

Chlorine Containment News™

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Equipment Installation Specialist for WTP's and WWTP's Reports Exceptionally Easy Installation for Secondary Containment Vessels for Chlorine Gas Cylinders



One-ton ChlorTainer™ cylinder containment vessels were supplied with loaders, scale systems, and instrumentation. Roller stands ease cylinder changing..



Instrumentation on top of units includes a failsafe valve that ties into the chlorine leak detection sensor, so that in the event of an external release, the failsafe valve will close, stopping any external leak.

A general contractor specializing in equipment installations for water and wastewater treatment plants in southeast Texas reports that installation of special secondary containment vessels for chlorine gas cylinders was “a very simple process.”

“It was much easier than pumps, dry and wet scrubbers, feeders, and other equipment we’ve done,” said the project manager for LEM Construction Co. of Houston, TX, who completed installation of two units at each of four water treatment plants (WTP’s) last June. “They were actually the easiest piece of equipment I’ve ever installed during my four years with the company.”

He explained that the units were delivered with external instrumentation and various internal features already in place, and that installation consisted basically of simply securing them on a concrete pad with anchor bolts, and then connecting feed and discharge lines.

“The manufacturer came out, gave us the installation manual, and helped us start them up,” he continued.

“They did a great job helping us out, and also training the operators. We were 90 percent done before we started.”

“Two of the plants had a movable hoist and trolley and overhead crane that they already had for the lifting of one-ton gas cylinders, and for the other two plants we used a backhoe. We didn’t have to worry about alignment or any other complications. Rollers to ease moving cylinders inside the vessels were already in there. Each site was done within a day.”

The one-ton ChlorTainer™ cylinder containment vessels, supplied with loaders, scale systems, and instrumentation, were manufactured by TGO Technologies, also known by its product name of ChlorTainer, of Santa Rosa, CA.

The units usually fit inside an existing facility, to help minimize engineering and construction costs. They can be installed outdoors, with shelter needed only from rain, snow, and direct sunlight, or they can be in a ventilated room.

They are nitrogen-powered rather than electrically-powered, with a fail-safe actuator automatically shutting off the chlorine supply if power is lost, and remaining shut down until it is safe to resume operation. The design also allows for automatically re-setting a seismic detection device that can be connected. The self-contained, simple passive design means there are no pumps, fans, scrubbers, or caustic circulation systems, nor is there any need for backup electric power.

The vessels enclose chlorine gas cylinders, the chlorine transfer hose, and seismic lock-down brackets. The chlorine transfer hose is attached to the supply valve, pressurized, and tested for any leaks at the hose ends. Then the door is closed, and secured by a clamshell locking mechanism.

Operators switch to the standby containment vessel automatically when the full cylinder runs empty, opening the vacuum breaker valve. The switch-over is performed automatically, and does not require personnel to be present.

With any accidental leaks of chlorine kept within the containment vessel, no atmospheric venting is generated. The vessels are ASME-rated

pressure tanks, and any leaks are recycled to the injection system at a normal flow rate. A failsafe valve ties into the chlorine leak detection sensor, so that in the event of an external release, the nitrogen failsafe valve will close, stopping any external leak.

Any leak or release of chlorine gas from the vacuum line downstream of a vacuum regulator will lose the vacuum condition, and cause the vacuum regulator to close, stopping the flow of chlorine gas to the vacuum line. The maximum release of chlorine gas will be the amount of chlorine gas that is the length of the vacuum line to the chlorine injector, and not drawn into the water solution by the suction of the injector.

The vessels’ life expectancy is stated as no less than 100 years, given proper maintenance, which includes changing out the Viton O-ring on the door. The annual maintenance on the vessels requires less than 5 minutes and under \$200.

In a further commitment to serving the water industry, ChlorTainer, is partnering with the American Water Works Association (AWWA) to financially support aspiring civil and environmental engineers and encourage their entry into that industry. For every ChlorTainer unit sold, the company will donate \$1000 toward engineering scholarships. The donation will go to the corresponding AWWA Section scholarship fund for the municipality that purchases the ChlorTainer(s). Further information is available via the AWWA scholarship page.

Further information about ChlorTainer is available from TGO Technologies, www.chlortainer.com, (800) 543-6603, sales@chlortainer.com.

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