

Guide for Commercial Pool Operators



Understanding Salt Pool Sanitization Systems

Although salt systems have been in commercial use for over twenty years, the technology is enjoying a new focus as an effective way to reduce operating expenses and with very few exceptions, salt-based sanitization is the most sensible way to maintain a commercial pool. The first step for any pool operator considering a conversion is to gain an understanding of how these systems work.

Salt pool systems, also known as chlorine generators or electrolyzers, work in conjunction with a pool's normal pump and filtration system. A small amount of salt (about one teaspoon per gallon) is added to the pool water and the unit electrically manufactures a pure form of chlorine gas that sanitizes the water immediately before it returns to the pool. The residual free chlorine in the pool is maintained by the system at a level that is pleasant to the bathers and a general lack of chloramines means there is no chlorine odor. Lastly, the modern salt systems operate at very low salinity levels; most bathers only notice a soft sensation to the water.

Each commercial pool operation deserves its own economic analysis but the payback on salt systems is usually one to three years. A complete analysis includes the following factors that are balanced against the obvious savings on chlorine.

1. Amortization of equipment- Typical life fifteen years plus cell replacement.
2. Cost of salt- At ten cents a pound, minimal.
3. Cost of additional electricity- About one-tenth that of pool pump.

Choice of Equipment

Unlike residential pools, commercial pools are subject to regulation by various governmental entities and it is essential to get the exact requirements for each application. Unfortunately, there is no clear national code that addresses salt systems and each municipality may have their own guidelines. Most regulators are familiar with on-site chlorine generation but some are not. Some only care that the residual chlorine is maintained according to the standards, others want to see systems with excess capacity, and some are satisfied with a statement from the supplier that the system is capable of sanitizing that particular pool. Likewise, some regulators may require certain certifications such as NSF or UL. Before shopping for equipment, all these details need to be known.

Smaller commercial pools found at some motels, apartments, and communities can often be done with good-quality residential-size equipment. Up to about 100,000 gallons, one or more regular-duty chlorine generators can easily sanitize the pool. If the local regulators allow it, this method is the most cost-effective; the equipment for small pools can be had for less and is often installed by on-site maintenance personnel. Large pools, from 100,000 to 1,000,000 gallons require industrial-type units and professional installation. Prices vary considerably but the equipment costs generally range from eight thousand to ninety thousand dollars.

Once installed, salt chlorine generators are easy to operate. Within days, the perfect settings are identified that will maintain the sanitizer at the desired levels and no further human intervention is required. PH is maintained as before, either manually or automatically. Although the systems do not use up the salt, some salt is lost during the normal filter cleaning process and with outdoor pools; rainwater overfills also discharge water with some of the salt. Most systems monitor the salinity of the water and provide guidance for adding replacement salt. The cost and frequency of this process is not burdensome.

The cost of liquid chlorine or tablets has increased considerably over that past ten years and is expected to climb even higher. Much of this expense is attributable to higher energy and transportation costs and the ability to make chlorine on-the-spot is perhaps the only relief. Salt pool technology is a time-tested way to reduce the operating costs of any swimming pool and with the added benefits to the bathers; it's only a matter of time before all pools are sanitized in this manner.

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