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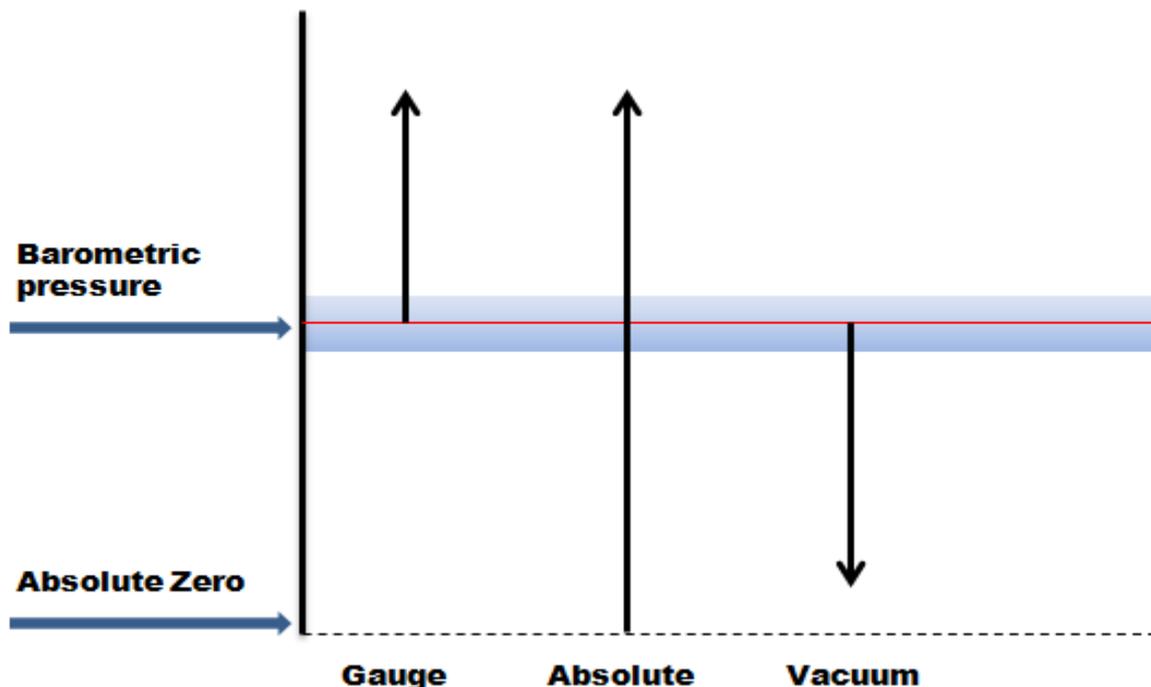
D I R E C T

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What are the different types of pressure measurement?

We get regular questions from customers and students about the different types of pressure measurements that are used in every day applications. On this page we provide a short explanation and illustration of the different pressure types that we get asked about.

The two main types of pressure that we discuss on this page is absolute pressure or gauge pressure measurement. I have also included a short description regarding Vacuum and Compound pressure measurement which. Vacuum is a negative gauge pressure.



Gauge Pressure (Positive)

In the common applications that Instruments to Industry service, gauge pressure is the most commonly used pressure type. A gauge pressure reading will always compare the pressure that we are measuring from the process, against the current atmospheric pressure.

This in simple terms means that the displayed reading will be that pressure measured above the current atmospheric pressure. Gauge pressure is indicated as the word “gauge” for example 6 bar gauge.

Absolute Pressure

Absolute pressure measurement is less common than gauge but seems to be the measurement type that causes the most confusion. Absolute pressure is the pressure measurement compared to absolute vacuum. Absolute is sometimes referred to as absolute zero; it is the point on the scale where there is no pressure.

In general applications an absolute vacuum is impossible to achieve, but we can get pretty close, for example measuring -900 millibar is common. Absolute pressure is indicated as the word “absolute” but you may sometimes see the word “abs” used as an abbreviation.

Vacuum & Compound Pressure

Vacuum pressure is a negative gauge pressure which is measured below the current atmospheric pressure. As it is a gauge pressure, it is always compared against the current atmospheric pressure at the point of measurement. This form of measurement is more commonly referred to as just vacuum pressure measurement.

Compound pressure measurement could also be measured using a similar principle, compound pressure gauges can be found on many process sites. A sensor or gauge that is capable of compound pressure measurement is one that can measure both positive and negative gauge pressures.

In this case the zero reference on the device is set to the local atmospheric pressure. If the device is not sealed to the environment, it can then also compensate for changes in atmospheric pressure through a vent hole.

Vacuum pressure could either be stated using a negative number or by using the terms “vacuum” or “vac” after the pressure reading.