

types. The bead type device is not particularly rugged, but is compact and inexpensive. These are mostly used to measure the temperature of air or other gases. Flat beads, encapsulated in rectangular blocks of engineered plastic are also available to glue to hard surfaces. Probes are thermistors that are encapsulated in long tubes of material, typically stainless steel. These types of probes, pictured below and in the bottom of the picture to the right, are very rugged and are designed to be inserted into holes drilled into solid materials or directly inserted into fluids. In vapour pressure thermometers a highly volatile liquid is used, but only partially occupies the thermometer volume. The liquid begins to vaporize and fills the rest of the volume with steam. As a result, the pressure rises until an equilibrium between the liquid phase and the gas phase is reached. In simple terms, the rising pressure causes the vaporizing particles to be forced back into the liquid state.