

DELZONE® CD Technology vs. UV Lamps

Eclipse Corona Discharge (CD) Technology Surpasses Ultraviolet (UV) Lamps!

Ozone provides the purest, healthiest, clearest and cleanest water imaginable!

DELZONE™ Eclipse Corona Discharge (CD) are used worldwide by pool builders and service professionals for residential pool & spa applications. Technological advances in CD technology enable DELZONE CD systems to produce higher ozone output (and concentration), while significantly reducing end-user operating costs over UV lamps. Many pool professionals know about CD and UV production methods, but are not fully aware of the numerous advantages that CD holds over UV lamps.

The most effective method for generating ozone is with **Corona Discharge (CD)** technology. Ultraviolet (UV) lamps are occasionally used in the pool and spa industry today, but this outdated technology produces far less ozone concentration, is costly to operate, and requires maintenance that DELZONE Eclipse systems eliminate. The following table compares the benefits of DELZONE CD to UV lamp systems.

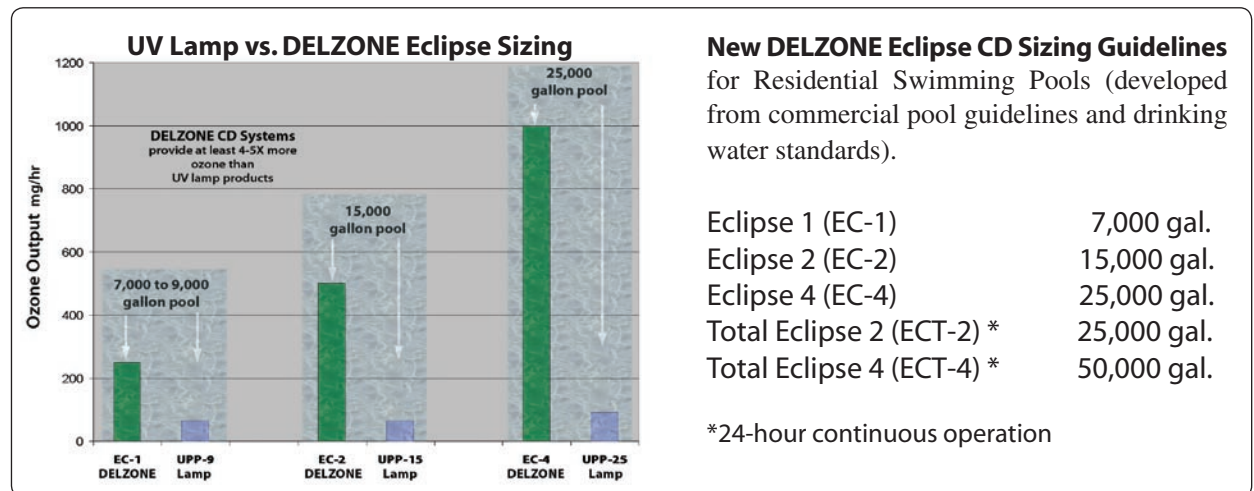
DELZONE Eclipse CD Benefits

- DELZONE Eclipse CDs generate 4-5X higher ozone concentration than UV lamps (1500 PPM compared to 300 PPM).
- DELZONE CD uses 70-90% less electricity than UV lamps.
- DELZONE CD ozone sizing standards are developed from commercial pool guidelines and drinking water standards.
- DELZONE CD ozone electrodes outlast UV lamps by 2 to 3 years.
- DELZONE CD pricing is within 10% of UV lamp pricing.
- DELZONE CD is very affordable.

UV Lamp Generator Benefits:

- Initial purchase price. *The only benefit UV lamps have over any Corona Discharge product is moderately lower prices.*

Note: The electrical generating costs of Ultraviolet lamps are 5-9X more (depending on manufacturer) than CD. This means that the cost to operate a UV system for two to three years is substantial.



DELZONE® Eclipse CD Technology

DELZONE Eclipse CD Technology Eliminates Need for Air Dryers

DELZONE™ Eclipse CD technology has overcome **humidity**, **nitric acid**, and **air dryer** issues historically found in CD ozone for residential pools. Over the past 20 years, DEL Ozone has developed and installed commercial CD systems for major theme parks, commercial aquatic centers, resorts and aquariums such as Universal Studios, Atlantis Paradise Island and the San Diego Zoo. Our considerable CD engineering design experience has enabled us to develop affordable residential CD ozone systems which don't require unreliable air dryers, but still produce 4-5X more ozone (for the same pool gallonage) than competing UV systems. Unlike other CD manufacturer's, DEL's Eclipse CD electrodes are robustly designed with glass and stainless steel components to repel the effects of nitric acid while still producing significantly higher concentrations of ozone than UV in high humidity installations.

Humidity and Air Dryers - *nitric acid resistant*

It is known that humidity interferes with ozone production in *both* UV and CD ozone generators. In addition, the presence of humidity can also produce nitric acid as a by-product. Historically, the majority of CD ozone generators utilize an air dryer to remove humidity and prevent nitric acid production to avoid catastrophic failure. If an air dryer component fails in those systems, nitric acid forms and quickly destroys the ozone generator.

The glass and stainless steel design of DEL's Eclipse CD technology for residential pools **has eliminated the need for air dryers**. Historical Eclipse ozone electrode reliability data over the past 4 years indicates that high humidity does NOT adversely affect the life of our electrodes like other commercial CD manufacturers' equipment. This design ensures that high ozone concentrations are produced economically in high humidity installations while being reliable, durable and maintenance free.

Humidity - *DELZONE Eclipse CD outperforms UV*

Both CD and UV ozone generating systems are affected by humidity. Knowing this, DEL designed the Eclipse CD electrodes to produce higher outputs of ozone at all levels of humidity when compared to UV lamp systems (for similarly sized residential pools). The graph below compares CD and UV relative ozone outputs at 60-80% RH.

