

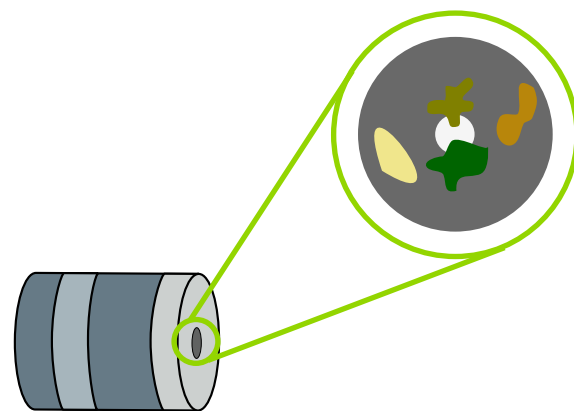
Measuring Chlorine in Dechlorination Applications

Reducing Agents Remove Chlorine From Water

- **Dechlorination** is the removal of chlorine from water within a process.
- Many dechlorination systems use reducing agents such as sulfur dioxide or sodium bisulfite, which react with chlorine and convert it to chloride ions.
- Certain applications require chlorine residual to be below a maximum concentration before the water can be discharged to the environment.

Problems in Dechlorination Measurements

- Applications that regularly see 0 ppm biocide concentrations have proven to be especially difficult for membrane-covered amperometric measurements.
- Without biocide present, most applications see an increase in biofilm, which coats electrodes, fouls membranes, and clogs flow cells.
- Chemical reducing agents commonly used for dechlorination can interfere with amperometric chlorine measurements.



Biofouling of membrane

Kuntze Sensors Are Engineered To Fit the Process

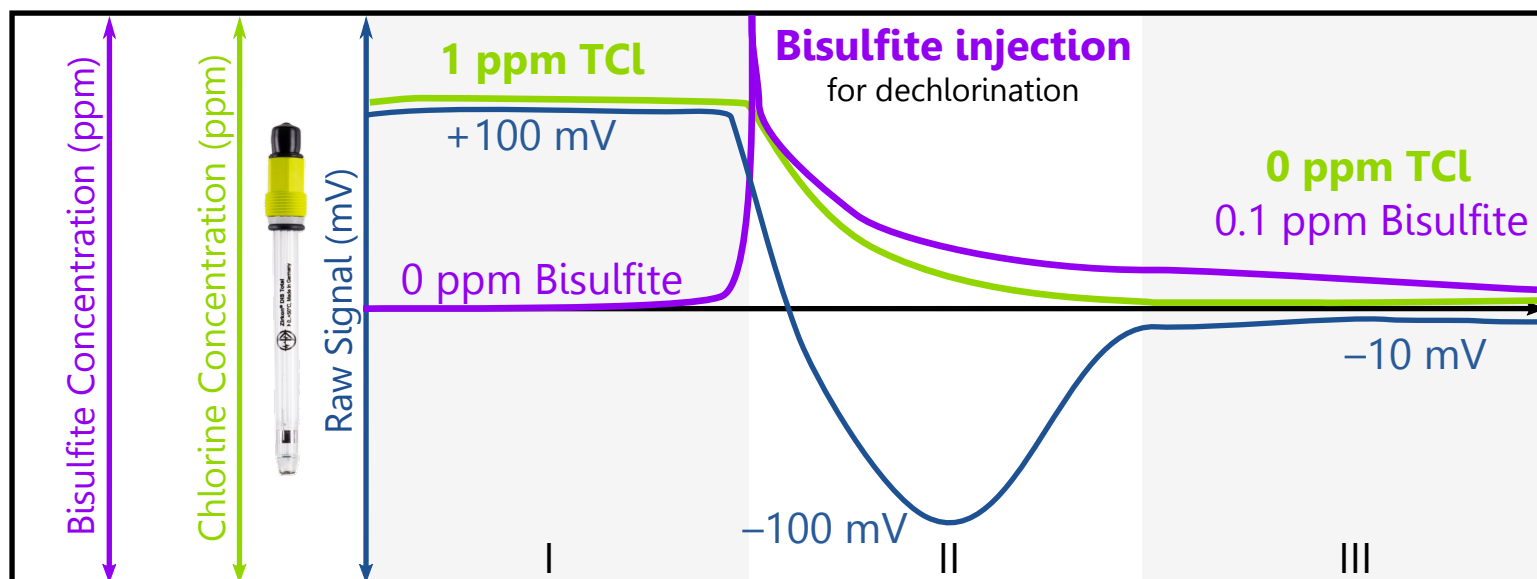
- Kuntze sensors are designed to minimize influences caused by biofouling.
- The Zirkon® DIS sensor features Kuntze's patented ASR® **automatic sensor cleaning technology**, which can be triggered up to once per day.
- Both the Zirkon® DIS and the Zirkon® DIS Total sensors are robust enough to withstand manual cleaning to remove tough biofilm buildup.



Zirkon® DIS Sensor
Free chlorine



Zirkon® DIS Total Sensor
Total chlorine



KUNTZE TECH HIGHLIGHT: Zirkon® DIS Total Sensor for Dechlorination

- The Zirkon® DIS Total sensor shows a positive raw millivolt (mV) signal when total chlorine is present (above, Zone I).
- When bisulfite is added, total chlorine is reduced and consumed, and the raw millivolt signal turns sharply negative (above, Zone II).
- As both bisulfite and total chlorine are consumed, the raw millivolt signal approaches 0 mV, but stays negative when bisulfite is in excess (above, Zone III).
- A negative raw millivolt signal on the Zirkon® DIS Total sensor indicates a bisulfite residual > 0 ppm and a successful dechlorination.

Kuntze Academy – CHEM102

- Want more help on this topic? Scan this QR code to learn more.



CHEM102:
Introduction to Total
Chlorine

Kuntze Support Center

- More questions? Check out the Kuntze Support Center.



Kuntze Support
Center

