

MEMBRANE DECARBONATOR

CO₂ REMOVAL
WITHOUT CHEMICALS



WITH

Liqui-Cel[®]
MEMBRANE CONTACTORS

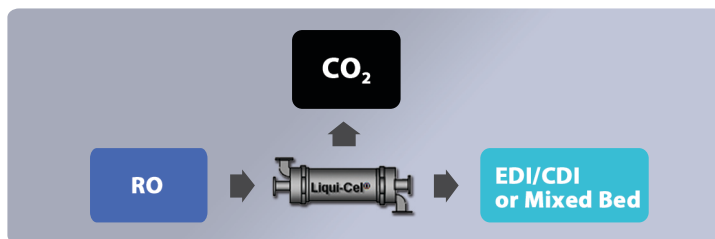
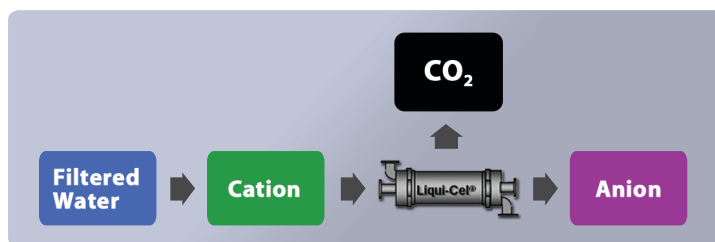
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Simple, High Efficiency Decarbonation For Small Water Deionization Systems

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



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



ANNUAL DI WATER SYSTEM REGENERATION COST COMPARISON

	NaOH ¹ Use (ton)	HCl ² Use (ton)	Service ³ Water Use (m ³)	ANNUAL OPERATING COST
Without Membrane Decarbonator	28	17	4,725	\$24,698
With Membrane Decarbonator	21	14	3,710	\$19,068
Savings up to				\$5,630

All units are in metric.

System Design: 10m³/hr (44gpm) regenerated 1 time/day

1) NaOH Cost: USD \$330/ton 2) HCl Cost: USD \$260/ton 3) Filtered Water Cost: \$2.10 per m³
Includes rinsing water and chemical dilution water

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Features

Simple Installation and Operation



High Performance



Does Not Require Chemicals to Operate



Clean, In-line Operation



Operates Using Small Blower
in Suction Mode



Compact Design, Small Size



Mobility



Benefits

Minimal Setup Time and Low Maintenance

Up to 95% Removal of Free CO₂ at 25°C

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

Remove CO₂ without Contaminating Water

Low Energy Use and Capital Cost

Can Fit into Many Existing Spaces

Easily Relocated

Standard Equipment & Operation

- ▶ 8 x 20 Industrial Liqui-Cel® Membrane Contactor
- ▶ Blower, 0.6 HP, 115V, 60 Hz (or 220/230V 50/60 Hz) Single Phase
18 cfm at 41 inches of Water Vacuum (Operated in Suction mode)
- ▶ Inlet Air Filter
- ▶ Liquid Knock-out Trap with Hi-level Float Switch
- ▶ Inlet & Outlet Water Pressure Gauges (0-100 psig)
- ▶ Compound Pressure Gauge at Blower Inlet (-30" Hg to 15 psig)
- ▶ Water Pressure Relief Valve
- ▶ Drain & Vent Valves
- ▶ Temperature Indicator (0-250° F)
- ▶ PVC Piping & Valves

Capacity	Water Inlet Connection	Water Outlet Connection
5-50 gpm	1.5" Female NPT	1.5" Female NPT

Maximum Water Temperature/Pressure

25°C, 4.8 barg (77°F, 70 psig)
40°C, 2.1 barg (104°F, 30 psig)

Operating Environment

0-50°C

* 5 micron water pre-filtration and softened or RO water is recommended.

* Air temperature should not exceed 30°C. If the water temperature exceeds the air temperature some heat transfer can occur.
The air temperature exceeding 30°C will reduce membrane life.