

UV sample cleaners

HITACHI



ZoneSEMII



ZoneTEMII



UV-Ozone Sample Cleaner for SEM and TEM

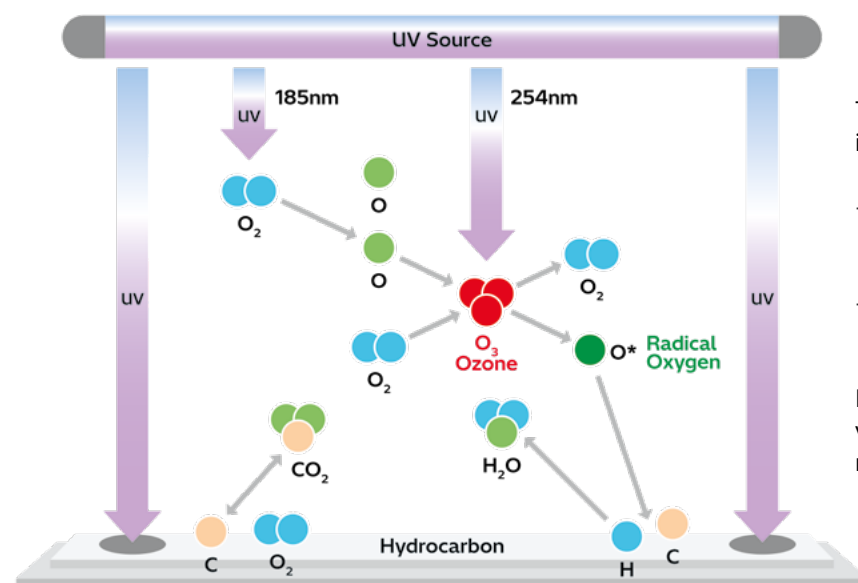
Gentle removal of hydrocarbon contamination

SEM, STEM and TEM users know the problem: High-resolution imaging is often impaired by the build-up of a hydrocarbon contamination in the observation area. This is usually caused by gaseous hydrocarbons that are continuously deposited during observation due to the energy transfer of the electron beam. The source of these hydrocarbons may be due to non-optimal chamber vacuum, which can typically be improved with plasma cleaners,

In most cases, however, the observation objects and sample holders themselves are the dominant source of contamination. Here, plasma treatment often proves to be too aggressive in the sense of altering or even destroying the sample. Hitachi's Zone cleaners for SEM and TEM offer a clever, gentler alternative, based on ultraviolet light and free oxygen radicals. They offer fast and thorough removal of hydrocarbon contamination with significantly reduced energy input compared to plasma cleaners, meaning even sensitive light element materials which are easily damaged by plasma cleaning can be effectively cleaned.

The sample cleaners in the Zone product family are equipped with UV lamps with wavelengths of 185nm and 254nm, which attack hydrocarbon bonds, break up oxygen molecules and generate reactive components in the form of ozone.

The chamber pressure can be adjusted to optimise the cleaning mechanism between more oxidative or more physical depending on the type of sample.

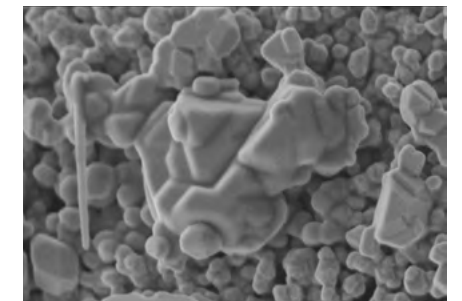


The basic principle of the Zone product is to use 2 different UV wavelengths:

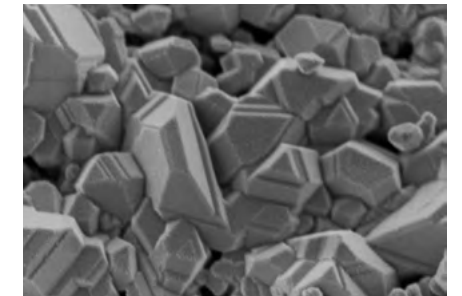
- 254nm for hydrocarbon cracking, destroys Ozone and produces high energy Oxygen.
- 185nm Ozone production, hydrocarbon cracking.

Performed in atmosphere or partial vacuum, surface is cleaned and may become hydrophobic.

ZoneSEMII



Before ZoneSEMII

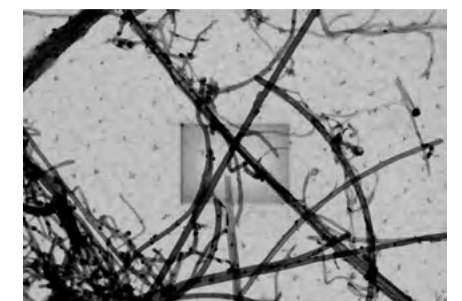


After ZoneSEMII

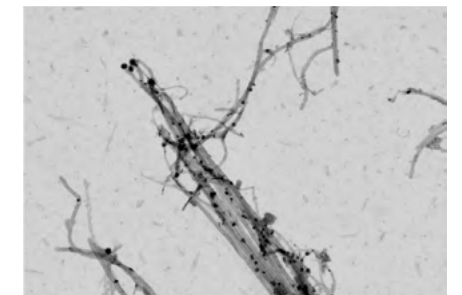
Product Features

- For samples up to 100mm Ø and 37mm high.
- Cleaning and storage function.
- Recipe memory.
- Typical process times 5-15 minutes.

ZoneTEMII



Before ZoneTEMII



After ZoneTEMII

Product Features

- Access for up to 5 TEM sample holders (configurable).
- Cleaning and storage function.
- Recipe memory.

Not sure which product aligns with your needs?

Our experts are here to provide guidance and help you make the best choice.

Speak with an expert >

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