

Using Ozone to Disinfect Aircraft Cabins

Team from Energy Quest Technologies, The University of Arizona College of Public Health, and Pima Air & Space Museum Test a More Efficient Method to Clean Planes

The Problem: During the 2020 Coronavirus pandemic, airlines are looking for ways to promote a sterile and safe travel experience for their customers. Current disinfection methods involve using a large crew to deep clean an aircraft at the end of the day. This approach requires a lot of manpower and a huge time commitment considering how many airplanes fly each day.

The Solution: Energy Quest Technologies decided to try a new approach to cleaning airplanes. Energy Quest Technologies is a Chandler, AZ based manufacturer of portable air conditioners. They knew pumping ozone into the plane through its air conditioning system could be the solution. Airplanes are inherently airtight, providing the perfect conditions for ozone treatment.



Boeing 737 used for the ozone disinfection experiment

Energy Quest Technologies, The University of Arizona College of Public Health, and Pima Air & Space Museum experimented on a Boeing 737 to test this approach to sanitizing a plane.

Results: Ozone treatment allowed for effective disinfection results in a short amount of time. Hospital grade sterilization was achieved in about 90 minutes of treatment. There was a 99.9999% reduction in virus due to ozone treatment. An added benefit was the ability of ozone to penetrate hard-to-reach places on the plane, such as the seat back pockets and tray tables in the upright & locked position.

Click here to learn more about
Energy Quest's Aircraft Sterilization System:
<https://energyquesttech.com/aircraft-sterilization/>



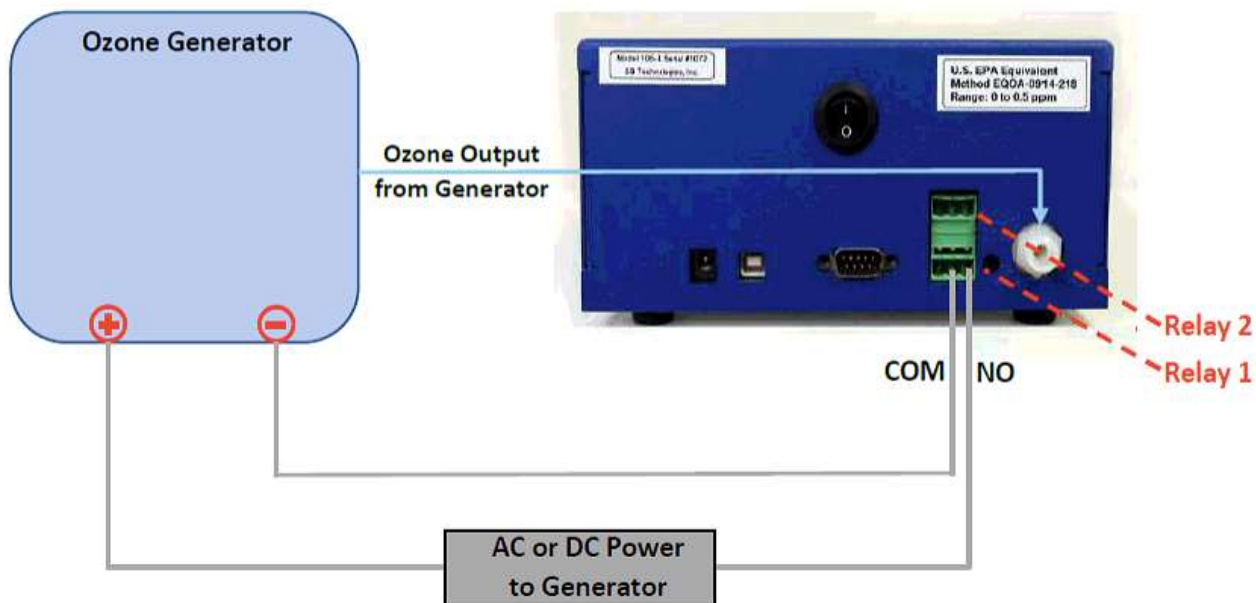
2B Technologies' Model 106-L Ozone Monitor



Virus is pipetted onto tray table for testing

The 2B Tech Instrument's Role: The Model 106-L monitored the ozone concentration throughout the aircraft sterilization process. The portability of the instrument allowed the ozone monitor to be located inside the aircraft cabin during the testing. Here the Model 106-L could measure the concentration to ensure ozone reached a critical level to achieve 99.9999% reduction of virus.

The Model 106-L offers two two-level relays which can be used in a disinfection application to control the output of an ozone generator.



Controlling Ozone Generator Output Using Relays

The relay can be programmed to turn off a generator at a set concentration to prevent over-production of ozone. Conversely the relay can be programmed to turn on a generator when ozone concentrations drop below a user-defined set point. This will help ensure the proper amount of ozone is generated to provide efficient disinfection. Please review the Tech Note on our website for additional information about programming the relays on the Model 106-L: https://twobtech.com/docs/tech_notes/TN045.pdf

The Bottom Line: The ability to control the production of ozone combined with the high level of precision, accuracy, and reliability for ozone measurement offered by the Model 106-L make the instrument a simple yet ideal package for any disinfection & sterilization application. Please reach out to 2B Technologies to discuss using the Model 106-L for your application.