

**OZONE IN THE LAUNDRY (CONTINUED):**

**Reduces drying time**

Ozone opens the fibers of the fabric allowing more water to be removed in the extraction cycle. Therefore, the laundry contains less moisture upon removal from the washer, thus reducing the prescribed drying time, further saving energy costs.



**Actually extends the life of linen**

Linen laundered in ozone, experience longer service life. It has been estimated that the life of linen can be extended as much as 25% mostly due to reducing or eliminating many of the chemicals harmful to textiles. Another contributing factor in extending the life of the linen is the reduction of rinse and dryer cycle times in the laundry operation.

**OLS Ozone Advantage**  
*“Saving energy with the power of nature”*

An ozone laundry system consists of two major components: the oxygen concentrator and the OLS Laundry System generator packaged in either a single housing or two separate enclosures. These components are “state-of-the-art” electronic devices offering maximum reliability and efficiency, even in the harshest of environments. The oxygen concentrator provides the ozone generator a supply of a minimum of 95% pure oxygen. The OLS Laundry System generator converts the oxygen to ozone using a corona discharge method. An ozone laundry system is typically mounted on the wall by your laundry professional in close proximity to the washers. This eliminates the need of using any valuable floor space.

Ozone laundry systems are available in a variety of models, depending on the size and number of washers to be integrated.

Ozone laundry systems are designed and engineered so it is externally connected to the washers. There are no holes drilled into the wash wheel or any hoses that are inserted into the washer.

Ozone laundry systems are designed to be connected directly in-line to the incoming water supply and the input cold water line of the washer. Installation is simple and should be performed by your

laundry professional. All conversions are 100% guaranteed. Your laundry professional can determine your expected savings prior to installation so you will be completely satisfied with the anticipated performance of the system. Your laundry professional will also discuss how easy it is to take full advantage of the cost saving opportunities of an ozone laundry system. There may also be incentives or rebates available to you from your local energy provider that can be applied to your purchase or lease consideration of an ozone laundry system.

**You can start saving money today with OLS Laundry Systems!**



**An Introduction to Ozone:**

The use of ozone (O3) in commercial laundry is rapidly expanding because of ozone’s proven ability to perform as the most powerful disinfectant commercially available. Ozone kills viruses and bacteria like nothing else known to science while dramatically lowering operating costs. Because of the ever-increasing costs of energy and environmental concerns, commercial laundry operations can now take advantage of the power and cost savings of ozone technology.

**Ozone simply put...with a brief history:**

We have all heard of ozone, yet most of us may know very little about what ozone really is or how it is produced. It is after a thunderstorm that we most commonly experience the effects of naturally occurring ozone, which we can describe as the “smell of fresh air”. Ozone also occurs in the upper atmosphere where oxygen interacts with the radiation of



the sun. Just as ozone is produced naturally, it can also be produced by man-made means for industrial purposes.

The industrial use of ozone has actually been around for over a century. In the early 1900’s, Europe first implemented the use of ozone commercially for the purification of municipal drinking water. Now, many municipal water treatment facilities worldwide are utilizing ozone water treatment systems including Los Angeles County, which operates one of the largest water-treatment systems in the world and has used ozone sanitation since 1948. Today, with the many water-bottling companies in existence (and sales of over \$6 billion in the US in 2001), ozone is the essential and primary disinfecting agent in the bottling process. Ozone makes the bottled water aesthetically pleasing, improving its taste and smell, while also increasing its storage stability

**OLS Ozone Generators**

- Professional Laundry Ozone Systems
  - Industry proven
  - Saves energy costs
- Improves fabric look, feel and life
- Start saving money immediately
- Improve the performance of your laundry operation

and making it safe to drink. Ozone is also taking the place of chlorine in swimming pools (including the Olympics), eliminating the smell and irritation associated with harsh chemicals.

**The popularity of ozone is growing daily.**

Ozone systems were first introduced to commercial laundries in the United States in 1991. Since its introduction, much effort has gone into the engineering and design of today’s ozone systems. Ozone systems now have proven technology which optimizes performance and increases reliability. With the high cost of energy, along with the latest ozone equipment design improvements, the benefits of ozone in the laundry operations are beginning to be fully realized. Commercial, industrial and institutional laundry operations are, more than ever, looking for cost saving strategies to position themselves against the rising cost of utilities.

**The chemistry of ozone:**

Ozone (O3) is an allotropic form of oxygen gas having three (3) oxygen atoms (triatomic) as opposed to normal diatomic oxygen (O2), a constituent in the air we breathe having two (2) atoms of oxygen. Ozone (O3) is produced when an electrical charge, such as lightning or corona discharge, molecularly disassociates a stable molecule (O2) splitting it apart leaving two unstable atoms (O1) of oxygen. These two single atoms of oxygen seek out and attach themselves to stable O2 molecules thereby combining to become ozone (O3). In the absence of oxidizable substances, ozone decomposes to form oxygen - in the presence of oxidizable substances traces of CO2 will also form. Ozone itself is a virtually colorless gas with an acid odor and, as mentioned earlier, it is one of the strongest known oxidants, with an electrochemical oxidation potential of 2.08 V.

With the mention of "ozone levels" from smog within our cities, we may often have the impression that the use of ozone gas might be bad for the environment - this is not so. Because ozone is made of oxygen and reverts to pure oxygen, it vanishes without trace once it has been used (oxidized). Compare this with other disinfectants. Regarding air pollution in larger cities, ozone can be formed when a mixture of O2 and NO2 is exposed to bright light. The concentration of NO2 in air is usually very low, because NO2 and O2 do not react at normal temperatures. However, reacting gases inside the cylinders of hot internal combustion engines, nitrogen

and oxygen can react. The NO (Nitric Oxide) formed inside automobile engines reacts spontaneously with O2 in air to form NO2. Nitrogen dioxide is a red-brown gas that dissociates when it is irradiated with bright light. The oxygen atom formed in this process attaches to a molecule of O2, forming ozone. On sunny days where NO2 pollution from traffic is high, the concentration of ozone in the air can reach significant levels.



*Not only is the laundry much whiter, it's brighter and fluffier, too!*

**The Power of Ozone**

Ozone is the most powerful disinfectant and oxidant commercially available on earth. Extremely unstable, ozone cannot be stored in any manner and, therefore must be generated on site. Ozone is a powerful biocide allowing it to control odors, kill viruses and wipe out bacteria. Studies confirm a 99+ percent bacterial and viral kill count from ozone laundering. Ozone, in fact, when used in the laundering environment, is 150% more powerful in disinfecting than chlorine, killing bacteria up to 3000 times faster. Ozone whitens and leaves fabrics noticeably superior over conventional laundry methods.

Nitrogen and sulfur compounds can cause odors in soiled laundry. Ozone, as a powerful deodorizer, breaks down the bonds that hold the odor molecules together, thereby eliminating the odor. Ozone will virtually attack and destroy any odor causing microbes.

**Ozone in the Laundry:**  
*Using Ozone in the laundry offers many significant benefits.*

**Reduces hot water usage**

Because of ozone's tremendous oxidizing ability, which increases the cleansing capability of the wash chemicals used in the laundry, the wash water temperature can be significantly reduced.

better at lower temperatures due to its increased solubility.

**Reduces chemical usage**

Chemistry can be reduced and still be more effective with the use of ozone. Besides saving money on

microbial contaminant's like E. coli, Listeria monocytogenes, Salmonella, Giardia Lamblia, Cryptosporidium and pathogens in the soiled laundry.

**Improves fabric quality**

Customer testimonies confirms that the comparative results are immediate and sometimes dramatic as to the quality of laundry washed with ozone versus conventional methods. Customers report: "Not only is the laundry much whiter and brighter, but it is also fluffier". You can stack towels and washcloths washed in ozonated water next to a stack of the same number washed in non-ozonated water and the ozone treated pile will be twice as high". Laundry is "fresher smelling" and more sanitary than traditional methods of washing.

**Improves laundry room environment for workers**

By reducing or eliminating hot water and shortening drying times, the comfort of the employees increases because of the cooler working conditions.

**Clean Machine.**  
There is wisdom in nature – Pacific Ozone Technology, the world's leading industrial ozone manufacturer, produced the Ozone Laundry System generator series specifically designed for the 24/7 commercial and industrial laundry operation.

**OZONE™**  
LAUNDRY SYSTEMS INC.

**The Power of Ozone**

- Reduces hot water used
- Disinfects wash water
- Shortens drying time
- Deodorizes fabrics
- Extends the life of linen

chemicals, using fewer chemicals means that the number of rinse cycles is reduced, thereby saving water (and sewer) bills and enhancing machine productivity (and useful life). The reduction of harsh chemicals in the laundry room also improves worker safety.

**Reduces incidence of bedsores**

The use of harsh chemicals in the wash is known to

Conventional washing methods typically require a temperature of 140°F to 160°F. With the use of ozone, the wash water temperature is reduced to not more than 90°F to 95°F. All other cycles can be run entirely with cold water. By using ozone, an actual savings of up to 95% in hot water usage can be realized, depending on local groundwater temperatures. Ozone actually works

be a contributing cause of bedsores (pressure ulcers). Alkali and bleach residue in the linen fiber elevate pH levels; the use of ozone helps maintain neutral pH levels, thereby reducing the incidence of bedsores.

**Disinfects the wash water**

Worth mentioning again, ozone has an incredible and powerful ability to virtually wipe out all forms of harmful,