

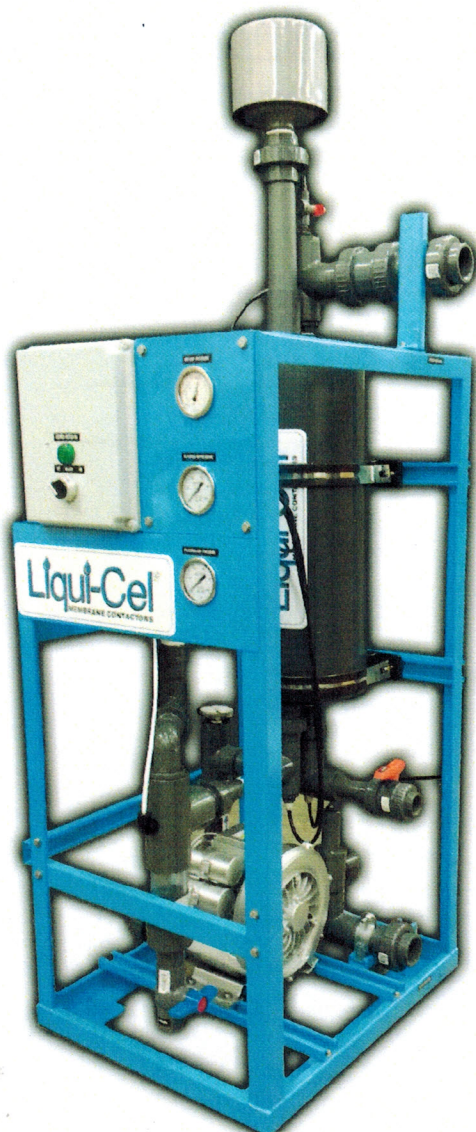
# MEMBRANE DECARBONATOR

CO<sub>2</sub> REMOVAL  
WITHOUT CHEMICALS



Liqui-Cel.com

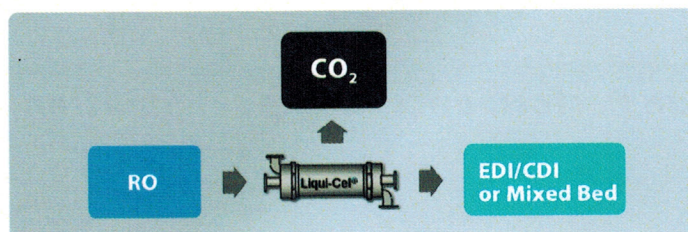
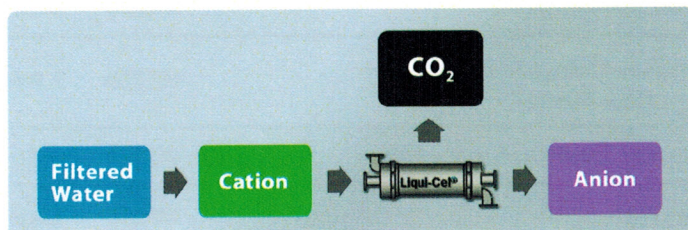
**Liqui-Cel**<sup>®</sup>  
MEMBRANE CONTACTORS



Dimensions: 51 cm (20") W x 69 cm (27") D x 163 cm (64") H  
Weight: 87 kg (190 lbs)

## 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



### CAUSTIC COST AND VOLUME COMPARISON IN MIXED BED SYSTEM

	NaOH Use (ton)	ANNUAL OPERATING COST
Without Membrane Decarbonator	86.5	\$28,585
With Membrane Decarbonator	72.5	\$23,925
<b>Savings up to</b>		<b>\$4,620</b>

System design: 10m<sup>3</sup>/hr flow rate regenerated 1 time per day, operating 365 days per year  
Inlet water conditions: 13.4 ppm free CO<sub>2</sub>, 86.1 ppm HCO<sub>3</sub><sup>-</sup>, and 19 ppm SiO<sub>2</sub>  
Free CO<sub>2</sub> at water outlet: < 2 ppm  
NaOH cost: \$330 USD / ton      Calculations based on LanXess Lewatit<sup>®</sup> Software (2015).





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## Features

Simple Installation and Operation



## Benefits

Minimal Setup Time and Low Maintenance

High Performance



Up to 95% Removal of Free CO<sub>2</sub> at 25° C

Does Not Require Chemicals to Operate



Reduce Chemical Storage Costs and Risk of Employee Exposure; Lower Operating Costs

Clean, In-line Operation



Remove CO<sub>2</sub> without Contaminating Water

Operates Using Small Blower  
in Suction Mode



Low Energy Use and Capital Cost

Compact Design, Small Size



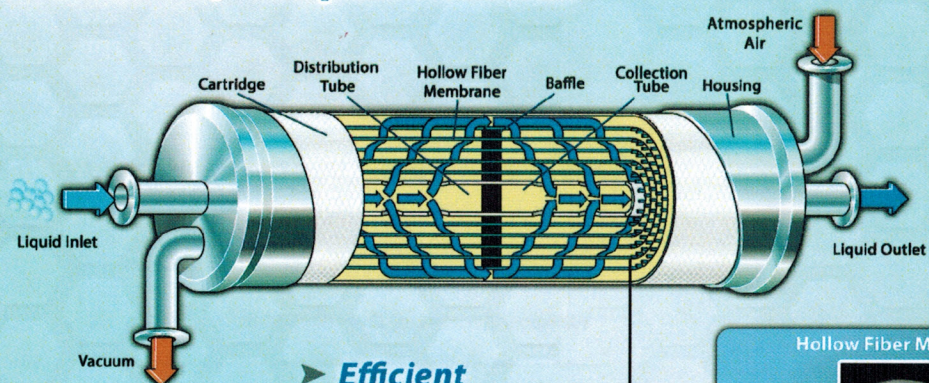
Can Fit into Many Existing Spaces

Mobility

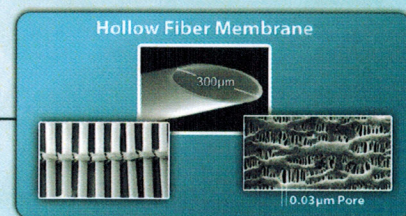


Easily Relocated

## High Performance, Compact Solution



- **Efficient**
- **Reliable**
- **Proven**





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## Liqui-Cel® 8x20 Decarbonator Skid

### Standard Equipment

- 8 x 20 EXTRA-FLOW Liqui-Cel® Contactor mounted in a painted steel frame
- Airtech model 3BA1300 motor 0.6 HP (0.45 kW) regenerative blower  
110-120V 50-60Hz 6 amp single phase  
220-230V 50-60Hz 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 (0-250° F)
- Water line: 1 ½ 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 - 11 m<sup>3</sup>/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)

Particulates: 5 um Absolute @ 99.9% removal (beta 1000)

#### WARNING:

- Air temperature should not exceed 30° C (86° F). If the water temperature exceeds the air temperature some heat transfer can occur.
- The unit may be placed in an environment 40° C (104° F). Air temperatures exceeding 30° C (86° F) may reduce membrane life.

### Ordering Info

Model	Voltage	Plug	Connections	Dimensions	Weight
SK-100-116	110-127V 50-60Hz	US	(lumen side) 1.5" Female NPT	(actual unit) 51 cm (20") - W 69 cm (27") - D 163 cm (64") - H	Dry - 86 kg (190 lbs) Shipping - 141 kg (310 lbs)
SK-100-216	220-240V 50-60Hz	No Plug		(crate) 69 cm (27") - W 89 cm (35") - D 178 cm (70") - H	

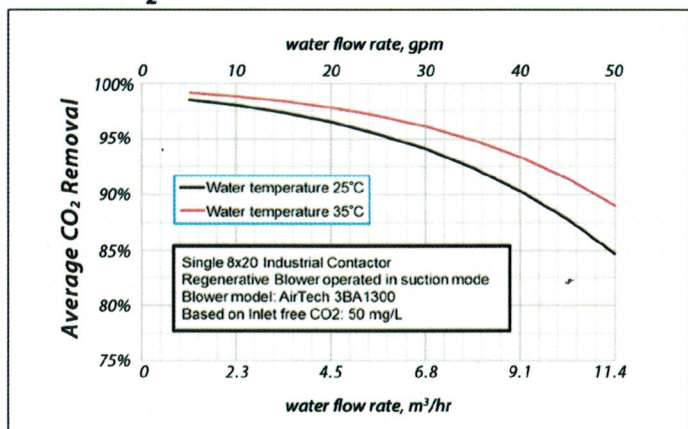


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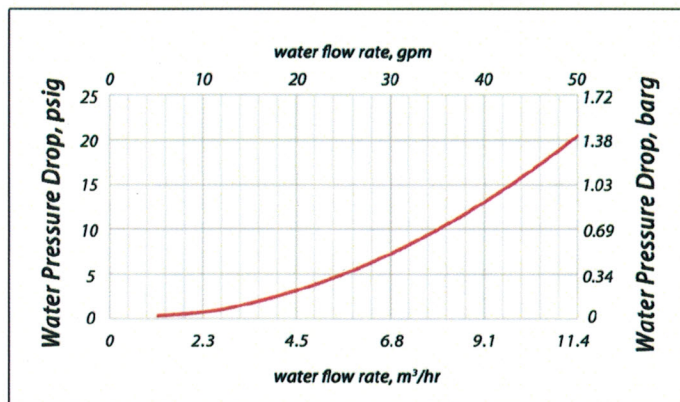
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## CO<sub>2</sub> REMOVAL PERFORMANCE



## SYSTEM PRESSURE DROP



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