

E-Cell Electrodeionization Systems
**Ultrapure Water: Power, Semiconductor,
General Industry**

Features

- Ultrapure water
- Replaces regenerable mixed bed DI
- Significant space saving
- Lowers capital installation cost
- No harsh regeneration chemicals

Description & Use

E-Cell systems make use of electric current to deionize reverse osmosis permeate, bringing the water up to the highest level of purity required in today's most demanding applications

Typical Applications

- Power Generation
- General Industry
- Boiler feed; low silica
- Semiconductor fabrications
- Pharmaceutical USP, WFI

Packaging Information

INDIVIDUAL STACKS:

- Dimensions: 12" (30cm) W x 19" (49cm) D x 24" (61cm) H
- Shipping weight: 202 lbs (92 kg)
- Packaged systems: Delivered on skids, wood boxed and blocked for safety in transit
- Typical system: 150 gpm (34 m³/hr)
- Ship weight: 5,450 lbs (2,475 kg)
- Operating weight: 5,800 lbs (2,640 kg)



Feed Water Requirements

The water fed to the E-Cell unit must be RO permeate or equivalent.

FEED WATER REQUIREMENTS

- TEA (incl. CO₂) ppm (mg/l)
- CaCO₃ < 25.0
- pH 5 – 9
- Hardness, ppm (mg/l) CaCO₃ < 0.5
- Silica (reactive), ppm (mg/l) < 0.5
- TOC, ppm (mg/l) < 0.5
- Total chlorine, ppm (mg/l)
- Fe, Mn, H₂S, ppm (mg/l) < 0.5
- Color 5 APHA
- Oxidizing Agent
- Oil & Grease Non-detectable

Safety Precautions

- High voltage, up to 600 VDC
- Ensure all safety interlocks are operating before commissioning
- Other than for system operation (valves, dials, buttons, & switches) do not touch the systems while the rectifier is charged
- See Owners Guide for complete list of safety requirements.

Other Features

- Fully engineered, robust system; continuous operation
- Modular, from 7.5 gpm (1.70 m³/hr) to 400 gpm+ (90.85 m³/hr)
- Outstanding service, support, and documentation. Excellent training
- Low power requirement
- No need to exchange resin
- Pharmaceutical HT stack is 176° F (80°C) sanitizable

Product Specifications

- Ultrapure water of 16 Mohm.cm
- Silica typically under 20 ppb (depends on feed, see detailed documentation)
- Operating parameters, sample system – 150 gpm (34 m³/hr)
- Electrical, maximum: 45 amps @ 600 VDC
- Product outlet flow range: 75 – 150 gpm (17 – 34 m³/h)
- Pressure drop: 20 – 35 psig
- Temperature rise: 4.3° F (2°C) maximum
- Electrolyte outlet: 1.8 – 3.5 gpm (0.4 – 0.79 m³/hr) to drain
- pH: 7.0 – 9.0
- Concentrate conductivity: 150 - 1,250 µS/cm
- Concentrate flow determined by recovery rate, typically 90 – 95%
- Requires periodic cleaning for biological growth and scale. Twice per year is a typical cleaning schedule.
- Skid cleaning is available. Refer to sales guide for cleaning frequency

Other Services Available

There are many options for instrumentation as well as materials of construction

Contact your specialist for assistance on a quotation.

Contact: