

Why do you measure Redox in fermentation media?

The metabolic activity of microorganisms depends on many factors, including the redox potential of the culture environment. Measuring the redox potential allows the vessel operator to monitor the addition of reducing agents while ensuring that the potential is in the proper range for initiation of growth. It is also important to monitor the redox potential just before inoculation.

Anaerobic fermentation

Redox sensors are most commonly used to maintain anaerobic conditions in a culture media. They can be used to measure trace amounts (<1 ppm) of dissolved oxygen, at levels that are too low for D.O. sensors.

Downstream processing

Sometimes used in steps performed downstream of the fermentation process, redox sensors can monitor changes in concentration or the absence or presence of specific chemicals. Monitoring the redox potential is an effective way of tracking chemical conversions in the process.

Protein folding

The close regulation of redox potential is crucial to allow efficient formation of disulfide bonds, which facilitate folding and the stability of the folded protein. Overly oxidizing conditions can result in misfolding due to the formation of incorrect bonds.

Metabolic pathways

Measuring the redox potential is an effective way to determine its influence on the metabolic pathways of microorganisms. This is useful for substrate utilization or the production of specific metabolites

Specification for F-935 Redox FermProbe

- ± 5000 mV range
- Steam sterilizable to 135°C
- 150 psig maximum pressure
- Double junction, Ag-AgCl reference system

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- Metric Pg13.5 threaded disconnect cap

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