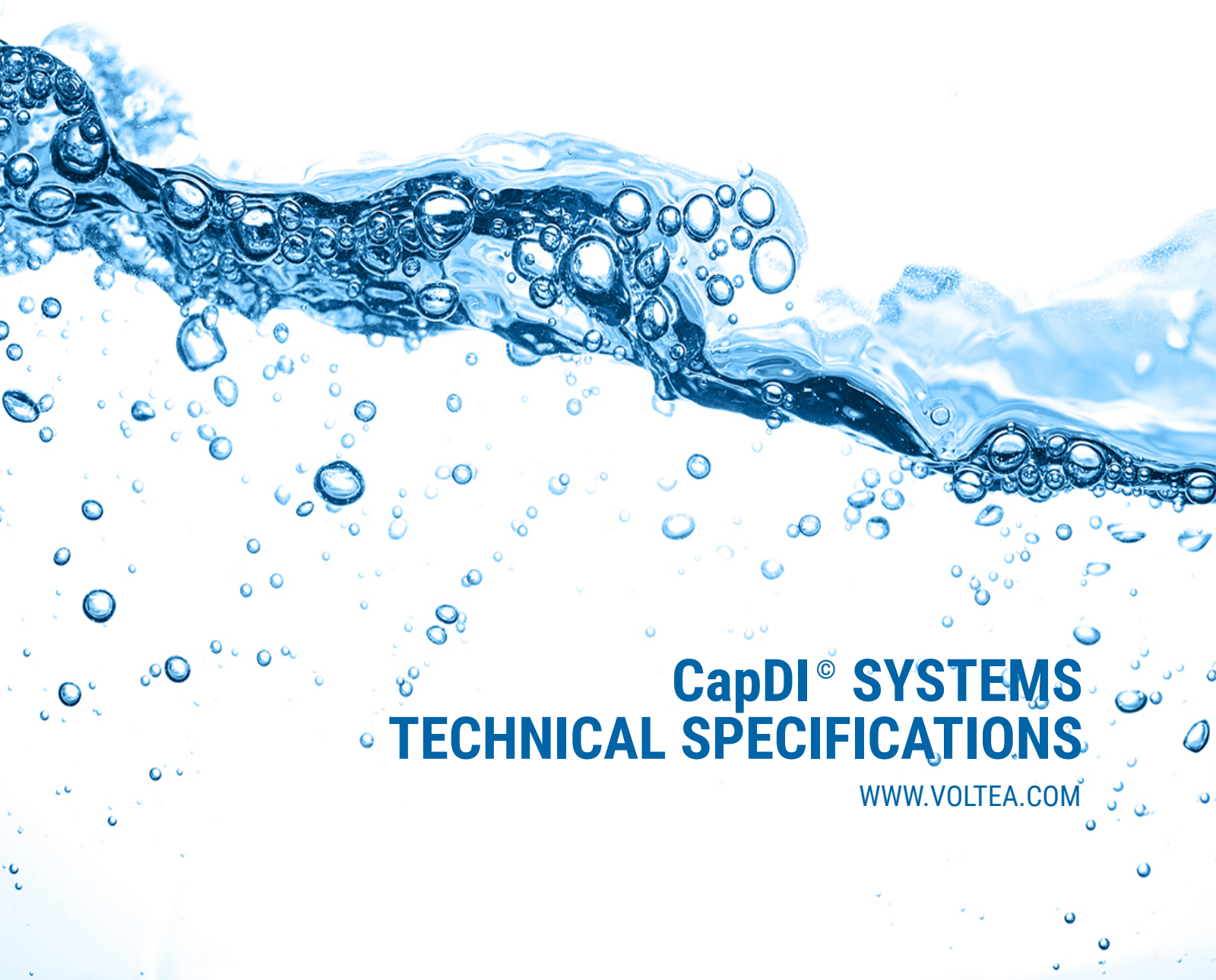
Voltea



CapDI© SYSTEMS
TECHNICAL SPECIFICATIONS

WWW.VOLTEA.COM

CapDI ©

Voltea CapDI
Membrane Capacitive Deionization

We specialize in tunable water purification that is designed to remove total dissolved salts (TDS) from a variety of water sources, ranging from tap water and brackish groundwater to industrial process water. CapDI achieves this at a lower economic cost and reduced environmental impact than any other available technology.

Voltea's CapDI technology purifies water types ranging from residential consumer appliances to large-scale industrial plants. Our systems are modular, allowing easy expansion to meet any increased water demands.

CapDI Benefits

- Automated cleaning
- Remote monitoring available
- High water recovery, up to 90 %
- Tunable TDS reduction, up to 90 %
- Complete system monitoring and feedback
- Dynamic Control - controlled output water quality
- Customizable system sizing to reach client needs
- Operation at high temperatures, up to 60 °C (140 °F)
- Low energy usage, 0,4 - 0,8 kWh/m^3 (1.5 - 3.0 kWh/kgal)
- Patented Membrane Capacitive Deionization Technology

Quality Assurance

- CE Certified
- UL on request
- Factory Acceptance Test on request
- Systems and modules quality control tested
- Voltea Remote Monitoring and Control package

Feed Water Quality

PARAMETER	UNIT	RANGE	INTERMITTENT
Removal Limit	Δppm	0 - 2000	
Total Dissolved Solids (TDS)	ppm	0 - 4000	
Total Organic Carbon	ppm	< 15	
Chemical Oxygen Demand	ppm	< 50	< 100
Turbidity	NTU	< 4	< 100
Fats, Oils, Greases	ppm	< 0.5	
Total Suspended Solids (TSS)	ppm	< 4	< 20
Free Chlorine	ppm	< 1	< 25
pH	-	2 - 10	1 - 12
Iron total	ppm	< 0.5	
Total Hardness ($CaCO_3$)*	ppm	< 1000	
M Alkalinity (as $CaCO_3$)*	ppm	< 1000	
Pre-filtration	µm	5	
Temperature	°C	1 - 60	
Chemicals	-	Contact Voltea	

* Limits depend on set TDS reduction and water recovery

DK

CapDI DK System Development Kit

Design and Scope of Supply

- Two 5 µm filters
- CapDI DK User Manual
- Laptop control and monitoring software
- On-site installation and training package
- Reduced size industrial or appliance design CapDI Modules
- Built-in monitoring; flow, pressure, conductivity, module voltage, current

DK Features

- In-line 10" slim-line filter housing
- Laptop with intuitive control program
- System monitoring and data recording
- Data analysis and calculation templates

In/Out Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	0 - 10 L/min (0.1 - 2.6 gpm)
System Pressure	0 - 2,5 bar (0 - 36 PSI)
Module Voltage	0 - 3 V
Module Current	0 - 240 A

Performance

Flow Rate Capacity*	0,2 - 2,5 L/min (0.1 - 0.7 gpm)
Salt Removal	25 - 90 %
Water Recovery	40 - 90 %

System Specification

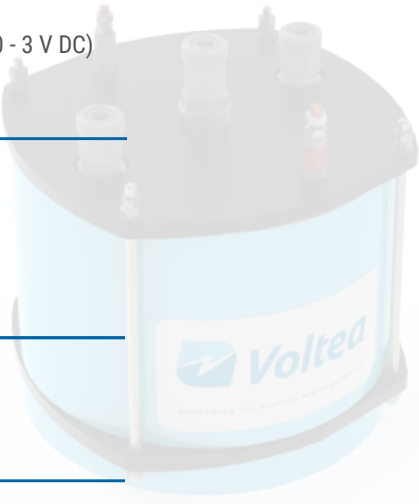
System Power Requirements	Single - Phase (110 - 240 V AC / 50 - 60 Hz)
System Dimensions (L x W x H)	75 x 50 x 60 cm (2'6" x 1'8" x 1'11")
Service Space	0,8 m (2'7") from edge of system
Weight**	52 kg (114 lbs)
Feed Inlet Coupling	10 mm tubing push-in connection
Product Outlet Coupling	10 mm tubing push-in connection
Power Output to Modules	(Low Range: 1 - 60 A / 0 - 10 V DC) (High Range: 5 - 240 A / 0 - 3 V DC)
Compatible Modules	(Low Range: VS-1, VS-2, Custom) (High Range: Custom)

System Requirements

Water Feed***	Test barrel
Water Temperature***	1 - 60 °C (34 - 140 °F)
Operating Ambient Air Temperature****	< 35 °C (< 95 °F)

Inputs/ Outputs

Control	Voltea laptop control program
Data Output	txt. file format for Voltea analysis template



*Actual performance will depend on module used and settings
**Weight without modules
***Please contact Voltea if unavailable
****If higher than this, additional cooling may be required