

E-Cell-3X Stack

industrial electro deionization (EDI) stacks



Figure 1: E-Cell-3X Stack

E-Cell-3X is designed to:

- Provide Ultrapure Water for industrial applications including Power, Semiconductor, and General Industry.
- Produce Mixed Bed quality water on a continuous basis.
- Require no caustic or acid for regeneration of ion exchange resin within the stack.
- Be leak free, guaranteed.
- Eliminate brine injection and concentrate recirculation, simplifying system design.

description and use

E-Cell-3X Stacks are electrodeionization (EDI) stacks which use electrical current to deionize and polish reverse osmosis (RO) permeate water (Figure 1). The product water for the E-Cell-3X is at an Ultrapure level required in today's most demanding applications.

typical applications

- Microelectronics
- Power Generation (NO_x, Boiler Feed)
- General Industry

quality assurance

- CE, UL & CSA marked
- Manufactured in a ISO 9001:2000 facility

E-Cell-3X Stack Specifications

Nominal Flow	5.0 m ³ /hr	22.0 gpm
Flow Rate Range	2.3 – 6.4 m ³ /hr	10 – 28 gpm
Shipping Weight	135 kg	298 lbs.
Dimensions	31cm x 61cm x 64cm	12" x 24" x 26"
(width x height x depth)		

Typical Performance

Product Quality		
Resistivity	> 16 MOhm-cm	
Sodium	< 3 ppb	
Silica (SiO ₂) Removal	Up to 99% or < 5 ppb	
Boron Removal	> 95%	
Operating Parameters		
Recovery	Up to 97%	
Concentrate Flow (vs. Product Flow)	Countercurrent, hardness ≥0.10 ppm as CaCO ₃ Concurrent, hardness <0.10 ppm as CaCO ₃	
Voltage	0–400 VDC	
Amperage	0–5.2 ADC	
Inlet Pressure	3.1–6.9 bar	45–100 psi
Pressure Drop	1.4–2.8 bar	20–40 psi

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Maximum Feed Water Specifications				
Feed Water - Total Exchangeable Anions (TEA as CaCO ₃)		<25 mg/l	<25 ppm	
Feed Water - Conductivity, NaHCO ₃ equivalent		< 43 μ S/cm	< 43 μ S/cm	
Temperature		4.4–40 °C	40–104 °F	
Total Hardness (as CaCO ₃)		< 1.0 mg/l	< 1.0 ppm	
Silica (SiO ₂)		< 1.0 mg/l	< 1.0 ppm	
Total Organic Carbon (TOC as C)		< 0.5 mg/l	< 0.5 ppm	
Total Chlorine		< 0.05 mg/l	< 0.05 ppm	

Actual performance may vary depending on site conditions.
Reference E-Calc projection software to verify actual performance. Patents pending.