



Integrated
Surface
Technologies



The Blue Lantern Plasma Reactor

The Blue Lantern **Fully Automated Plasma System** is based on our the 2013 Edison Award Winning technology in Material Science. This plasma surface modification system is designed for laboratories, analytical services and pilot-production use. In can be supplied completely self-contained on a small mobile cart, with pump, noiseless air compressor, and chemical absorption filtration. A tool ideal for electronics manufacturers, university laboratories, medical diagnostics labs, prototyping facilities, machine shops, etc. This system is well suited for plasma cleaning, functionalization, depositing of thin films, or light surface preparation. The IST system is one of the lowest cost-of-ownership plasma tools available.

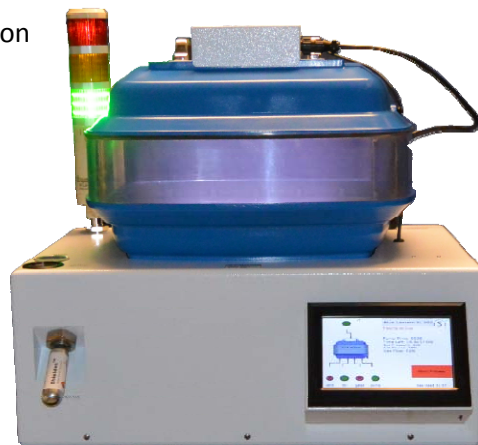
The Blue Lantern plasma reactor has a unique stackable design in which the vacuum chamber can be expanded. This allows for quick configuration changes. The system is equipped to utilize simple disposable gas cartridges to allow for many different applications.

Surface Modification:

- Surface Priming and Preparation.
- Hydroxylation and Adhesion Promotion.

Plasma Etching:

- Thin Film Removal.
- Native Oxide Etching.



PECVD Protective Coatings for:

- Mobile Phones and Tablets.
- Electronic Assemblies.
- Hearing Aids.
- Medical Devices.

The Blue Lantern Advantage

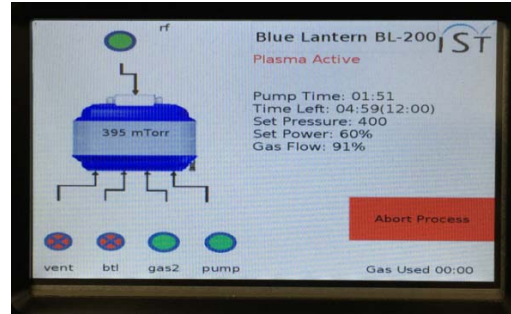
- Stackable Chamber Design with various configurations available for multiple applications and load-sizes.
- Lowest Cost-of-Ownership (COO) system in the industry.
- Efficient and minimal chemical usage.

Complete Automation

- Powered by a credit card-sized single-board computer using LINUX OS.
- Large 7" Touch-Screen LCD Interface.
- Pre-programmed process recipes for unattended repeatable processing.
- Automatic Shutdown when process chemical is exhausted.



www.bluelanternnano.com



IST's unique "Stackable" system allows for flexible expansion of the process chamber while maintaining the smallest chamber volume for fast processing times.



| | Control |
|---------------------|--|
| Control | Single-Card Computer |
| CPU | ARM1176JZF-S 700MHz processor |
| Display & Interface | 7" LCD Touchscreen Panel with VideoCore-IV GPU |
| RAM | 512MB |
| Storage | 4GB SDHC Flash - expandable to 32GB |
| Alerts | Audible Alarm. (Option: Light Tower) |
| Network | Ethernet RJ-45 (Linux OS) |

| | Facilities |
|---------------------|---|
| BL300 Power | 115-120V, 1Φ, 3Amps or 220V |
| Pneumatics | 80PSI Clean Dry Air (IST Option: Noiseless, 1 Gallon Compressor - requires 115V@2A) |
| Vacuum Requirements | KF25, >8 CFM, 5×10^{-3} mbar (Option: Vacuum pumps are available from IST depending on your specific application – additional electrical power required.) |
| Pump Exhaust | Access to the outside. (Option: Chemical Absorption Filter available depending on process.) |

| BL200/BL300 | Hardware |
|---|--|
| Chamber Material | Combination of Al, Glass, Epoxy & Plastics |
| BL200 Chamber Dimensions with one and two tiers | 15"(W)x11"(D)x4.8"(H) 14 liters 15"(W)x11"(D)x8.6"(H) 25 liters |
| BL300 Chamber Dimensions with one, two tiers | 12"(W)x11"(D)x4.8"(H) 11 liters 12"(W)x11"(D)x8.6"(H) 19 liters |
| Chemical Inputs | Pre-Packaged Cartridge. External gas via 1/4" tube. |
| RF Power | 150W - Variable control. |
| Pressure | Digital Thermocouple. |
| Gas Flow | Electronic Proportional Valve (Option: MFC) |
| Weight | ~65 lbs. (Varies depending of other hardware options.) |
| Shipping Dimensions (~) | 32" (W) x 28" (D) x 24" (H) |

| | Chemicals Available |
|-------------------------|---|
| Pre-Packaged Precursors | CF ₄ , SF ₆ , C ₂ F ₆ , H ₂ O, H ₂ O ₂ |
| External: | Connect your own chemistry. |

Safety Standards:
CE Certified
EN 61010
EN 61326



Many chemicals available in pre-packaged steel cartridges.

Summary

This small nanotechnology coating system is ideal for manufacturers and R&D laboratories. IST's technical staff has over 100 man-years of vacuum and plasma technology experience.