



## RJ-2000® BULK EMERGENCY CHLORINE SCRUBBER

Evoqua Water Technologies offers a full range of emergency scrubbers for protection against accidental leaks of toxic gases such as chlorine, ammonia and sulfur dioxide.

### RJ-2000 Emergency Scrubber

The RJ-2000® scrubber is the world's most popular emergency scrubber system. The process is designed to contain and neutralize chlorine vapors in response to a gas leak or catastrophic cylinder failure.

The RJ-2000 scrubber uses a unique horizontal flow path, with a proprietary caustic distribution network, to absorb better than 99.999% of the chlorine gas entering the scrubber, in a very compact footprint and low profile.

The RJ-2000 scrubber is the only emergency scrubber to have been tested by an independent, certified laboratory in a full 1-ton chlorine gas release. During this test, a catastrophic accident was simulated with chlorine release rates of 100 lb/min. The scrubber saw inlet chlorine concentrations in excess of 500,000 ppm, and outlet concentrations less than 1 ppm, safely below the 5 ppm Uniform Fire Code limit.

### How It Works

When a leak occurs, the pump and fan start automatically. The fan provides sufficient vacuum to contain the chlorine gas and deliver it to the scrubber. The pump circulates concentrated caustic solution over the scrubber packing to absorb virtually all of the chlorine gas.

The RJ-2000 Bulk Emergency Chlorine Scrubbers use the RJ-2000 horizontal scrubber mounted on one or more large caustic storage tanks. The tank size depends on the amount of chlorine to be treated.

RJ-2000 Bulk Emergency Chlorine Scrubbers have been built to treat from 5-Tons up to 90-Tons of chlorine.

### Standard Options

- Duty & standby recirculation pumps
- Duty & standby fans
- Heat tracing
- Insulation
- Horizontal or vertical caustic tanks
- Two and three caustic tank designs



RJ-2000® Bulk Scrubber, North Texas MWD, Wylie, TX

## RJ-2000® BULK SCRUBBER DESIGN INFORMATION

### SCRUBBER OPTIONS

Air Flow Rate	Scrubber Dimensions L x W x H	Fan Motor	Pump Motor
3,000 cfm (5100 m <sup>3</sup> /h)	7'-8" x 9'-8" x 6'-9" (2337 x 2947 x 2058 mm)	5.0 hp (3.7 kW)	20 hp (15 kW)
5,000 cfm (8500 m <sup>3</sup> /h)	9'-7" x 9'-4" x 8'-3" (2921 x 2845 x 2515 mm)	10 hp (7.4 kW)	20 hp (15kW)

### TYPICAL CAUSTIC TANK SIZING

Chlorine Capacity	Caustic Volume	Caustic Tank Dimensions	
		Single Tank	Dual Tank
5-Ton (5000 kg)	8,000 gal (30000 liters)	13' dia X 10' SSH	n/a
10-Ton (10000 kg)	16,000 gal (60000 liters)	14' dia X 16' SSH	2@ 13' dia X 10' SSH
25-Ton (25000 kg)	40,000 gal (150000 liters)	21' dia X 17' SSH	2@ 14' dia X 19' SSH
50-Ton (50000 kg)	80,000 gal (300000 liters)	28' dia X 20' SSH	2@ 21' dia X 17' SSH
90-Ton (90000 kg)	140,000 gal (530000 liters)	35' dia X 22' SSH	2 @ 25' dia X 20' SSH

Above sizing is a guideline for vertical tanks, based on 100 lbs/min release rate and 20% wt caustic solution. Actual tank dimensions and volumes are customized for requirements of specific projects.



RJ-2000® Bulk Scrubber, Cypress WTP, Wichita Falls, TX



RJ-2000® Bulk Scrubber, Joseph Jensen WTP, Sylmar, CA

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