

**CapDI<sup>®</sup> SYSTEMS  
TECHNICAL SPECIFICATIONS**

[WWW.VOLTEA.COM](http://WWW.VOLTEA.COM)



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<sup>3</sup> (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

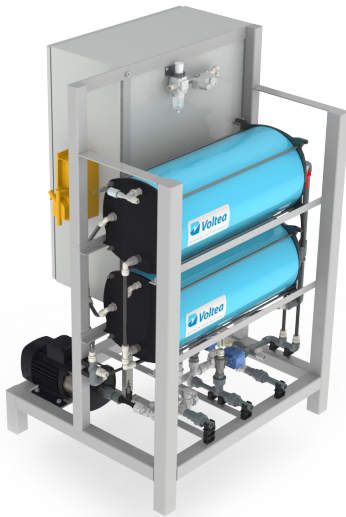
PARAMETER	UNIT	RANGE	INTERMITTENT
Removal Limit	Δppm	0 - 2000	
Total Dissolved Solids (TDS)	ppm	0 - 4000	
Total Organic Carbon	ppm	< 15	
Chemical Oxygen Demand	ppm	< 50	< 100
Turbidity	NTU	< 4	< 100
Fats, Oils, Greases	ppm	< 0.5	
Total Suspended Solids (TSS)	ppm	< 4	< 20
Free Chlorine	ppm	< 1	< 25
pH	-	2 - 10	1 - 12
Iron total	ppm	< 0.5	
Total Hardness (CaCO <sub>3</sub> )*	ppm	< 1000	
M Alkalinity (as CaCO <sub>3</sub> )*	ppm	< 1000	
Pre-filtration	µm	5	
Temperature	°C	1 - 60	
Chemicals	-	Contact Voltea	

\* Limits depend on set TDS reduction and water recovery



# IS-2H

## CapDI IS-2H Industrial Series 1-2 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air (*air optional*)

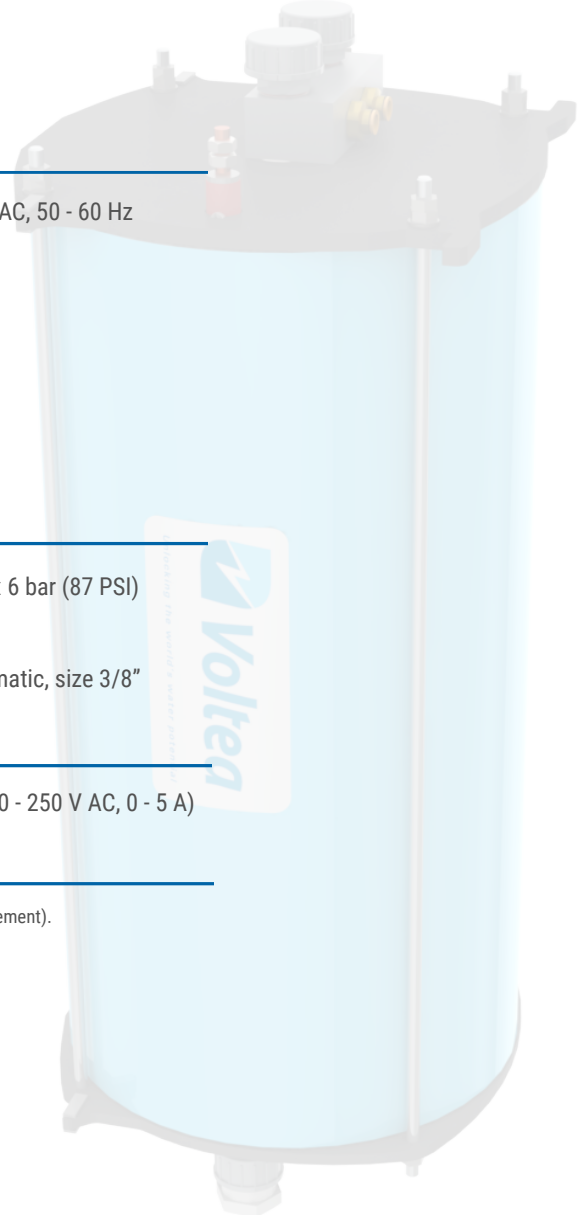
Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	0 - 40 L/min (0 - 11 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	0,2 - 1 m <sup>3</sup> /h (0.9 - 4.4 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %
System Specification	Input Power Requirements*	1-ph 1.8 kW, 110 (or 230, please specify) V AC, 50 - 60 Hz
	System Dimensions (L x W x H)	0,86 x 0,7 x 1,3 m (2'10" x 2'4" x 4'3")
	Service Space	0,8 m (2'7") from edge of system
	Weight**	250 kg (550 lbs)
	Feed Inlet Coupling	.5" union
	Product Outlet Coupling	.5" union
Concentrate/Waste Outlet Coupling	.5" union	
Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line ( <i>optional</i> )	50 L/min (1.8 CFM) @ 6 bar (87 PSI), pneumatic, size 3/8"
	Operating Ambient Air Temperature***	< 25 °C (< 77 °F)
Inputs/ Outputs	Start / Stop	Input - Potential free contact (0 - 30 V DC / 0 - 250 V AC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 V DC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).

\*\*Weight without modules

\*\*\*Without added cooling



# IS-6H

## CapDI IS-6H Industrial Series 3-6 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air

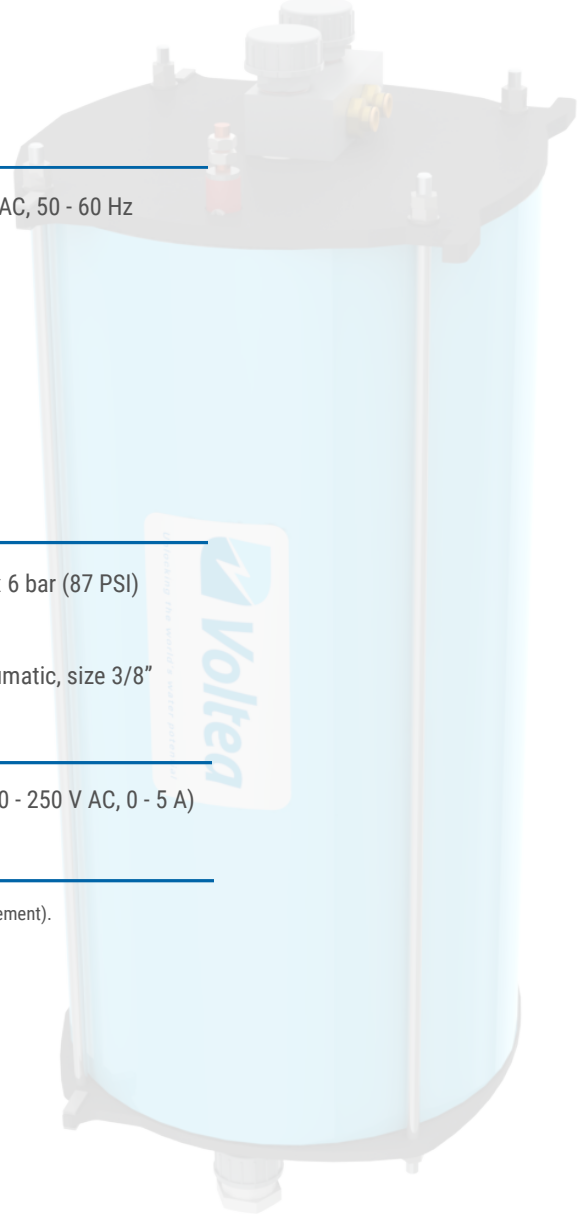
Inlet/Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	9 - 150 L/min (2.4 - 40 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	0,5 - 3 m <sup>3</sup> /h (2.2 - 13.2 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %
System Specification	Input Power Requirements*	1-ph 5.7 kW, 110 (or 230, please specify) V AC, 50 - 60 Hz
	System Dimensions (L x W x H)	1,15 x 0,9 x 1,66 m (3'9" x 2'11" x 5'6")
	Service Space	0,8 m (2'7") from edge of system
	Weight**	400 kg (880 lbs)
	Feed Inlet Coupling	1" union
	Product Outlet Coupling	1" union
Concentrate/Waste Outlet Coupling	1" union	
Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line	100 L/min (3.5 CFM) @ 6 bar (87 PSI), pneumatic, size 3/8"
	Operating Ambient Air Temperature***	< 25 °C (< 77 °F)
Inputs/ Outputs	Start / Stop	Input - Potential free contact (0 - 30 V DC / 0 - 250 V AC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 V DC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).

\*\*Weight without modules

\*\*\*Without added cooling



# IS-12H

## CapDI IS-12H Industrial Series 7-12 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air

Inlet/Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	0 - 150 L/min (0 - 33 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	1,1 - 7 m <sup>3</sup> /h (4.8 - 30.8 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %
System Specification	Input Power Requirements*	1-ph 7.2 kW, 110 (or 230) V AC / 50 - 60 Hz
	System Dimensions (L x W x H)	1,5 x 0,9 x 2,2 m (4'11" x 3' x 7'2")
	Service Space	0,8 m (2'7") from edge of system
	Weight**	550 kg (1,210 lbs)
	Feed Inlet Coupling	1.5" union
	Product Outlet Coupling	1.5" union
Concentrate/Waste Outlet Coupling	1.5" union	
Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line	100 L/min (3.5 CFM) @ 6 bar (87 PSI), pneumatic, size 3/8"
	Operating Ambient Air Temperature***	< 25 °C (< 77 °F)
Inputs/Outputs	Start / Stop	Input - Potential free contact (0 - 30 V DC / 0 - 250 V AC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 V DC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).

\*\*Weight without modules

\*\*\*Without added cooling

# IS-24H

## CapDI IS-24H Industrial Series 13-24 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

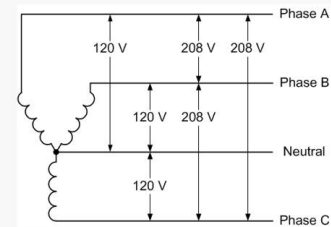
- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air

Inlet/Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	20 - 312 L/min (5 - 82 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	2 - 10 m <sup>3</sup> /h (8.8 - 44 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %

System Specification	Input Power Requirements*	400 VAC (WYE), 50 Hz, 24A, 16 kW (Common in EU) <b>OR</b> 480 VAC (DELTA), 60 Hz, 8A, 6 kW <b>AND</b> 208 VAC, 60 Hz, 33A, 7.5 kW (Common in USA) Refer to phase diagram**
	System Dimensions (L x W x H)	2,9 x 1,1 x 2,2 m (9'8" x 3'7" x 7'2")
	Service Space	0,8 m (2'7") from edge of system
	Weight***	950 kg (2,094 lbs)
	Feed Inlet Coupling	2" union
	Product Outlet Coupling	2" union
	Concentrate/Waste Outlet Coupling	2" union

Three Phase Four Wire Wye



Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line	200 L/min (7 CFM) @ 6 bar (87 PSI), pneumatic, size 1/2"
	Operating Ambient Air Temperature****	< 25 °C (< 77 °F)

Inputs/Outputs	Start / Stop	Input - Potential free contact (0 - 30 VDC / 0 - 250 VAC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 VDC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).  
 \*\*For alternatives, please contact a Voltea representative  
 \*\*\*Weight without modules  
 \*\*\*\*Without added cooling

# IS-36H

## CapDI IS-36H Industrial Series 25-36 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

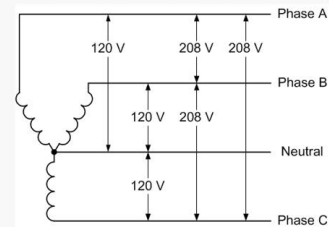
- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air

Inlet/Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	31 - 501 L/min (8 - 133 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	2 - 15 m <sup>3</sup> /h (8.8 - 66 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %

System Specification	Input Power Requirements*	400 VAC (WYE), 50 Hz, 35A, 23 kW (Common in EU) <b>OR</b> 480 VAC (DELTA), 60 Hz, 13A, 10 kW <b>AND</b> 208 VAC, 60 Hz, 50A, 11 kW (Common in USA) Refer to phase diagram**
	System Dimensions (L x W x H)	4,4 x 1,1 x 2,2 m (14'3" x 3'7" x 7'1")
	Service Space	0,8 m (2'7") from edge of system
	Weight***	1,200 kg (2,645 lbs)
	Feed Inlet Coupling	2" union
Product Outlet Coupling	2" union	
Concentrate/Waste Outlet Coupling	2" union	

Three Phase Four Wire Wye



Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line	300 L/min (10.5 CFM) @ 6 bar (87 PSI), pneumatic, size 1/2"
	Operating Ambient Air Temperature****	< 25 °C (< 77 °F)
Inputs/Outputs	Start / Stop	Input - Potential free contact (0 - 30 VDC / 0 - 250 VAC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 VDC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).

\*\*For alternatives, please contact a Voltea representative

\*\*\*Weight without modules

\*\*\*\*Without added cooling

# IS-48H

## CapDI IS-48H Industrial Series 37-48 Module Skid



### Design and Scope of Supply

- IS System User Manual
- Capable of ambient or high temperature feed water
- Built-in monitoring; flow, pressure, conductivity, module voltage
- Skids can take up to full accompaniment of modules

### IS Features

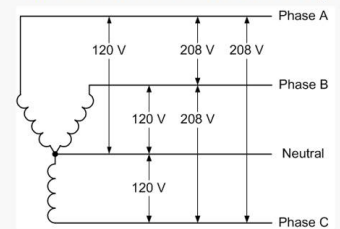
- Voltea Remote Monitoring and Control available
- Automated System CIP (Clean-In-Place); chemical and/or air

Inlet/Pure Outlet Conductivity Meters	0 - 10 mS/cm
Total Flow Meter	31-501 L/min (8 -133 gpm)
System Pressure	0 - 10 bar (0 - 145 PSI)
Module Pressure	0 - 6 bar (0 - 87 PSI)
User Interface	HMI Panel

Performance	Net Produced Flow	2,6 - 20 m <sup>3</sup> /h (11.5 - 88 gpm)
	Salt Removal	25 - 90 %
	Water Recovery	40 - 90 %

System Specification	Input Power Requirements*	400 VAC (WYE), 50 Hz, 45A, 30 kW (Common in EU) <b>OR</b> 480 VAC (DELTA), 60 Hz, 13A, 10 kW <b>AND</b> 208 VAC, 60 Hz, 66A, 15 kW (Common in USA) Refer to phase diagram**
	System Dimensions (L x W x H)	5,6 x 1,1 x 2,3 m (18'5" x 3'7" x 7'7")
	Service Space	0,8 m (27") from edge of system
	Weight***	1,500 kg (3,307 lbs)
	Feed Inlet Coupling	2.5" union
	Product Outlet Coupling	2.5"
	Concentrate/Waste Outlet Coupling	2.5"

Three Phase Four Wire Wye



Operational Requirements	Water Feed Pressure	3 bar (44 PSI) at the flow rate required, max 6 bar (87 PSI)
	Water Temperature	1 - 60 °C (34 - 140 °F)
	Compressed Air Line	400 L/min (14 CFM) @ 6 bar (87 PSI), pneumatic, size 1/2"
	Operating Ambient Air Temperature****	< 25 °C (< 77 °F)

Inputs/Outputs	Start / Stop	Input - Potential free contact (0 - 30 VDC / 0 - 250 VAC, 0 - 5 A)
	External Pump	Output - Potential free contact (24 VDC)

\*Actual power consumption will depend on module and settings used (typically 30-60% of input power requirement).

\*\*For alternatives, please contact a Voltea representative

\*\*\*Weight without modules

\*\*\*\*Without added cooling