

## *An Introduction to ORP*

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Oxidation-Reduction Potential (ORP) or Redox potential measurements are used to monitor chemical reactions, to quantify ion activity, or to determine the oxidizing or reducing properties of a solution. ORP is the measurement of the electrical potential of a redox reaction and serves as a yardstick to judge how much oxidation or reduction takes place under existing conditions. ORP electrodes measure the voltage across a circuit formed by the measuring metal half cell and the reference half cell. When the ORP electrode is placed in the presence of oxidizing or reducing agents, electrons are constantly transferred back and forth on its measuring surface, generating a tiny voltage. The ORP measurement can be made using the millivolt mode of a pH meter.

ORP measurement may be utilized very successfully in many commercial and industrial applications. These include:

- Cyanide Oxidation
- Aquarium Monitoring
- Chromate Reduction
- Drinking Water
- Swimming Pool Water
- Pulp Bleaching
- Cooling Tower
- Ozone Monitoring
- Water Pollution Monitoring