

## Jelight UV cleaners



UV JELIGHT cleaner are compact, user-friendly and efficient:

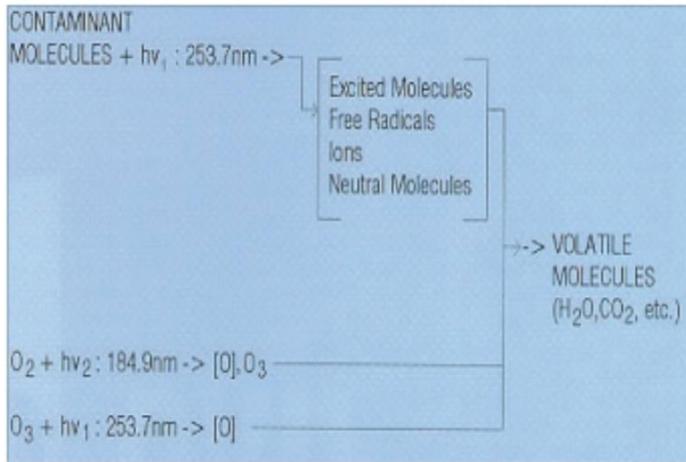
**High-performance and easy to operate**, they can use (depending on the models) a combination of UV radiation, ozone and heat in order to gently but effectively remove organic materials on a variety of substrates such as silicon, gallium arsenide (GaAs), sapphire, metal, ceramic, quartz and glass.

**Versatile**, JELIGHT systems are suitable for a wide range of applications.

**Customizable**, it is possible to prepare a special configuration depending on your needs for cleaning, etching or polymerization applications.

All systems are complying with CE marking.

# UVO-Cleaner<sup>®</sup>: the damage-free alternative



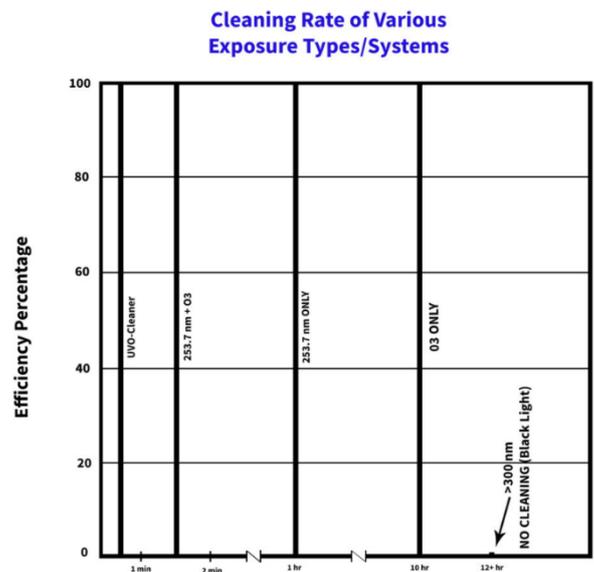
Jelight UVO-Cleaner<sup>®</sup> is made entirely of polished stainless steel and is equipped with a digital timer to control the duration of UV exposure.

In addition, for efficient and maximum cleaning, this unit is equipped with an adjustable tray for the parts to be cleaned and a high-pressure mercury vapor UV grid lamp that optimally generates atomic oxygen, ozone and short-wave UV radiation.

Finally, Jelight UVO-Cleaner<sup>®</sup> is equipped with inlets for oxygen or other gaseous media and an exhaust port for connection to the exhaust system.

The UVO method is a photo-sensitized oxidation process in which contaminant molecules of photoresists, resins, human skin oils, cleaning solvent residues, silicone oils and fluxes are excited or dissociated by the absorption of short wavelength UV rays. Atomic oxygen is generated simultaneously when molecular oxygen is dissociated at 184.9 nm and ozone at 253.7 nm. Ultraviolet radiation at 253.7 nm is absorbed by most hydrocarbons and also by ozone. The products of this excitation of contaminant molecules react with atomic oxygen to form simpler volatile molecules that desorb from the surface. Therefore, when both UV wavelengths are present, atomic oxygen is permanently generated and ozone is permanently formed and destroyed.

By placing properly cleaned samples within five millimeters of an ozone-producing UV source, such as the low-pressure mercury vapor grid lamp of the UVO-Cleaner<sup>®</sup>, nearly clean surfaces can be achieved in less than one minute. The process does not damage the sensitive peripheral structures of the MOS grid oxide.



## Jelight UVO-Cleaner Models



Model	Size of cleaning plate			Size of case			Power	
	Width (cm)	Depth (cm)	Height (cm)	Width (cm)	Depth (cm)	Height (cm)	Tension	Frequency
18-220	7.62	15.24	3.18	29.21	23.50	21.59	220V	50Hz
24-220	10.16	15.24	3.18	29.21	23.50	21.59	220V	50Hz
30-220	12.7	15.24	3.18	29.21	23.50	21.59	220V	50Hz
42-220	15.24	15.24	3.81	20.32	33.02	20.32	220V	50Hz
342-220	15.24	15.24	8.89	20.32	33.02	25.4	220V	50Hz
144AX-220	30.48	30.48	7.62	40.64	60.96	27.94	220V	50Hz
5144AX-220	30.48	30.48	12.7	41.402	71.12	35.56	220V	50Hz
256-220	40.64	40.64	7.62	50.8	71.12	27.94	220V	50Hz
288A-220	60.96	30.48	7.62	71.12	60.96	27.94	220V	50Hz
384-220	60.96	66.04	7.62	71.12	71.12	27.94	220V	50Hz
576-220	60.96	60.96	7.62	71.12	91.44	27.94	220V	50Hz
7576-220	60.96	60.96	17.78	71.12	91.44	38.1	220V	50Hz

\*Ozone concentration and the distance between the sample and the UV source can greatly affect the cleaning rate.

## Functions

- ▶ High-intensity grid lamp
- ▶ Stainless steel case
- ▶ Affordable equipment
- ▶ Digital timer for simple and reproducible results
- ▶ Stainless steel tray with optional rubber mat
- ▶ Height-adjustable tray for substrates up to 2.54 cm / 25 mm in height
- ▶ Automatically cleans and improves coating adhesion
- ▶ Multimedia input port
- ▶ Exhaust port with ozone destroyer and optional fan

## Applications

- ▶ Removal of organic contamination
- ▶ Pre-cleaning of wafers (e.g. cleaning a sapphire substrate prior to the HgCdTe deposition process)
- ▶ Removal of residues from a photosensitive resin or a polyimide compound surface
- ▶ Modification of surfaces to obtain a better adhesion
- ▶ Final cleaning before molecular bonding
- ▶ UV drying
- ▶ Growth of stable oxide thin films (GE, Si)
- ▶ Cleaning of AFM tips

## Options

All units are available with fan-extracted ozone killers, which allow the unit to be used without the need for external extraction. The ozone killer will dissociate traces of ozone from the exhaust gases, while the fan will increase the flow of exhaust gases.

Radiometers and detectors are also available to measure lamp intensities.

