

- **Humidity** The presence of water vapor in a gas. The word “humidity” is sometimes used to express relative humidity only. However, strictly speaking, “humidity” refers to all expressions related to water vapor.
- **Hygrometer** An instrument for measuring humidity
- **Hygrometry** The subject of humidity measurement
- **Hygroscopic** Material prone to absorb water vapor
- **Inert Gas** A chemically non-reactive gas, such as nitrogen, helium, argon, etc.
- **Moisture** This term is commonly used to refer to liquid water or water vapor in any form. The term “moisture” is also often used to indicate water that is absorbed or bound into a material or substance.
- **Probe** The part of an instrument that houses the main body of the sensor, i.e., at the end of a connecting electrical cable. In some cases the word “probe” may be used to refer to an entire hygrometer. The term “probe” is also loosely used interchangeably with “sensor” and “transmitter.” Finally, “probe” could refer to a tube used to extract gas for a measurement.
- **Sensor** The active or sensing part of a measuring instrument. There are some cases where a whole hygrometer is referred to as a “sensor.” It is also often loosely used interchangeably with “probe” and “transmitter.”
- **Transmitter** An instrument which normally gives an electrical output, analog or digital, rather than a display on the instrument panel. The sensing head may be an integral part of the transmitter or may be connected via an external cable.

C. Vapor Pressure

Vapor pressure is that part of the total pressure that is contributed by the water vapor. It is expressed in units of pressure, i.e., in Pascals (Pa), or in units such as millibars (mbar), millimeters of mercury (mm Hg), inches of mercury (in. Hg), or psi (gage or absolute).

The saturation vapor pressure with respect to water is a function of temperature only and can be represented as:

$$e_{ws} = (1.0007 + 3.46 \times 10^{-6} P) 6.1121 \text{ EXP } [17.502 T / (240.97 + T)] \quad (2.18)$$