# ROI FEATURE

**KALIDA MANUFACTURING**
**Kalida, OH U.S.A**
**ROI PAYBACK: $37,000 ANNUALLY IN REPLACEMENT PARTS SAVINGS**

*Supplier for Major Auto Manufacturer Saves Thousands of Dollars with Disruptive Water Purification Technology*






## INTRODUCTION & PROCESS DESCRIPTION

As with most process water applications, high electrical conductivity (EC) was a common issue causing significant equipment damage.

Kalida Manufacturing, based in Kalida, Ohio, has been supplying high-quality parts to a major North American automaker for more than two decades. However, the facility was losing money due to components damaged by high EC levels in its water, which led to frequent downtime, increased maintenance, and higher operational costs.

In search of a solution, the manufacturer turned to a non-traditional water purification technology capable of tunable EC removal—a solution long needed but previously underestimated for its effectiveness.

## THE CHALLENGE:DAMAGED EQUIPMENT LEADS TO HIGH COSTS

The feedwater running through both of Kalida Manufacturing's cooling loops had elevated electrical conductivity (EC) levels, which caused primary side components to leak current through the water, generate heat, and damage equipment.

This problem not only reduced operating efficiency but also led to increased maintenance and escalating annual costs.

- Feedwater EC ranged from 1,669 to 1,844 µS, well above the recommended maximum of 1,100 µS.
- The facility was spending an average of $37,000 annually on replacement parts.
- With no water filtration system in place, equipment continued to fail, burning out faster and forcing costly downtime.

Kalida Manufacturing needed a fast, reliable solution to bring conductivity under control and protect its operations.

## THE SOLUTION:
## CONTROL OF CONDUCTIVITY WITH INNOVATIVE WATER PURIFICATION TECHNOLOGY

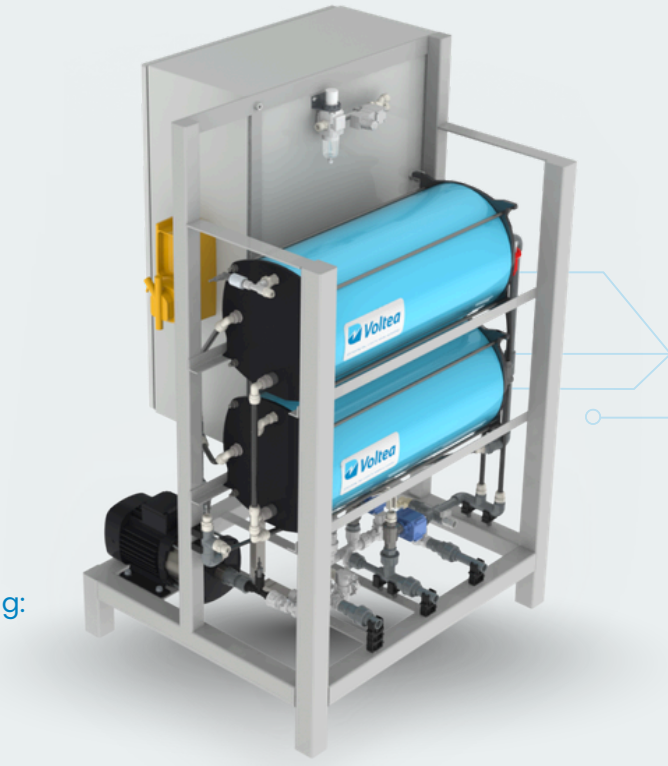
To gain control of conductivity levels in the weld equipment, Kalida leveraged Voltea's Membrane Capacitive Deionization (CapDI), a salt-free water purification technology that removes salt ions and total dissolved solids (TDS), or EC, via an electrical current.

Kalida installed an Industrial Series 2 (IS-2) System at the facility to produce controlled, high-quality water with low EC levels. This helped maintain equipment quality standards and significantly reduced downtime.

What sets Voltea's technology apart from other traditional water treatment methods is its ability to tunably remove electrical conductivity. The system can be adjusted to select the desired level of EC removal in order to ensure a consistent water quality output. Real-time monitoring and control capability also significantly reduces the need for maintenance. The technology can simply be turned on or off to produce high-quality water as needed.

## VOLTEA'S INDUSTRIAL SERIES 2 (IS-2) CAPDI SYSTEM ON-SITE AT KALIDA MANUFACTURING

"We've had zero equipment failures due to EC issues in the water, which has not only saved us thousands of dollars, but has also significantly reduced downtime and overall maintenance. The technology has really impressed us."




## THE RESULTS: MONEY SAVED, REDUCED MAINTENANCE

Kalida Manufacturing installed the CapDI IS-2 System in October 2017 and has since witnessed notable results, including:

- An average of $37,000 in annual savings
- Reduced damage to components
- Reduced downtime
- Decreased maintenance

Voltea's CapDI technology covered Kalida's two cooling loops and had an immediate effect on conductivity levels, dropping them well below the maximum recommended EC level and consistently holding them there.

"With CapDI, our equipment has been running more smoothly while the water in the cooling loops has not exceeded the conductivity limit," said a Kalida Manufacturing maintenance manager. "We've had zero equipment failures due to EC issues in the water, which has not only saved us thousands of dollars, but has also significantly reduced downtime and overall maintenance. The technology has really impressed us."

The maintenance manager added:
"We want to share this innovative technology with everyone who can benefit from tunable water purification for their industrial processes."

Lower conductivity levels helped to prevent side reactions from occurring, which would have otherwise caused damage to Kalida's equipment. More importantly, the manufacturing facility now operates much more efficiently and cost-effectively with CapDI installed.


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