

Understanding the difference between ORP and Chlorine/ppm

and how to get the best out of your PoolSense device.

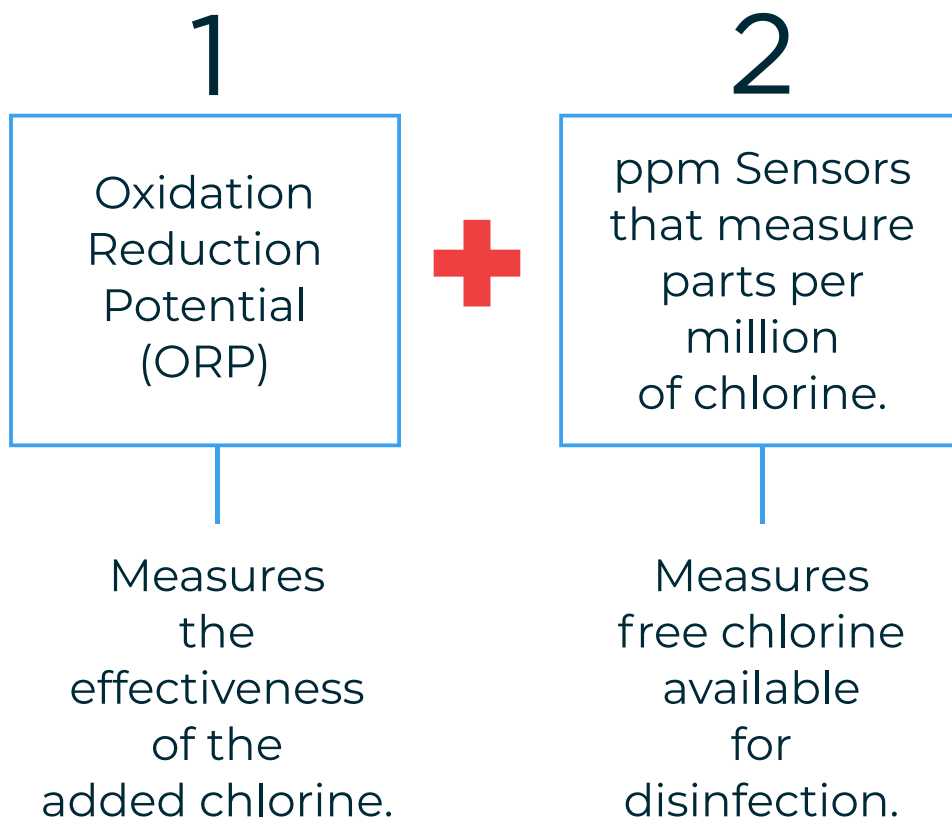


The purpose of this document is to outline the difference between ORP that PoolSense measures versus ppm (parts per million) that most pool strips and tests measure.



PoolSense™

Two types of sensors control and disinfect swimming pools



ORP Sensors use electrochemistry and don't just measure the chlorine but measure the actual electron activity that are involved in the disinfection process. This means that ORP measures the effectiveness of the chlorine that has been added.

ppm Sensors measure free chlorine and measure the free chlorine (both HOCL and OCL-) available to perform the disinfection.

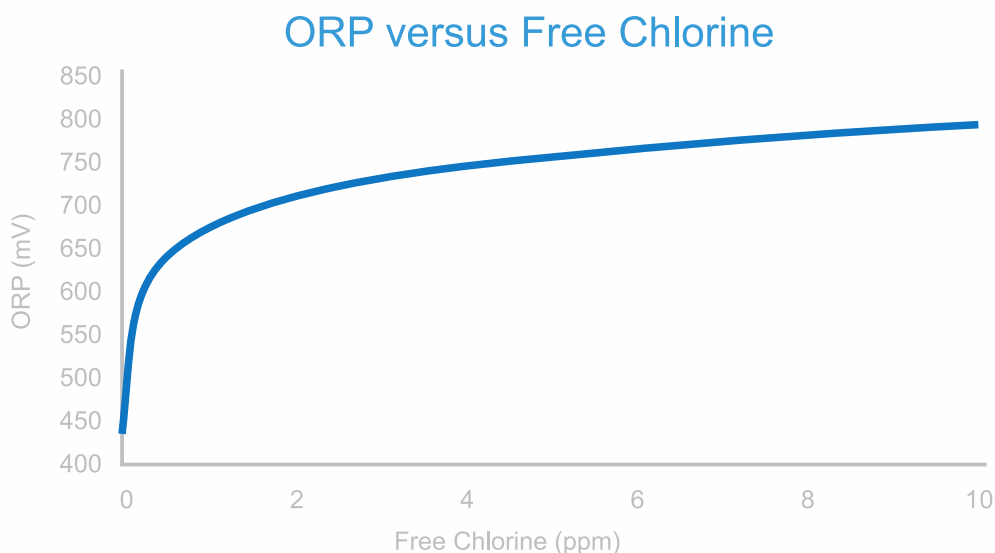


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Comparing ORP and ppm

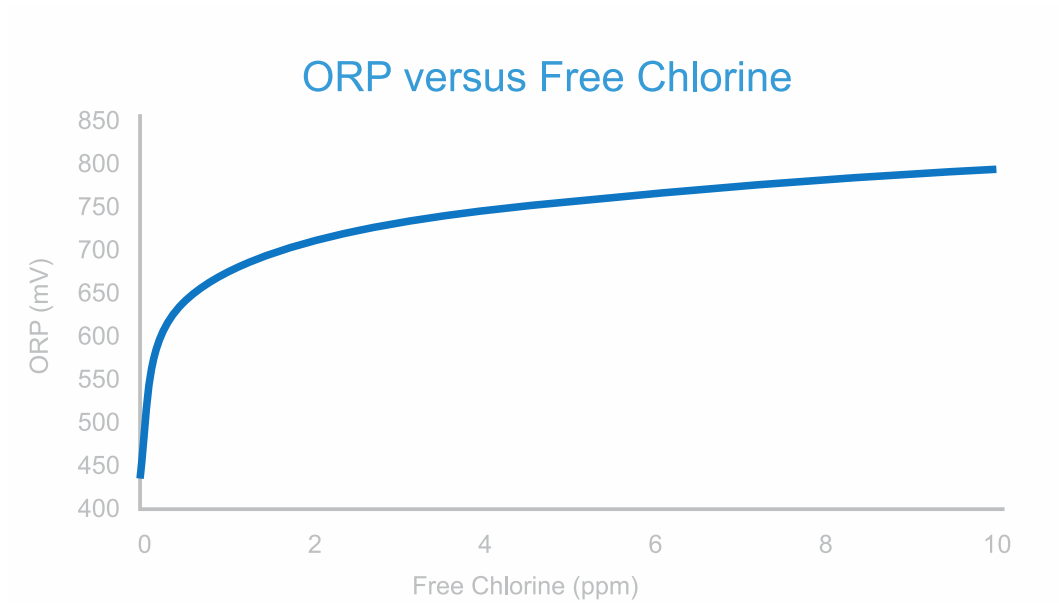
ORP is a measure of how strong the disinfection is at any one time in your pool, but it doesn't tell you how much disinfectant there is. ppm tells you how much disinfectant there is but not how effective that chlorine might be in killing the bugs.

ORP is widely used in the USA and other parts of the world to do pool control whereas ppm is used in places like Europe. Whilst there are many factors that govern the relationship, pH and Temperature being the large ones. This graph is an indication of the relationship.



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Why PoolSense uses ORP

Given that a large portion of the world uses and accepts ORP as a measurement that can be used in the control of swimming pools chemistry and the ORP sensor costs about 20% of the cost of a ppm sensor we felt we achieved the right balance for our device without compromising the effectiveness.

The ORP measurement to ensure that your free chlorine can do it's work is >650mV at the ideal pH of 7.2. You can see from the above graph that this translates to levels of between 1 and 3 ppm of Chlorine. These being the acceptable levels of Chlorine (ppm) in order to kill bacteria but not start affecting the quality of the swimming experience.



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