

## Terms related to pressure

### Atmospheric pressure:

The pressure due to air surrounding the earth's surface is called as atmospheric pressure.

### Absolute pressure:

It is known that pressure is force per unit area when the interaction of fluid particles among themselves is zero, a zero pressure intensity will occur. This is possible only when the population of molecules is negligibly small which is nothing but perfect vacuum. Hence the pressure intensity measured from a state of perfect vacuum is called as absolute pressure.

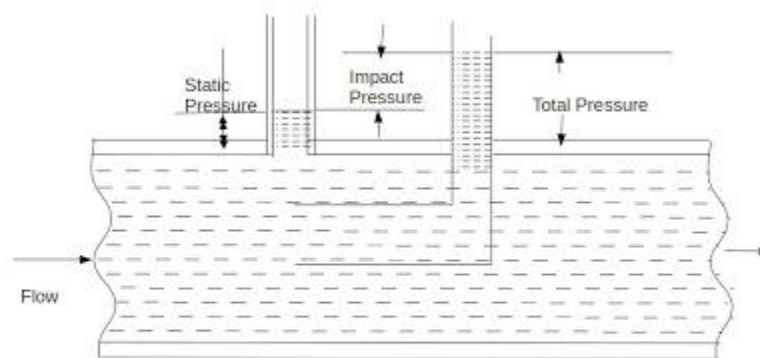


Diagram showing relation between static, impact and total pressure

### Gauge Pressure:

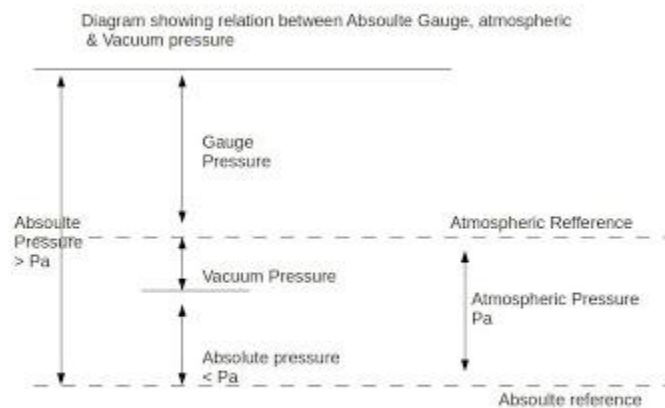
A pressure measuring instrument generally measures the difference between the unknown pressure ( $p$ ) and the atmospheric pressure ( $p_a$ ). When the unknown pressure ( $P$ ) is greater than the atmospheric pressure ( $P_a$ ), the pressure measured by the instrument is called as the gauge pressure.

### Vacuum pressure:

A Pressure measuring instrument generally measures the difference between the unknown pressure ( $P$ ) and the atmospheric pressure ( $P_a$ ). When the atmospheric pressure ( $P_a$ ) is greater than the unknown pressure ( $P$ ), the pressure measured by the instrument is called as the vacuum pressure.

### Static Pressure:

the pressure caused on the walls of the pipe due to a fluid at rest inside the pipe or due to the flow of a fluid parallel to the walls of the pipe is called as static pressure. This static pressure is measured by inserting a pressure measuring tube into the pipe carrying the fluid, so that the tube is at right angle to the fluid flow path.



### Total or Stagnation pressure:

the pressure which is obtained by bringing the flowing fluid to rest isentropically is called as total or stagnation pressure. Hence the pressure will be a sum of static pressure and impact pressure.

**Dynamic – or – Impact – or – Velocity pressure.**

The pressure due to fluid velocity (flow speed) is called as impact pressure.

Impact pressure = Total pressure – static pressure.

Source:

<http://instrumentationandcontrollers.blogspot.in/2010/10/terms-related-to-pressure.html>