E-Cell* EU Standard Systems
MK-3, 15 to 27 Stacks

With the combination of E-Cell* and Ionics* EDI technology, GE Water & Process Technologies is leading the way for Electrodionization (EDI). Our E-Cell Standard Systems with MK-3 stacks are designed for reliable, long term trouble free operation, with straightforward control.

Standard Features
- MK-3 E-Cell stacks allow for a simplified system design, removing the need for concentrate recirculation as well as brine injection.
- MK-3 E-Cell stack’s low energy design reduces electrical requirements and operating costs.
- Concentrate flow is in the opposite direction to the Dilute flow, thus allowing systems to operate at higher hardness concentrations for longer periods of time.
- Basic and Premium models available
- Siemens S1200 PLC & HMI
- Automatic Outlet Divert Valve
- Full Owners Operation & Maintenance Manual, Factory Acceptance Test results and Stack Performance Test results
- Direct Current Variable Freq. Drive (DC Drive)

Quality Assurance
Certification: CE Marked
Full Factory Acceptance Test (FAT) completed on each system before shipment.

Instrumentation
Flow
- Dilute (Product) Outlet
- Concentrate Outlet
- Electrode Outlet

Pressure
- Dilute Inlet, Dilute Outlet
- Concentrate Inlet, Concentrate Outlet
- Electrode Outlet
- Dilute (Product) Outlet

Resistivity

Feed Water Requirements
- Total Exchangeable Anions < 25.0 ppm (as CaCO₃)
- pH 5 – 9
- Hardness < 1.0 ppm (as CaCO₃)
- Silica (Reactive) < 1.0 ppm
- SDI (15 min) < 1
- TOC < 0.5 ppm
- Total Chlorine < 0.05 ppm
- Fe, Mn, H₂S <0.01 ppm

Operating Parameters
- Outlet (Dilute) Product Quality > 16 MΩm-cm
- Outlet Product Silica Guarantee Down to < 5ppb
- Recovery: Up to 95%
- Temperature: 4.4 to 40 °C (40 to 104 °F)
- Feed Pressure: 4.7 to 6.9 bar (70 to 100 psi)
- Dilute Pressure Drop: 1.4 to 2.4 bar (20 to 35 psi)
- Input Voltage: 400 VAC/3/50Hz
Material of Construction

- **Welded Frame:** Painted Carbon Steel
- **Dilute Piping:** PVC
- **Concentrate Piping:** PVC
- **Flanges:** DIN
- **DC Drive:** IP55
- **Control Panel:** IP55
- **Control Panel Power:** 24VDC

### E-Cell Standard Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>GEMK3-15 EU</th>
<th>GEMK3-18 EU</th>
<th>GEMK3-24 EU</th>
<th>GEMK3-27 EU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Stacks</td>
<td>10 - 15</td>
<td>12 - 18</td>
<td>16 - 24</td>
<td>18 - 27</td>
</tr>
<tr>
<td>Type of stack</td>
<td>MK-3</td>
<td>MK-3</td>
<td>MK-3</td>
<td>MK-3</td>
</tr>
<tr>
<td><strong>Flow Rates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Flow Nominal</td>
<td>51.0 m³/h</td>
<td>61.2 m³/h</td>
<td>81.6 m³/h</td>
<td>91.8 m³/h</td>
</tr>
<tr>
<td>Product Flow Range</td>
<td>34.1-68.1 m³/h (150-300 gpm)</td>
<td>40.9-81.8 m³/h (180-360 gpm)</td>
<td>54.5-109.0 m³/h (240-480 gpm)</td>
<td>61.4-122.6 m³/h (270-540 gpm)</td>
</tr>
<tr>
<td>Concentrate Outlet Flow (Depends on Recovery &amp; Product Flow)</td>
<td>3.86-106.29 lpm (0.67-28.08 gpm)</td>
<td>3.07-127.56 lpm (0.81-33.70 gpm)</td>
<td>4.05-170.08 lpm (1.07-44.93 gpm)</td>
<td>4.58-191.35 lpm (1.21-50.55 gpm)</td>
</tr>
<tr>
<td>Electrode Outlet Flow</td>
<td>19.87 lpm (5.25 gpm)</td>
<td>23.85 lpm (6.30 gpm)</td>
<td>31.80 lpm (8.40 gpm)</td>
<td>35.77 lpm (9.45 gpm)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall System Dimensions (Width x Length x Height)</td>
<td>1.5m x 5.3m x 2.1m (60” x 209” x 84”)</td>
<td>1.5m x 5.6m x 2.1m (60” x 222” x 84”)</td>
<td>1.5m x 6.9m x 2.1m (60” x 270” x 84”)</td>
<td>1.5m x 7.2m x 2.1m (60” x 283” x 84”)</td>
</tr>
<tr>
<td>Inlet Piping</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
</tr>
<tr>
<td>Product Outlet Piping</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
</tr>
<tr>
<td>Rinse Outlet Piping</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
<td>DN150</td>
</tr>
<tr>
<td>Electrode Outlet Piping</td>
<td>DN25</td>
<td>DN25</td>
<td>DN25</td>
<td>DN25</td>
</tr>
<tr>
<td>Concentrate Outlet Piping</td>
<td>DN40</td>
<td>DN40</td>
<td>DN40</td>
<td>DN40</td>
</tr>
<tr>
<td>All piping sizes are provided for nominal flow rates at 90% recovery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>3538 kg (7800 lbs)</td>
<td>3855 kg (8500 lbs)</td>
<td>4990 kg (11000 lbs)</td>
<td>5443 kg (12000 lbs)</td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Output @ 300VDC</td>
<td>78.0 Amps</td>
<td>93.6 Amps</td>
<td>124.8 Amps</td>
<td>140.4 Amps</td>
</tr>
<tr>
<td>Connection Requirement</td>
<td>36 kVA</td>
<td>42 kVA</td>
<td>56 kVA</td>
<td>63 kVA</td>
</tr>
<tr>
<td>Typical Power Consumption</td>
<td>0.13 – 0.26 kWh/m³ (0.5 – 1.0 kWh/1000gal)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Standard Options:

1. **Premium Model** – flow & pressure transmitters, ability to connect to SCADA system.
2. **Premium Model Option** – removal of PLC & HMI, all wiring terminated at a IP55 Junction Box

Performance, flow rate per stack, recovery and power consumption are all dependent on inlet feed water quality and temperature. An E-Calc projection must be completed for proper system design & for any performance guarantee to be provided.

---

**Lenntech**

info@lenntech.com  Tel. +31-152-610-900  www.lenntech.com  Fax. +31-152-616-289