

 **Voltea**

Voltea's award winning Capacitive Deionization technology, CapDI[®], **deionizes brackish water at the lowest economic and environmental cost of any globally available technology.** CapDI[®] is a simple and innovative way to remove total dissolved solids (TDS) from water.

CapDI[®] recovers up to 90% of treated water. This saves costs in water intake, brine discharge, and at **less than 0.5 kWhr/m³ treated water,** it also saves in power consumption.

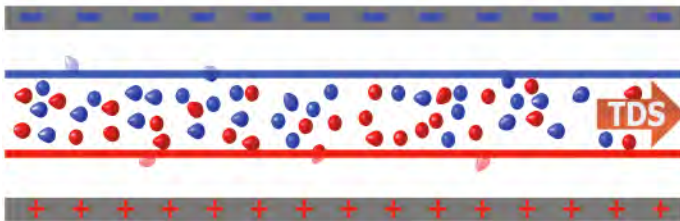
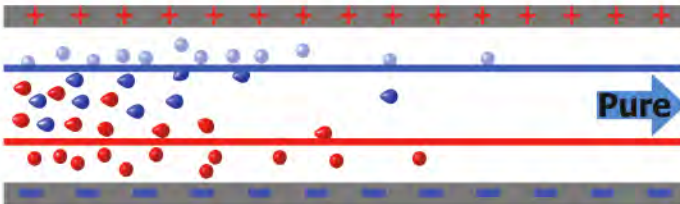
Voltea systems easily allow you to save money and maximize water usage efficiency, whether you treat a few mL/min or thousands of m³/hr.

CapDI[®]
THE FUTURE
IS HERE



How CapDI® Works

Water flows between electrodes in a 2-step process. Electrode surfaces are separated from the water by membranes that selectively allow positive or negative ions to pass.



2 Simple Steps

Purification

Saline water passes between oppositely charged electrodes which electrostatically remove dissolved ions, leaving pure water flowing out of the cell.

Regeneration

Feed water flushes through the cell at a lower flow rate, while electrode polarity is reversed. Ions are rejected from the electrode surface, concentrated in the flow channel and flushed from the cell.

COMMERCIAL LAUNDRY



TDS above 750-1,250 ppm causes dull, gray
linens; so effective use of recycled laundry water
has been limited by the inability to affordably
and reliably remove TDS at high temperatures.

Current technologies require the water to be
cooled before TDS removal, which means it must
be reheated for laundering. This is expensive,
time consuming, and now unnecessary.

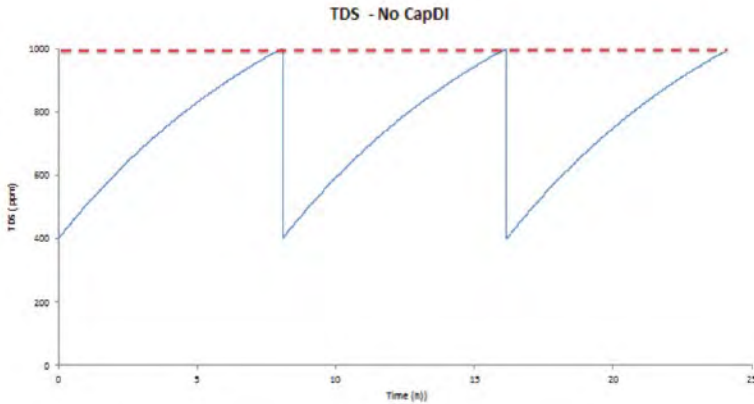
**CapDI® removes TDS at laundering temps and
recovers up to 90% of the water it treats!** Voltea
reuse solutions work across all laundry intakes;
healthcare, hospitality, uniforms/industrial, and
food & beverage.

**By removing TDS at laundering temps, our
customers realize exceptional operational,
chemical, and energy costs savings.**



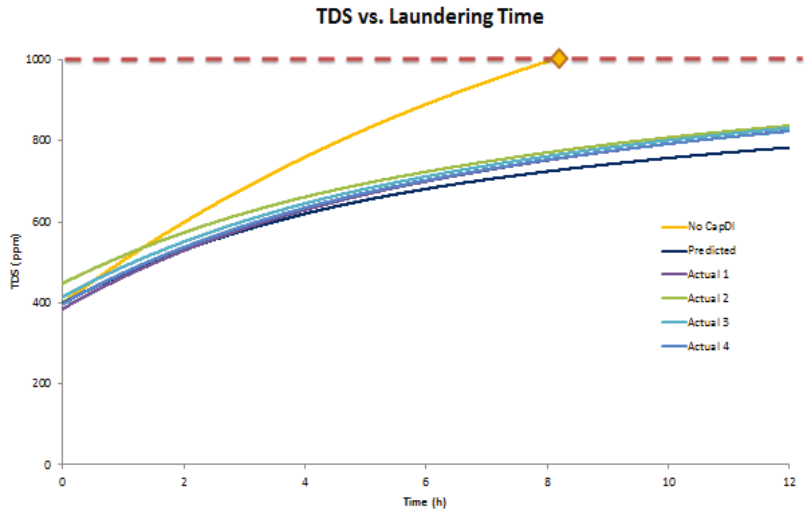
Without CapDI®, this laundry only runs 8 hours before reaching the TDS limit of 1,000 ppm. The water is drained and refilled before continuing operations.

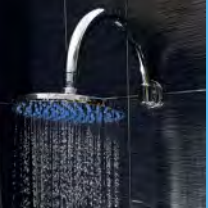
COMMERCIAL LAUNDRY RESULTS



Addition of CapDI® to the treatment system delivers TDS removal at laundering temperatures, which allows recycling without ever reaching the TDS limit of 1,000 ppm.

This run data shows the actual performance of a Voltea system matches the predicted performance essentially perfectly, and provides a longer run time, lower water use, and energy savings.

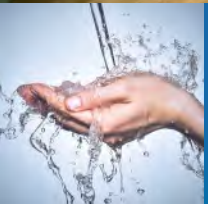




CONSUMER APPLIANCES

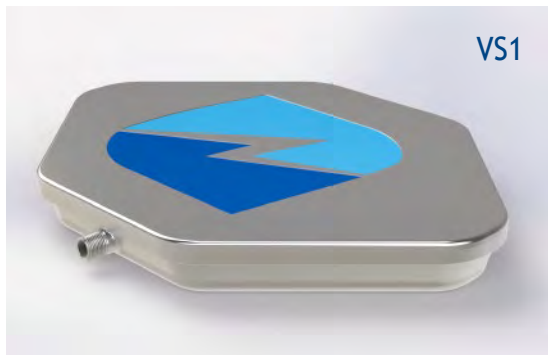
Voltea's CapDI® technology is a chemical-free, low-cost, and environmentally friendly alternative to conventional water softening systems. From washing machines to coffee makers, appliances benefit from the tunable output water quality and hardness reduction that CapDI® delivers.

Voltea has leveraged the same ruggedized, industrial technologies for smaller scale consumer appliances. These systems are the first to offer consumers the benefits of no-salt softening combined with low TDS for better tasting water and longer lifetime appliances. Design freedom and flexibility allows customization of module size, shape, and geometry for your specific application.



	Model Number		
	VS1	VS2	VS3
Footprint 26cm x 20cm x thickness	2.5 cm	4.0 cm	6.0 cm
*Flowrate Nominal / peak (L/min)	0.5 / 1.6	1.0 / 3.2	1.9 / 6.4
*Power Peak (W)	50	100	150
*Removal Nominal / peak (% hardness reduction)	←-----	60% / 90%	-----→
*Recovery (% water recovered as pure)	←-----	up to 90%	-----→

* Listed ranges are based on actual test data and incoming TDS of 500µS/cm. TDS of incoming water will drive minor variations in performance within the listed ranges.





Voltea systems feature **tunable deionization** of water for industrial and institutional applications.

Voltea's IS series employ a simple modular design providing flexibility to treat a few mL/min up to thousands of m³/hr in a compact footprint. The IS series features real-time, remote monitoring and control capability. Modular designs allow flexibility to meet performance targets in limited space.

Voltea equipment improves operational performance and lifetime of a wide range of industrial equipment; from cooling and quenching towers to boilers, paint lines, and any application benefiting from salt-free, softened water.

**INDUSTRIAL
APPLICATIONS**

IS36



Big Performance in a Compact Design

The compact footprint of Voltea's modular IS series design affords simple, containerized deployment, as shown in the adjacent photo.

Voltea has deployed systems allowing up to 48 modules in a single 40 foot container, delivering over **537 m³ (142k US gallons) of deionized water per day.**

Voltea CapDI® works in the real world... leverage our simple, modular designs to treat the amount of water you need in the space you have available.

IS SERIES MODULES



Ambient Temp Modules

(10°C - 25°C)
(50°F - 70°F)

High Temp Modules

(40°C - 60°C)
(104°F - 140°F)

Model Number

C12

C18

Model Number

C12

C18

*Flowrate

Nominal / peak (L/min)

6 / 12

8.5 / 17

9.5 / 17.5

13.5 / 24

*Power

Peak (W)

140 / 185

200 / 265

220 / 270

310 / 370

*Removal

Nominal / peak (% hardness reduction)

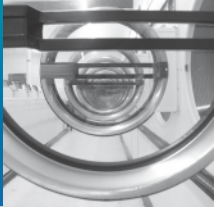
50% to 90%

*Recovery

(% water recovered as pure)

Up to 90%

* Listed ranges are based on actual performance data. TDS of incoming water will drive minor variations in performance within the listed ranges.



Voltea currently operates CapDI® technology on 4 continents:





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