**Simple, High Efficiency Decarbonation For Small Water Deionization Systems**

- Cut Resin Regeneration Frequency
- Reduce Chemical Use
- Improve Water Quality in EDI/CDI Systems
- Low Operating Costs
- Easy Setup
- Quick Payback

**ANNUAL DI WATER SYSTEM REGENERATION COST COMPARISON**

<table>
<thead>
<tr>
<th></th>
<th>NaOH Use (ton)</th>
<th>HCl Use (ton)</th>
<th>Service Water Use (m³)</th>
<th>ANNUAL OPERATING COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Membrane Decarbonator</td>
<td>28</td>
<td>17</td>
<td>4,725</td>
<td>$24,698</td>
</tr>
<tr>
<td>With Membrane Decarbonator</td>
<td>21</td>
<td>14</td>
<td>3,710</td>
<td>$19,068</td>
</tr>
</tbody>
</table>

All units are in metric. System Design: 10m³/hr (44gpm) regenerated 1 time/day

1) NaOH Cost: USD $230/ton | 2) HCl Cost: USD $260/ton | 3) Filtered Water Cost: $2.10 per m³

**Savings up to** $5,630
<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Installation and Operation</td>
<td>Minimal Setup Time and Low Maintenance</td>
</tr>
<tr>
<td>High Performance</td>
<td>Up to 95% Removal of Free CO₂ at 25°C</td>
</tr>
<tr>
<td>Does Not Require Chemicals to Operate</td>
<td>Reduce Chemical Storage Costs and Risk of Employee Exposure; Lower Operating Costs</td>
</tr>
<tr>
<td>Clean, In-line Operation</td>
<td>Remove CO₂ without Contaminating Water</td>
</tr>
<tr>
<td>Operates Using Small Blower in Suction Mode</td>
<td>Low Energy Use and Capital Cost</td>
</tr>
<tr>
<td>Compact Design, Small Size</td>
<td>Can Fit into Many Existing Spaces</td>
</tr>
<tr>
<td>Mobility</td>
<td>Easily Relocated</td>
</tr>
</tbody>
</table>

**High Performance, Compact Solution**

- Efficient
- Reliable
- Proven

MEMBRANE DECARBONATOR

CO₂ REMOVAL WITHOUT CHEMICALS

Liqui-Cel.com

CO2 REMOVAL WITHOUT CHEMICALS

Nancrede Engineering
5356 Hillside Ave
Indianapolis, IN 46220
317-257-7201

Nancrede Engineering
5356 Hillside Ave
Indianapolis, IN 46220
317-257-7201
Liqui-Cel® 8x20 Decarbonator Skid

Standard Equipment
- 8 x 20 EXTRA-FLOW Liqui-Cel Contactor mounted in a painted steel frame
- Airtech model 38A1300 motor 0.8 HP (0.45kW) regenerative blower
  110-120V 60Hz 6 amp single phase
  220-230V 50Hz 3 amp single phase
- Liquid trap with high level cut-off switch to protect blower.
- Air filter 5µm rating 99% removal
- Vacuum & water pressure relief valves
- Inlet/outlet water pressure gages 0 - 680 kPa (0 - 100 psi)
- Compound vacuum gage for blower 100 to -100 KPa (+15 psi to -30 in Hg)
- Temperature gage -20 to 120°C (0-150°F)
- Water line: 1½ inch schedule 80 PVC piping with inlet & outlet ball valves
- Blower line: 1 inch PVC discharge
- Drain line: 1 inch PVC with ball valve
- On/Off switch with circuit breakers mounted in control panel

Operating Conditions
Water flow rate: 1.1 – 11 m³/hr (5 - 50 gpm)

Maximum Water Temperature/Pressure
25°C, 4.8 barg (77°F, 70 psig)
40°C, 2.1 barg (104°F, 30 psig)

* 5 micron water pre-filtration and softened or RO water is recommended.
* Air temperature should not exceed 30°C (86°F). If the water temperature exceeds the air temperature some heat transfer can occur.
* The unit can be placed in an environment 40°C (104°F). Beware that air temperatures exceeding 30°C (86°F) will reduce membrane life.

Ordering Info
<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Plug</th>
<th>Connections</th>
<th>Dimensions</th>
<th>Weight (dry)</th>
<th>Weight (shipping)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK-100-116</td>
<td>110-127V 50-60Hz</td>
<td>US</td>
<td>1.5&quot; Female NPT</td>
<td>51cm (20&quot;) W 69cm (27&quot;) D 163cm (64&quot;) H</td>
<td>86kg (190lbs)</td>
<td>141kg (310lbs)</td>
</tr>
<tr>
<td>SK-100-216</td>
<td>220-240V 50-60Hz</td>
<td>No Plug</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
CO₂ REMOVAL PERFORMANCE

Average CO₂ Removal

- Water temperature 25 C
- Water temperature 35 C

Single 8x20 Industrial Contactor
Regenerative Blower operated in suction mode
Blower model: AirTech 3BA1300
Based on inlet free CO₂: 50 mg/L

SYSTEM PRESSURE DROP

Water Pressure Drop, psig

- Water flow rate, gpm
- Water flow rate, m³/hr

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