

Atomflo™ 600 Atmospheric Plasma System



The Atomflo™ 600 atmospheric pressure argon plasma system is ideally suited for in-line cleaning and activation of materials prior to bonding. The plasma produces a beam of reactive atoms that etch away contaminants on the surface all the way down to the atomic scale. The compact, lightweight plasma head, together with the low-voltage, radio-frequency power, make it safe and easy to integrate surface treatment into any assembly line. The beam of reactive atoms is low temperature and 100% electrically neutral. It treats metals, glass, and plastics equally well. It will not damage sensitive electronics, or thin film polymers, such as polyethylene. An in-line production system can treat many millions of parts per year at a cost of ownership of a few cents per part (<\$0.05 USD).

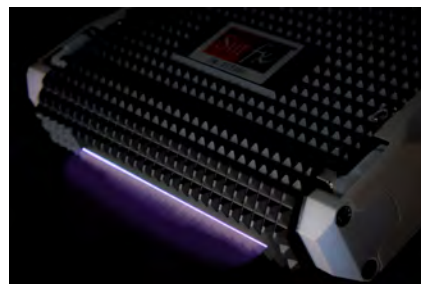
Best atmospheric plasma on the market

The Atomflo™ 600 is designed for high-volume, in-line manufacturing:

- Fast, uniform treatment over 100-mm-wide strips
- Low temperature activation of thermally sensitive polymer films
- Variable chemistry – argon with O₂ (oxidizing), or argon with H₂ (reducing)
- No sparks, no streamers, no ESD, no UV, no particles, no damage
- Real-time monitoring and control of forward and reflected power, mass flow rates, and head temperature
- Every machine performs exactly the same way all the time (24/7)

Industries Served

- Electronics assembly, displays and packaging
- Aerospace – composites and metals
- Medical devices and diagnostics

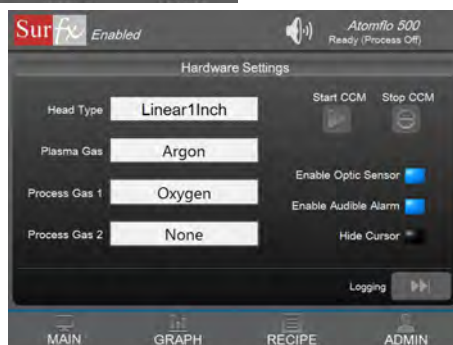


Plasma head with 100-mm linear beam

Atomflo™ 600 Features

Embedded software

The Atomflo™ 600 takes performance to a whole new level with powerful software and an 8-inch touchscreen human machine interface.



System limits and alarms

- Set warning and stop limits for all process parameters
- Select plasma head type, and choice of plasma and process gases
- Enable system locks and alarms
- Secure operation with password-protected administrator access

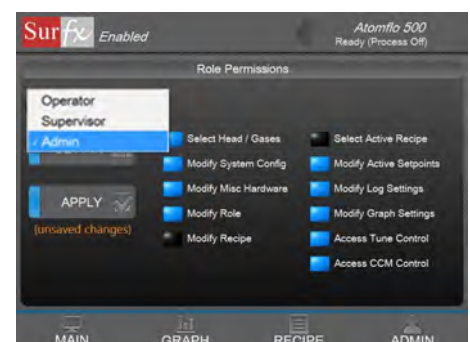


Manage recipes

- Create and store unlimited process recipes
- Program complex sequences, such as soft start, power ramp up, and timed treatment

Advanced monitoring and control

- Real-time monitoring and control of process parameters - RF power, gas flows, and head temperature
- Real-time graphical output of process parameters
- Select desired operating limits for control
- Connect via Ethernet, USB or RS232 to external industrial controllers



Features and Specifications

Automation

The Atomflo™ 600 integrates into the Standalone Plasma Machine (SPM), which enables 4-axis automated treatment.

Versatile chemistry

The machine operates with argon and multiple process gases, including O₂ (cleaning and activation, N₂ (cell adhesion), and H₂ (copper oxide removal).

Auto-tuning matching network

- Two variable capacitors ensure wide tuning range
- Self calibrates strike position for multiple plasma heads
- Continuous, fixed, or strike-only tuning algorithms



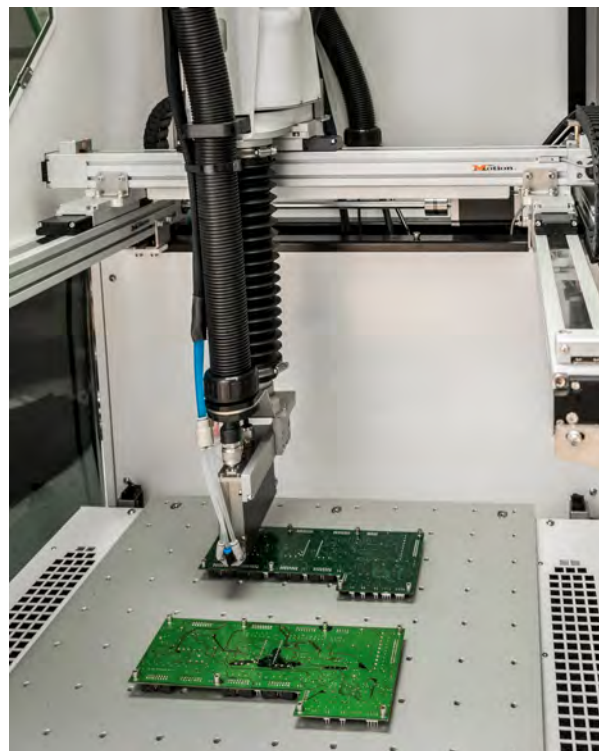
25-mm linear plasma head



100-mm linear plasma head



Minibeam plasma



Standalone Plasma Machine with 400 x 400 mm² working area

System specifications

Item	Specifications
Dimensions (W x D x H)	440 x 640 x 230 mm (17.3 x 25.1 x 9.1")
Weight	Approximately 43 kg (96 lbs)
Electrical supply	110-240 VAC, 50-60 Hz, 700 W
Maximum RF power	600 W \pm 3 %
Operating pressure range	40-100 psig \pm 5 %
Primary gas	Argon
Process gases	Oxygen, Nitrogen, or Hydrogen
Water-cooled plasma heads	Linear beams, 25, 50, 75 and 100 mm wide Minibeam with 1 mm spot

About Us

Surfx Technologies LLC

Founded in 1999, Surfx Technologies has developed and brought to market a true low-temperature, variable chemistry, atmospheric pressure plasma. The technology was initially based on patents exclusively licensed from the University of California. Our latest offering, the Atomflo™ 600, incorporates many new features that are covered by multiple U.S. patents.

Our mission is to be the worldwide leader in the surface treatment of materials for electronics assembly, aerospace, and medical device industries. We are driven by a total commitment to our customers. Our team of engineers and scientists will provide you with outstanding service and support.

Contact us to find out if our product is right for you. On-site demonstrations and monthly rentals are available on request.

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