

## What is a hydrostatic level sensor

Hydrostatics is the science of fluids not in motion. A hydrostatic level sensor is a form of level probe that is used especially for level monitoring by measuring the hydrostatic pressure in a virtually static liquid at a pre-determined level of submersion.



A hydrostatic level sensor is a submersible pressure sensor that has a pressure diaphragm where the inner side of the diaphragm is vented to atmospheric pressure through a vent tube in the cable and the outer side is in contact with the liquid and measuring its static pressure of the liquid column above the sensor. This static pressure is basically caused by the weight of the fluid on top of the sensor and is used to calculate the level of the liquid.

The simplicity of using a hydrostatic level sensor make it the instrument of choice wherever level needs to be measured, no matter if in a vented tank, vessel, lake, river or reservoir. In most cases it is suspended by the cable to the desired level of measurement or just submerged and allowed to sink to the bottom of the resource. It does not matter what the structure of the tank, basin or natural geometry is or if it has any obstructions, ledges or complex shape, a hydrostatic level sensor will always measure the pressure of the liquid unaffected by such disturbances.



As the hydrostatic level sensor commonly is a gauge pressure sensor it automatically compensates for the atmospheric pressure changes, so the pressure measured represents only the pressure of the liquid caused by the liquids specific gravity and the vertical distance to the surface. Therefore, the hydrostatic level sensor accurately measures the level of the liquid by calculating the distance from the measuring point to the surface level via the measured pressure.

A hydrostatic level sensor may be calibrated in meters water column to allow for standard gravity or local gravity. For very high accuracy level monitoring often the temperature of the media may also be considered to take the temperature effects on the specific gravity into account.

The hydrostatic level sensor is a specialised sensor for level monitoring, most commonly used in the water and waste water industry. Its simple use and reliable and accurate measurement technology make it one of the most commonly used level sensors by far.



Please find further information on this topic on our information platform [www.wika.com/hydrostatic-level](http://www.wika.com/hydrostatic-level)



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