

## PSD Benchtop UV/Ozone Systems

The use of ultraviolet light and ozone for the removal of molecular levels of contamination is a proven and effective approach to ensuring the cleanest possible probes and surfaces for your application. The PSD Series of decontamination systems has been designed specifically for use in the electronic, semiconductor and scientific communities.

### Benefits

- Effective removal of molecular organic contamination
- Superior lamp intensity maximizes cleaning capabilities
- Save research funds by reusing probes and samples
- Adjustable sample height for optimum treatment
- Unbeaten versatility: clean, etch, sharpen, pattern
- Multiple gas ports for additional gas or exhaust
- Compact benchtop footprint saves lab space
- Optional ozone neutralization

### The PSD Series

#### PSD-UV

The PSD-UV is a research grade UV/ozone cleaning system boasting maximum versatility for molecular organic stripping. Operate in ambient air or flow oxygen through one of two standard gas ports for increased ozone production. A multifunction digital timer and adjustable stage ensure accurate timing regimes and optimum scouring parameters for the system. Choose the optional ozone neutralization package and use the PSD-UV almost anywhere.

#### PSD-UVT

The PSD-UVT takes the power of the PSD-UV to a new level with the addition of a temperature controlled stage designed to maximize the destruction of molecular organic materials. A digital controller with PID feedback loop accurately maintains stable temperatures of up to 150 degrees celcius.

#### PSD-UVOP

This ozone generating unit was designed to be used in series with the PSD UV/ozone cleaners. Pure oxygen pumped into the chamber of the PSD-UVOP is converted to ozone by multiple UV lamps. Ozone is forced out of the chamber into a UV/ozone cleaner or another instrument requiring the removal of molecular levels of organic contamination.



PSD-UVT

#### Suitable Substrates

Silicon  
Glass  
Mica  
Quartz  
Metals  
Ceramics  
Sapphire  
Gallium Arsenide

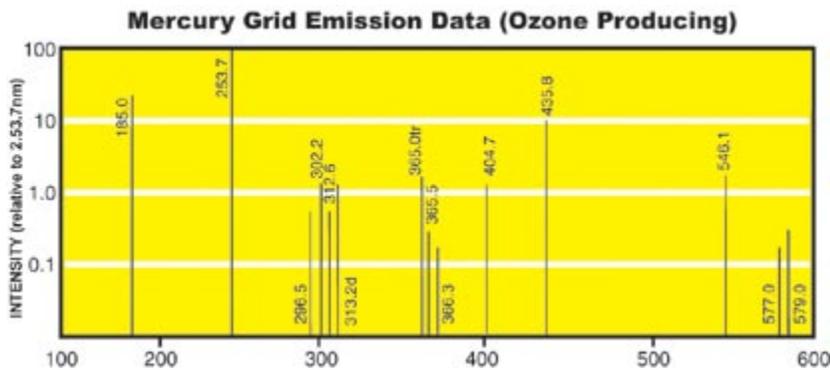


PSD-UVOP

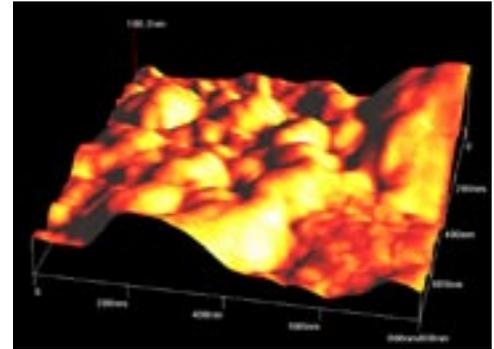
# Are your probes and surfaces clean?

## How the PSD Series Works

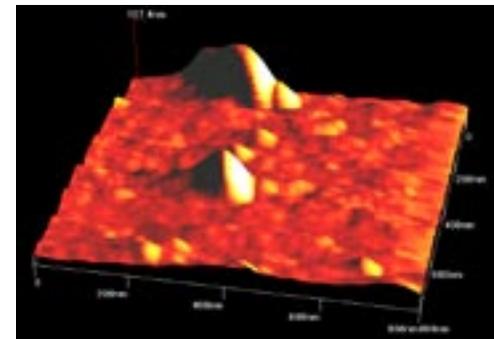
Mercury vapor lamps generate intense UV light at wavelengths critical to the cleaning process. A wavelength of 185nm dissociates atmospheric oxygen to form ozone. Organic molecules on the sample surface are excited by the 254nm wavelength forming free radicals. Deleted organics are released in the form of CO<sub>2</sub> and H<sub>2</sub>O vapor.



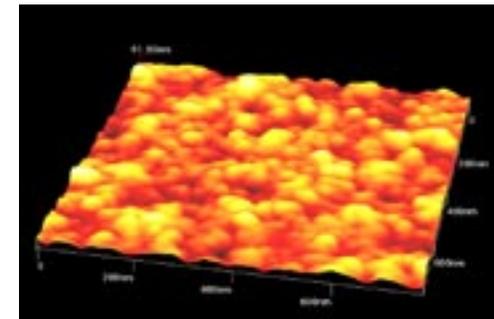
## Powerful, Effective Cleaning



Contaminated glass laboratory slide



Contaminated glass laboratory slide after 10 minutes of PSD treatment



Glass laboratory slide, decontaminated after 20 minutes of PSD treatment

Images were scanned at high speed using the Novascan ESPM atomic force microscope (contact mode in air, 20 Hz scan rate, 800x800nm scan size, 0.12 N/m cantilever).

## General Specifications (PSD-UV & UVT)

- Dimensions:** 13"L x 12"W x 13"H
- Weight:** ~20 pounds
- Power:** 100, 110, 220, 240 VAC  
50-60 cycle
- Timing:** Multifunction digital timer
- Safety:** Safety switched
- Sample Size:** 6" diameter
- Sample Height:** Adjustable up to 1.75"  
(Height extenders available)
- Gas Ports:** Two ports standard
- Heated Stage:** 150 degrees C (PSD-UVT only)
- O3 Neutralization:** Optional for PSD-UV & UVT
- Lamp lifetime:** Approximately 5000 hours