Water Technologies & Solutions
fact sheet

E-Cell MK-3 stack

industrial electro deionization (EDI) stacks

Figure 1: E-Cell MK-3 Stack

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

typical applications

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

quality assurance

- CE, RoSH & CSA marked
- Manufactured in an ISO 9001 and ISO 14001 facility

MK-3 Stack Specifications		
Nominal Flow	3.4 m^3/hr	15 gpm
Flow Rate Range	1.7 – 4.5 m^3/hr	7.5 – 20 gpm
Shipping Weight	92 kg	202 lbs
Dimensions (width x height x depth)	30cm x 61cm x 48cm	12" x 24" x 19"

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 $CaCO_3$ Cocurrent, hardness ≤0.10 ppm as $CaCO_3$	
Voltage	0 – 300 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 µS/cm	< 43 µS/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.