

- Removes native oxide from metallic and semiconductor surfaces
- Removes residual organic contamination films
- Passivates surfaces against re-oxidation
 - Fast, non-toxic, dry, atmospheric process
 - Downstream radical chemistry - CMOS safe



Do you have a surface problem?

Native oxides and organic contamination on surfaces can disrupt subsequent processes such as solder bonding, wire bonding, thin film deposition, hybrid assembly, plating operations, wicking of underfills, and related processes.

Fast, simple solution

Ontos7 utilizes a fast, atmospheric process to reduce oxides and organic contamination, providing advantages over traditional methods such as wet etching, fluxes, or vacuum plasma treatment. The tool can also create a few monolayers of modified surfaces which passivate against re-oxidation while not interfering with subsequent processes.

Clean and Green

Ontos7's patented process and equipment utilize commonly available semiconductor-grade gases and an atmospheric plasma source to provide local chemistry right at the surface of your part, with zero hazardous byproducts or waste.

Ontos7

Surface Preparation

SYSTEM DESCRIPTION/SPECIFICATIONS:

- Uniquely-designed atmospheric plasma source with 25mm-wide process zone. The glow discharge-type plasma is completely contained within the source.
- Computer-controlled X-Y-Z stage. The vacuum chuck accommodates die or substrates from 2mm up to 200mm (others upon request), with thicknesses up to 20mm.
- 300 W RF generator has a wide-range auto-tune network, system computer control and monitoring of forward and reflected power.
- 3 Mass Flow channels provide precise digital control of gas to the plasma source. A 4th MFC is user-definable.
- ESD-safe, interlocked enclosure with safety interrupts. Exhaust for process gases (no scrubber required).
- Fully automatic system with ergonomically-mounted touchscreen display. Software developed in LabVIEW™. Menu-driven interface with user-configurable recipe libraries.

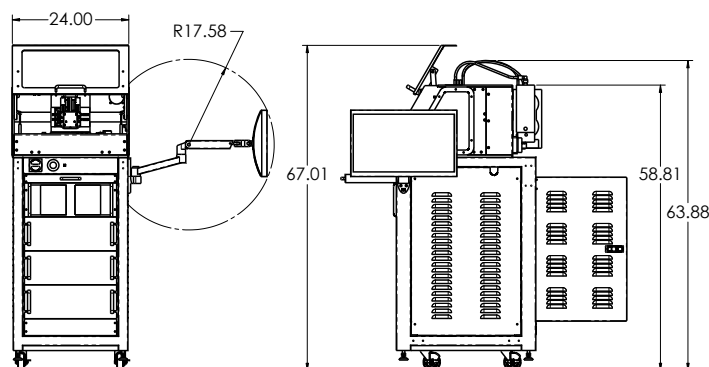
Facilities required:

- Power: 110-220VAC single-phase, 15A.
- Gases: 4 channels of gas supply by 1/4" stainless or Teflon tubing; Swagelok compression fittings. (All gasses are non-toxic, non-flammable.)
- Exhaust: <1 cfm (no scrubbing required).
- Lab vacuum: 20-25" Hg (or optional oilless vacuum pump) for stage vacuum.



APPLICATIONS:

- Reduction of oxides and contamination to promote adhesion and ohmic contact for flip-chip, thin-film deposition, wirebonding, adhesive bonding, soldering, hybridization, aqueous plating, wicking of underfills. Proven effective on Nickel, Copper, Tin, Indium, Gold, Silver, and alloys of these metals.
- Preparation of sensitive semiconductor surfaces to reduce metastable oxides and active contaminants prior to passivation.
- Removal of thin photoresist "scum" without oxygen – ideal for lift-off metallization, ohmic contact.
- Surface activation for direct bonding.
- Enable new metallurgies for room-temperature and low-temperature "soldering". Contact us for details.



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