3. h=750mm
	4. h=0.0012m

Check your answers with this tool <http://www.efunda.com/formulae/fluids/manometer.cfm#calc>

1. What is the height of a column of mercury when
	1. P=100,000Pa
	2. P=2750Pa
2. Calculate pressures

P=100000 Pa

