

VUV

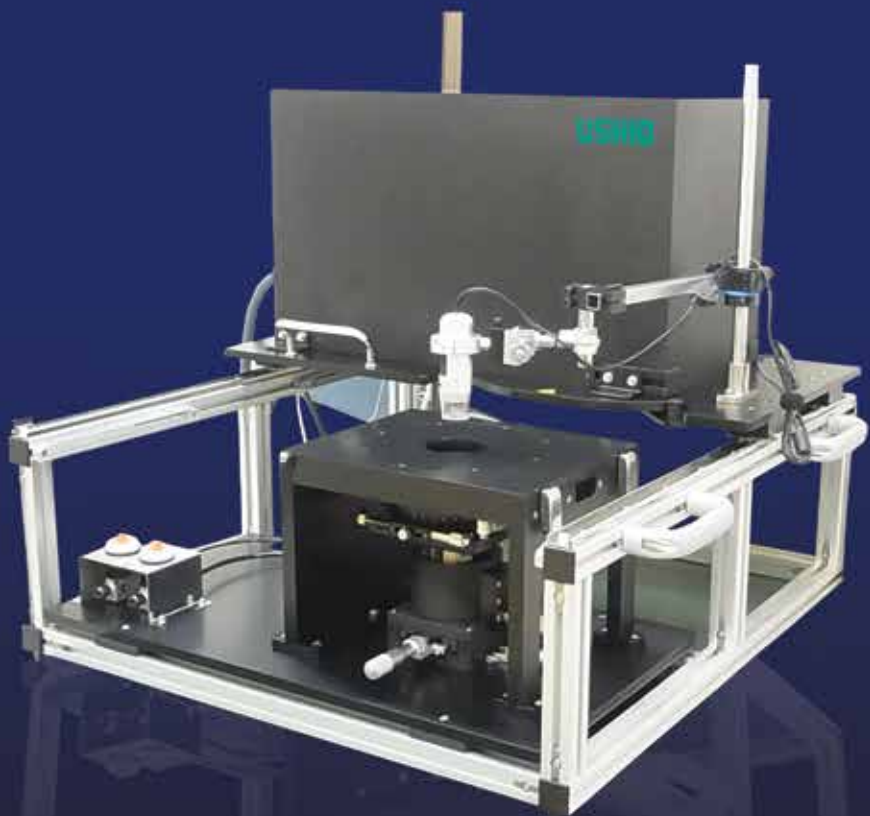
Collimated Light Source

USHIO's VUV collimated light equipment uses a pulsed xenon light source to irradiate many sensitive substrates. A hydrophilic process is used to form a self-assembled monolayer or collimated VUV light can be used to etch a selective organic layer. This process along with the highly collimated 172nm light, allows for the fabrication of detailed miniature circuits with line resolution down to 5 by 5 microns. Low levels of heat generated by the light source allows for design flexibility as the user can incorporate a variety of substrates into their work including plastic.

The small scale, highly selective and detailed abilities of this tool make it ideal for prototype manufacturing in a laboratory setting. USHIO also has the capability to manufacture larger scale automated machines with multiple heads intended for industrial use and mass production. For more information on custom orders, please contact your local sales manager.



VUV COLLIMATED LIGHT

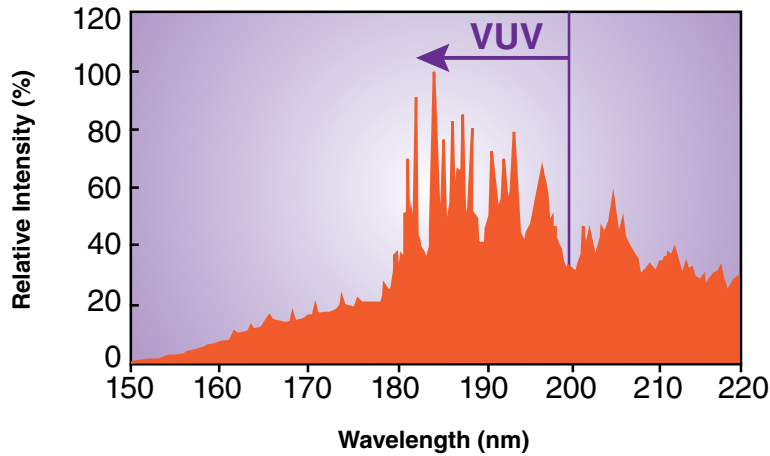


VUV COLLIMATED LIGHT EQUIPMENT

SELECTIVE VUV/O₃ TREATMENT

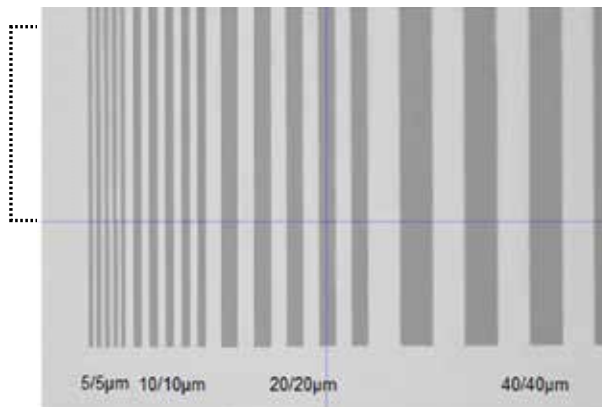
- Collimated Broad Spectrum with Exceptional 172nm Output
- Low Temperature Process
- Selective Hydrophilic Treatment
- Selective Organic Matter Decomposition
- Can Be Applied to Flexible & Stretchable Materials

Lamp Description	Mask Type	Sample Size	Wavelength (nm)	Optical System	Alignment	Gap	Utilities
SUS740	4"	Ø30mm	150 to 200	Collimated Light Source	Manual	Adjustable by Spacer	AC 100V, N2: 10L/min



Selectable Surface Modification Using Collimated VUV Light Equipment

Coating Ag Nano Ink



Ag Nano Ink: Sigma Alto Rich 719048

Achieved 5/5µ Resolution

Exposure Parameter(s)

Gap µm: Working distance between mask and samples
Coater: 3mm/sec moving

Materials adhere only to exposed hydrophilic area

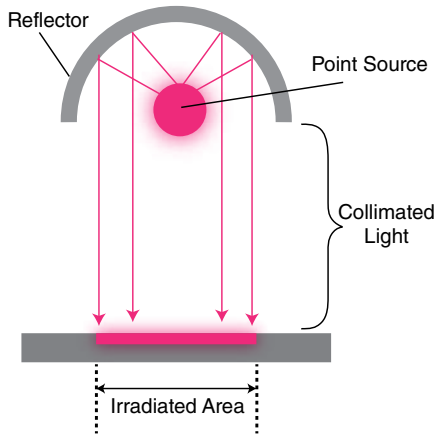


1 hour baking at 200°C

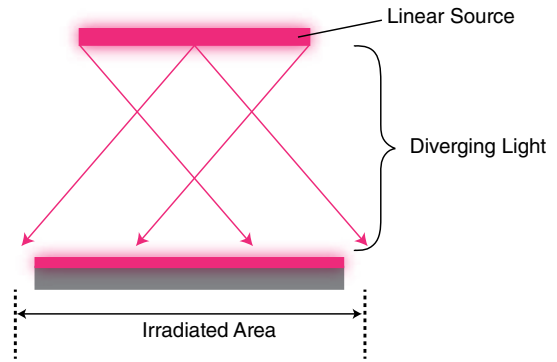
SELECTIVE VUV/O₃ TREATMENT

Principle of Collimated Light Source and Selective Treatment

New Principle of Collimated Light Sources



Conventional VUV Light Source



Principle of Hydrophilic Treatment and Organic Materials Decomposition by VUV

