

# E-Cell\* MK-3MiniHT Stack

## Hot Water Sanitizable E-Cell for Lab & Pharmaceutical Applications

E-Cell MK-3MiniHT is the only lab & pharmaceutical electrodeionization (EDI) stack designed to:

- Provide ultrapure water for pharmaceutical applications.
- Hot water sanitizable up to 185°F (85°C) for 160 cycles.
- Operate with no concentrate recirculation and no brine injection.
- Require no stack bolt tightening.
- Be leak free, guaranteed.
- Operate with low power, <150VDC.

### Description and Use

E-Cell MK-3MiniHT stacks are hot water sanitizable EDI stacks which use electrical current to deionize and polish reverse osmosis (RO) permeate water. The product water for the MK-3MiniHT is at greater than USP quality levels required in today's Pharmaceutical applications.

### Typical Application

- Pharmaceutical
- Laboratory

### Quality Assurance

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

MK-3MiniHT Stack Specifications		
Nominal flow	1.14 m <sup>3</sup> /h	5.0 gpm
Flow rate range	0.5 to 1.52 m <sup>3</sup> /h	2.2 to 6.7 gpm
Shipping weights	49 kg	107 lbs
Dimension (width x height x depth)	30cm x 61cm x 28cm	12" x 24" x 11"

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



Typical Performance		
<b>Product Quality</b>		
Resistivity	> 10 MOhm-cm	
TOC (as C)	< 500 ppb	
<b>Hot Water Sanitization</b>		
No. of 1hr sanitization cycles	160 cycles	
Sanitization temperature	176 to 185°F	80 to 85°C
Max. sanitization inlet pressure	2.1 bar	30 psi
<b>Operating Parameters</b>		
Recovery	Up to 93%	
Concentrate flow	Counter current - Standard Co-current - <0.1ppm (as CaCO <sub>3</sub> ) feed hardness	
Voltage	0 to 150 VDC	
Amperage	0 to 5.2 ADC	
Inlet Pressure (Counter current)	4.1 to 6.2 bar	60 to 90 psi
(Co-current)	3.1 to 6.2 bar	45 to 90 psi
Pressure drop at nominal flow	1.4 to 2.4 bar	20 to 35 psi

Maximum Feedwater Specifications		
Feedwater - Total Exchange-able Anions (TEA as CaCO <sub>3</sub> )	<25 mg/l	<25 ppm
Feedwater - Conductivity, NaHCO <sub>3</sub> equivalent	< 43 µS/cm	< 43 µS/cm
Temperature	4.4 to 40°C	40 to 104°F
Total hardness (as CaCO <sub>3</sub> )	< 1.0 mg/l	< 1.0 ppm
Silica (SiO <sub>2</sub> )	< 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