

# WaterWorld

## City Turns To Water-Powered Injector For Liquid Chlorine

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In 2002, a chlorination facility in Fort Myers, FL, was struggling to find an alternative to gas chlorination. Staff were looking for a liquid chlorination solution that was powered by the flow of the water being treated, could be retrofitted into the existing facilities without costly renovation, and provide accurate, proportional injection to reach the required residual PPM ( $\pm 2\%$ ).

The facility found a solution in the form of an injector that was purchased for under \$500. The CP33, manufactured by Chemilizer Products of Largo, FL, is installed at Fort Myers on 8 inch mains. The chlorine source is 12 feet from the injector and the chlorine is injected two feet downstream. Installation was completed in about 4 hours and no modification of the facility was required, nor were permits or city inspections needed.

The CP33 injector has been in use at the facility for over four years. The facility uses a single unit for injection of 12% chlorine to create 200,000 gpd of potable water.

During the first four years of operation, the injector was used at various periods during the day. The injector was set for the maximum water flow rate and remained proportional as the flow varied. Maintenance on the unit consisted of regular scheduled cleaning (flushing the injection pump with water) and rebuilding the injection pump (< \$20) approximately every

18 months to two years. The pump rebuild and replacement was accomplished in under 10 minutes. Maintenance was accomplished without tools and without stopping water flow in the main. During the 4th year the injector motor was rebuilt at a fraction of replacement cost.

Facility operators check on the injector once every day. Proper operation is determined via a visual inspection of the injection control panel. PPM level is monitored via a Foxcroft 1000 chlorine analyzer, capable of reading within  $\pm 2\%$ . The injector has consistently performed within the specified tolerances.

Use of the CP33 by the City of Fort Myers and others proves the technology is viable for very small to medium-sized water treatment facilities, and is also ideal for booster stations of major municipalities.

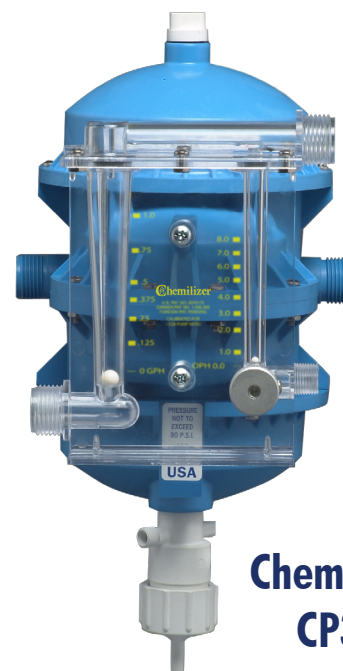
The system consists of three main parts: the water motor, the injection control panel and the chemical pump. The unit diverts only enough water to inject the desired amount of chemical. The rest of the water in the system flows past the injector.

The CP33 is installed using standard plumbing parts and can accommodate pipes from 1" to 12" and more in diameter. The volume of injection is adjusted using a simple visual interface. Operational maintenance can be performed in minutes and requires

no tools. If desired, the unit can be repaired or replaced without stopping the water flow.

The system injects only when water is flowing, eliminating the possibility of over injection and under injection, and the injection point can be up to 100 feet from the injector. Use of multiple CP33 injectors, placed in parallel, allows for the treatment of water flows from 12 gpm to 2000 gpm and more. The only real limitation on the upper flow limit is the logistics of handling and storing large volumes of liquid chlorine. **WW**

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**Chemilizer  
CP33**