



Atomflo™ 500 Argon Plasma System

The Atomflo™ 500 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 and lightweight plasma head, together with the low-voltage, radio-frequency power supply, 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. It will not damage sensitive electronics, or thin film polymers, such as polyethylene. An in-line production system can treat millions of parts per year at a cost of ownership of a few cents per part.

The
Bonding
Experts



You deserve the best surface treatment

The Atomflo™ 500 is designed for high-volume, in-line manufacturing:

- Fast, uniform treatment over 50-mm-wide strips.
- Non-damaging: no sparks, no streamers, no ESD, no UV, and no particles.
- Low temperature activation of thermally sensitive polymer films.
- Variable chemistry: argon with oxygen (oxidizing), or argon with hydrogen (reducing).
- Real-time monitoring and control of forward and reflected power, flow rates, and head temperature.

Industries served

- Electronics
- Aerospace
- Medical devices

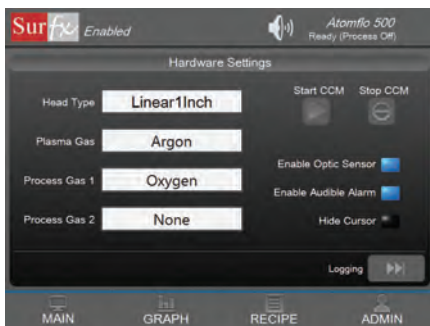


Plasma head with 50-mm linear beam

Atomflo™ 500 Features

Embedded software

The Atomflo™ 500 takes performance to a whole new level with powerful software and an 8-inch touchscreen human machine interface.



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.
- Adjustable operating limits for optimal control.
- Connect via Ethernet or RS232 to external industrial controllers.

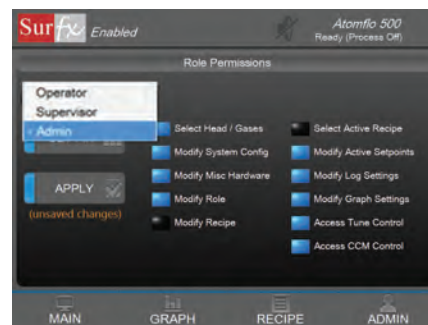
System limits and alarms

- 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.



Automation

The Atomflo™ 500 integrates into automated treatment systems, including Surfx's STA-10 plasma machine.

Versatile chemistry

The machine operates with argon and multiple process gases, including oxygen (cleaning and activation), nitrogen (activation), and hydrogen (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.



STA-10 automated plasma system with 500 x 350 mm² working area



50-mm linear plasma head



Minibeam plasma

System specifications

Item	Specifications
Dimensions (W x D x H)	440 x 650 x 230 mm ³ (17.3 x 25.1 x 9.1 in ³)
Weight	Approximately 43 kg (96 lbs)
Electrical supply	110-240 VAC, 50-60 Hz, 1,000 W
Maximum RF power	300 W ± 3%
Supply pressure range	40-80 psig ± 5%
Primary gas	Argon
Process gases	Oxygen, nitrogen, or hydrogen
Water-cooled plasma heads	Linear beams: 25 & 50 mm wide Minibeam: 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 semiconductor, 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.

Product of the United States of America

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We Make It Stick