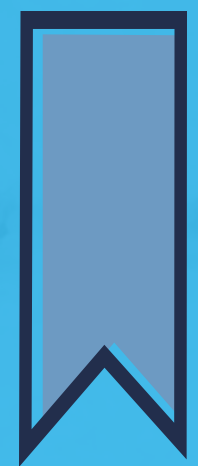


ROI FEATURE

Voltea's CapDI[©]



Commercial Laundry Site Increases Water Recovery Rate with Disruptive Water Treatment Technology



COMMERCIAL LAUNDRY

Atlanta, GA U.S.A

ROI PAYBACK: 6 MONTHS

Commercial laundries rely heavily on quality water, as it's the key to keeping linens white and soft after every wash. Total Dissolved Solids (TDS), which include iron, manganese, calcium, alkalinity and other dissolved salts, can negatively affect the lifespan of linens, causing them to gray if TDS is above 750 - 1,000 parts per million (ppm).

Removing TDS, however, can be costly due to the massive amount of water used in the laundering process itself, as well as the amount of wastewater produced.

Due to strict state regulations to limit discharge volumes, one U.S. commercial laundry facility was limited to an 8-hour daily work shift. The facility was under immense pressure to find a solution that would increase productivity and cut down on wastewater while also decreasing costs and keeping linens in pristine condition.

Fortunately, the site discovered a non-traditional water purification technology that allowed for a longer work shift while reducing total water consumption, thereby making it easy to adhere to water quality standards and regulations.

● THE ● CHALLENGE:

COSTLY STANDARD TECHNOLOGIES

Traditional desalination technologies such as Reverse Osmosis (RO) and Electrodialysis (ED/EDR) were timely processes that were producing more obstacles than solutions.

Without extensive pre-filtration, standard RO membranes can quickly become clogged. Additionally, standard membranes aren't tolerant to high temperatures, and switching to a membrane that can withstand higher temperatures can be very expensive.

ED/EDR would also require considerable pre-filtration and will foul on laundry water without it.

These traditional treatment methods also require the water to be cooled before TDS can be removed. Once the water is cooled, it has to be reheated for laundering, which wastes time, requires more energy and causes overall expenses to increase.

The site needed a more affordable and reliable way to keep clients' linens white while limiting discharge volumes.



● THE ● SOLUTION:

INNOVATIVE WATER PURIFICATION TECHNOLOGY

Voltea's Membrane Capacitive Deionization Technology (CapDI®) was the commercial laundry site's ideal solution. An Industrial Series 4 (IS-4) System was installed to help the laundry site comply with regulations while effectively removing TDS.

The salt-free, chemical-free water purification technology removes salt ions and TDS via an electrical current and, uniquely, can do so on high temperature water. This eliminates the additional reheating costs plus the amount of time required to heat the water using traditional desalination technologies.

CapDI helped the facility operate longer and much more efficiently since the daily discharge limit of 1,000 ppm was never reached.

With minimal maintenance, CapDI technology allowed for remote and continuous monitoring of water quality with fully automated operation. Employees no longer had to spend hours physically monitoring and adjusting the equipment because the CapDI System did that for them in real time.



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● THE ● RESULTS:

SIGNIFICANT COST SAVINGS AND LIMITED WASTE

Using Voltea's CapDI technology, the commercial laundry facility saw a remarkable ROI and achieved significant cost savings due to:

- Improved water reuse
- Energy savings through reduction of water heating

Thanks to CapDI, the facility was able to recycle water more effectively, which doubled its daily throughput without exceeding daily discharge permit limits.

Electro-desalination also allowed the commercial laundry site to adhere to high quality standards that many industries depend on day in and day out, from health care and hospitality to industrial uniforms and food and beverage.

Thanks to CapDI, the facility was able to recycle water more effectively, which doubled its daily throughput without exceeding state-mandated daily discharge permit limits.