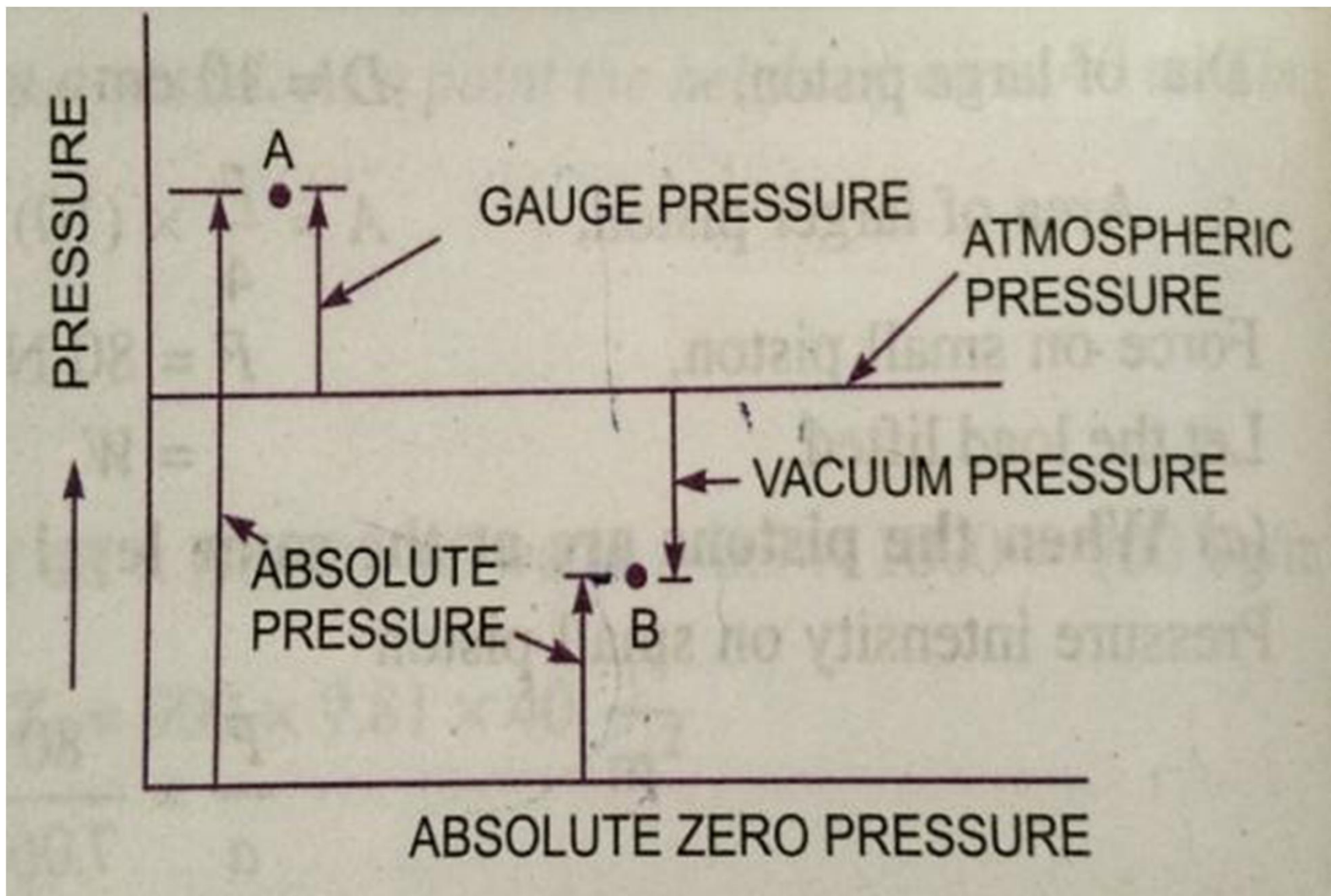


Pressure and its Measurement

- The pressure on a fluid is measured in two different systems.
- In one system, it is measured above the absolute zero or complete vacuum and it is called the Absolute pressure
- In other system, pressure is measured above the atmospheric pressure and is called Gauge pressure.



ABSOLUTE PRESSURE: It is defined as the pressure which is measured with reference to absolute vacuum pressure

GAUGE PRESSURE: It is defined as the pressure, which is measured with the help of a pressure measuring instrument, in which the atmospheric pressure is taken as datum. The atmospheric on the scale is marked as zero.

VACUUM PRESSURE: It is defined as the pressure below the atmospheric pressure

i) Absolute pressure = Atmospheric pressure + gauge pressure

ii) Vacuum pressure = Atmospheric pressure - Absolute pressure

➤ The atmospheric pressure at sea level at 15°C is 10.13 N/cm² or 101.3 kN/m² in SI Unit and 1.033 kg f/cm² in MKS System.

➤ The atmospheric pressure head is 760 mm of mercury or 10.33 m of water.