

# END<sup>®</sup> Systems

## Electrochemical Desalination Technology

*Maximum Recovery. Minimum Energy.<sup>®</sup>*



### DESCRIPTION

END<sup>®</sup> transforms electrodialysis reversal (EDR) with increased efficiency and expanded capabilities for the **removal of TDS, hardness and alkalinity, heavy metals, and other contaminants** from a raw and wastewater sources. END<sup>®</sup> Technology reduces the high cost, waste, and energy of water treatment.

### FEATURES

- High Recovery: Up to 98% Recovery
- Tunable Product TDS
- Self-Cleaning via Polarity Reversal and CIP
- Automated Operation
- Certified to NSF/ANSI/CAN 61-G & 372
- Chlorine/Biocide Tolerance
- Compact, Modular Elements
- Safe, Quiet, Low-Pressure Operation

### OPTIONS

- Containerization Package
- Off-Grid Power Package
- Remote Monitoring
- High Salt Rejection Package: END<sup>®</sup>+

### OPERATING PARAMETERS

Recovery .....	Up to 98%
<small>*Dependent on Feedwater Constituents</small>	
Tuned Product TDS .....	Typical: 100-1000 mg/L
<small>*As Low as 10.0 mg/L with Available Options</small>	
Feed Temperature Range .....	4.0-45.0°C
Feed Pressure Range .....	25.0-60.0 psig

### FEED WATER REQUIREMENTS

TDS Range .....	up to 15,000.0 mg/L
pH Range .....	2.0-10.0 S.U.
Turbidity .....	<0.5 NTU Preferred
Silica .....	No Limit
Manganese, Aluminum .....	<0.5 mg/L
Iron .....	<1.0 mg/L
TOC .....	<15.0 mg/L Preferred
COD .....	<50.0 mg/L Preferred
Oil & Grease .....	<2.0 mg/L
Free Chlorine Residual .....	≤1.0 mg/L

### STD. MATERIALS OF CONSTRUCTION

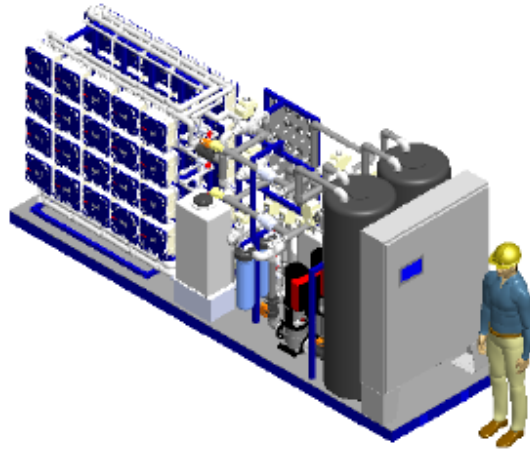
Low Pressure Piping .....	SCH80 PVC, PP, PEX
Skid Frame .....	Blue Powder Coated Carbon Steel
Electrical Enclosure .....	NEMA 4X Painted Steel

### STANDARD DOCUMENTATION

- Manuals: Operation & Maintenance
- Drawings: PFD, P&ID, Electrical Schematics, and General Arrangement Drawings
- QA/QC: Factory and Site Acceptance Testing

**Water for Industry. Water for People.**

Getting the most out of every drop.



	END® 50 Process Train	END® 250 Process Train <sup>1</sup>
<b>FLOW RANGE</b>		
<b>Avg. Feed Flow</b>	20.0-65.0 GPM (4.5 - 15 m <sup>3</sup> /h)	65.0-250.0 GPM (15 - 57 m <sup>3</sup> /h)
<b>PIPE CONNECTIONS</b>		
<b>Inlet / Product / Brine</b>	ANSI 2" Flange	ANSI 4" Flange
<b>UTILITIES</b>		
<b>Voltage / Hz</b>	480V 60Hz (Optional: 400V 50Hz)	
<b>Phase</b>	3 Phase	
<b>FLA</b>	Varies: Determined by Maximum Flow Rate, ΔTDS Range, and Targeted Recovery	
<b>Instrument Air</b>	Electric valves standard, Optional Pneumatics: 80.0-100.0 PSIG 3/8" NPT Oil-Free Air	
<b>DIMENSIONS</b>		
<ul style="list-style-type: none"> <li>Standard Skids are Modular and can be combined in various configurations to meet available space requirements. A process train consists of one (1) Controls Skid, one (1) pump and valve skid, and a variable number of END® Cell skids corresponding to flow or ΔTDS requirements.</li> </ul>		
<b>Typical Train Dimensions</b>		
<b>Length</b>	192"	432"
<b>Width</b>	72"	72"
<b>Height</b>	96"	96"
<ul style="list-style-type: none"> <li>Standard containerized options are designed to stack or operate in parallel. Containerized systems are fully assembled and factory tested for fast deployment and start-up.</li> </ul>		
<b>ISO Container</b>	20' Conex	40' Conex
<b>Length</b>	80"	480"
<b>Width</b>	96"	96"
<b>Height</b>	102"	102"

<sup>1</sup>Multiple Trains can be added together for larger flows

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