

Washing Out the Competition

AJT Associates, Inc. (AJT), of Cape Canaveral, Florida, worked with NASA to develop a revolutionary ozone-based laundry system. Through the transfer of space technology, AJT's TecH₂Ozone® wash system presents its customers with an energy-efficient, cost-effective, and environmentally safe way to perform commercial laundering. AJT was under contract with NASA's Kennedy Space Center to perform studies for the Solid Rocket Booster Parachutes used in the Shuttle Program. Once the boosters detach from the Shuttle during the launch, parachutes open to prevent the booster from falling to the bottom of the ocean, making booster retrieval relatively easy. However, the parachutes must be treated and repaired before they can be used in another launch. This job is performed at Kennedy's Parachute Refurbishment Facility (PRF).

The area surrounding Kennedy is part of Merritt Island National Wildlife Refuge and is composed of fragile wetlands and forest. Under a permit issued by the Florida Department of Environmental Protection, parachute rinse water was discharged into the drainage ditch, which emptied into the wetlands. As the permit approached its renewal date, Kennedy staff decided to investigate methods to recycle the wastewater. AJT conducted a bench study to evaluate the purification and reuse of the deck and wash waters of the PRF. A test unit

designed to measure the effectiveness of various water purification systems showed potable water used at the PRF retained chlorine, which would require removal prior to discharge. Kennedy personnel determined that a closed-loop water reuse system would not only be more cost-effective than continued treatment and discharge, but would also be more environmentally responsible. Although AJT's treatment and reuse system initially used at the PRF was replaced by Kennedy's regional wastewater recycling approach, it was eventually adapted and used at a number of other facilities and commercial systems at the Center.

The research and design that went into the AJT system led to the creation of TecH₂Ozone, the machine manufactured by AJT for commercial laundry facilities. While performing the study for the design of the system at the PRF, AJT recognized the sanitizing abilities of ozone. Ozone is reactive and short-lived, yet resists mixing and solution. These characteristics presented a hurdle in obtaining the level of ozone required to successfully treat the water. AJT's answer to the problem was the development of contact columns to be inserted in the wash tanks. The columns allowed for the proper transfer and concentration of ozone to be added to the water. This is the revolutionary technology behind the success of TecH₂Ozone. Not only was the proper solution of ozone achieved, but levels



This version of the commercial laundry system shows the ozone generator mounted beside the laundry machines with the unit controllers mounted on top of the washers.

could now be measured and adjusted according to various tasks—such as more ozone for dirtier laundry.

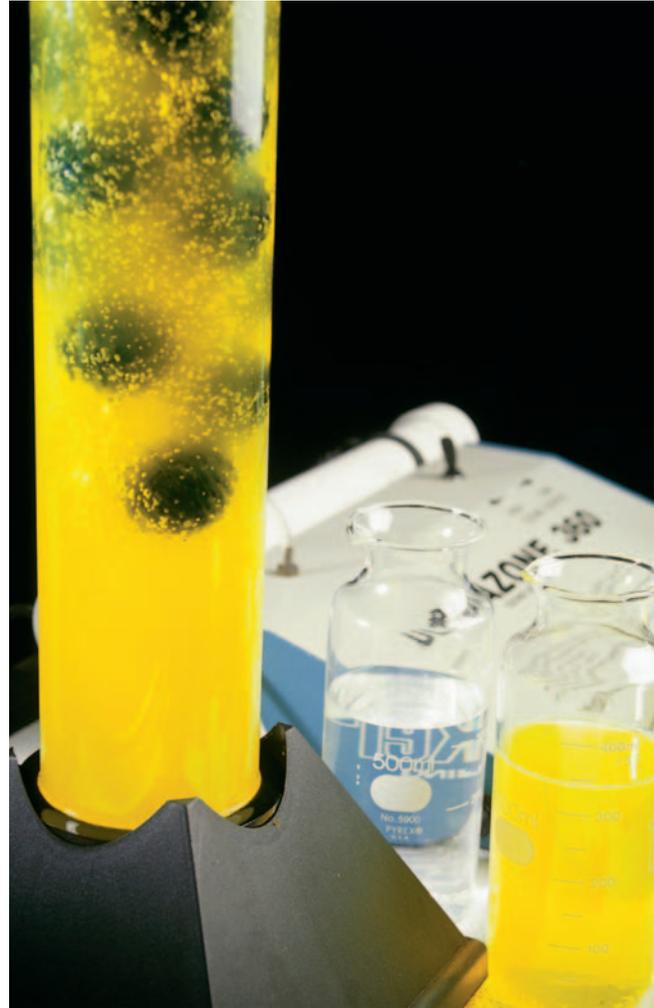
TecH₂Ozone significantly reduces the amount of water and chemical used as compared to traditional commercial laundry systems. This reduction has resulted in lower cost and shorter wash cycles. And due to the reduced use of chemicals, a significant portion of the rinse water is recycled back into the system for reuse.

TecH₂Ozone customers, such as hotels and other large commercial laundry facilities, have felt the benefits of this equipment. Because of the reduced cycle times, fewer washers are needed and there is a notable increase in the cleanliness of the laundry. Customers are particularly excited about the ironing time saved due to the generation of fewer wrinkles through TecH₂Ozone's use of cold water, and the fact that colored and white laundry can be washed together without fear of bleeding dyes. Fabrics cleaned with TecH₂Ozone are fluffier and more absorbent, making towels softer and more comfortable to use. The reduction in chemical residues is a boon to those with allergies and to those prone to skin irritation from chemicals retained in regular laundry. Vice President Richard Wood says, "This also has the potential to reduce bed sores for those who are hospitalized for long periods of time, since bed sores are often caused by an interaction of perspiration and alkali residue in bed linens."

Along with dramatic reductions in chemical costs, customers save tens of thousands of dollars each year due to reduced energy use and water consumption. Return on investment for hotels and commercial laundries is 18 to 24 months, with a 50 percent cut in overall costs.

Agrimond L.L.C., the AJT company responsible for selling the TecH₂Ozone system, is approaching the commercial laundry marketplace with great excitement. They believe this space age technology will become the industry standard because of tremendous cost savings, environmental benefits and increased product quality. And it all started with a bench study and a system designed to solve a water contamination problem at Kennedy's Parachute Refurbishment Facility. ❖

TecH₂Ozone® is a registered trademark of Agrimond, L.L.C.



A chemical sample is cleaned in the laboratory using ozone.