

OZONE

The use of ozone as a means of sanitizing, an anti-microbial agent, or a cleaning system has expanded rapidly in recent years. Since FDA approval in 2001, the use of ozone for cleaning and sanitizing has expanded into multiple markets and industries. Ozone deployment systems continue to grow as a cost effective and safe alternative to chlorine and other chemical or thermal decontamination systems.

As a method of disinfection, ozonation of water was first used in Nice, France in the early 20th century to improve drinking water taste and odor. It is rapidly gaining acceptance in Europe and the United States as an alternative to chemical treatment of drinking water, recreational water (pools, spas), landscaping water (ponds, fountains), and industrial process water.

ADVANTAGES:

- It is one of the strongest oxidizing agents available – 150% stronger than chlorine over a broad pH range
- It can be generated on site – no shipping, handling, or storage required
- Reacts swiftly and effectively on all strains of viruses
- Rapidly decomposes to oxygen, requiring no waste disposal or neutralization
- No formation of toxic halogenated compounds

APPLICATIONS

- Bottled Water
- Food and Food Services
- Microelectronics Production
- Laundry systems
- Wastewater Treatment
- Pharma & Biomedical
- Pools and Spas
- Aqua-Culture
- Hospitals



ECLIPSE MEMBRANES ARE MANUFACTURED BY MARKEL CORPORATION
610-272-8960 · 435 SCHOOL LANE · PLYMOUTH MEETING, PA 19462 · USA

www.markelcorporation.com

In the United States ozonation is used by community water suppliers in California, Colorado, Michigan, Maine, New Jersey, Oklahoma, Pennsylvania, Texas, Wisconsin and Wyoming. Communities receiving ozonated water include: Anaheim, Los Angeles, San Francisco, Oakland, suburban Philadelphia, Oklahoma City, suburban New York City, Dallas, El Paso, and Milwaukee (from: American Water Works Association Fact Sheets on Ozonation, www.awwa.org/advocacy/pressroom/ozone.cfm)

The advantages of ozonation for disinfecting a water supply is that it clears out disease-causing microbes including Giardia and Cryptosporidium which are both extremely resistant to chlorine disinfection, but can cause serious illness or death if ingested. Ozonation also eliminates most of a water supply's taste and odor issues.

Unlike chlorine, ozone disinfection dissipates quickly in the water supply. Effects of the presence of ozone disappear quickly making disposal and handling issues go away, but contaminants entering an ozonated water supply after treatment has occurred will be not be affected by the treatment.

As a means of odor reduction, ozone may be used in the gaseous state where it will convert odor causing mole to less offensive species. When used in this mode, the ozone still requires transport to the target from the generator and uniform distribution to be effective.

The Role of ECLIPSE Hollow Fiber Membranes®

Markel porous PTFE hollow fiber membranes find applications with ozone generation and distribution in two key areas: the efficient and bubble-free [distribution and dissolution of ozone in water](#) through the use of PTFE hollow fiber gas/liquid contactors, and protecting the ozone generation process itself through the use of [PTFE hollow fiber Motionless Check Valves](#).

Ozone Products & Data Sheets

[Motionless Ozone Check Valve](#)

[Ozone Contacting & Distribution](#)

[Gas Liquid Contacting and Separations Data Sheet](#)



ECLIPSE MEMBRANES ARE MANUFACTURED BY MARKEL CORPORATION
610-272-8960 · 435 SCHOOL LANE · PLYMOUTH MEETING, PA 19462 · USA

www.markelcorporation.com