

# STW-10

## Automated Plasma System

The STW-10 automated plasma system is designed for front-end semiconductor processing. It is especially well suited for activating silicon surfaces prior to hybrid wafer bonding. The STW-10 accepts FOUP's containing 300 mm wafers, or cassettes with dies on tape frame. Maximum throughput is 60 wafers per hour.

Inside the STW-10, the Atomflo™ plasma system generates a uniform, particle free, electrically neutral discharge that will not damage CMOS integrated circuits. The oxygen/argon plasma strips away organic contamination, while the hydrogen/argon plasma removes metal oxidation from copper, tin, and indium.

The STW-10 has all the features required in the modern semiconductor fab:

- EFEM prepared for OHT or AGV factory handling
- Cleanroom class 10 (ISO 4)
- Meets all SEMI standards
- SECS/GEM ready
- Carrier RFID or barcode recognition
- Wafer alignment and carrier mapping

For more information, contact Surfx at:  
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## STW-10 Specifications

### Wafer Size Options

300 mm, 200 mm, 150 mm

### Footprint (W \* D \* H)

2,024 x 2,900 x 2,180 mm

79.7 x 114.2 x 85.8 inches

### Product handling

FOUP, cassette, or both

Wafer, tape frame, or both

### Patented plasma technology

Atmospheric argon plasma

O<sub>2</sub>, H<sub>2</sub>, N<sub>2</sub> plasma chemistry

RF capacitive discharge

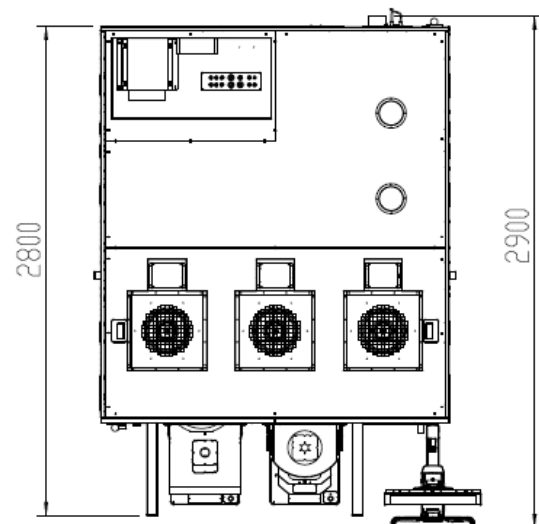
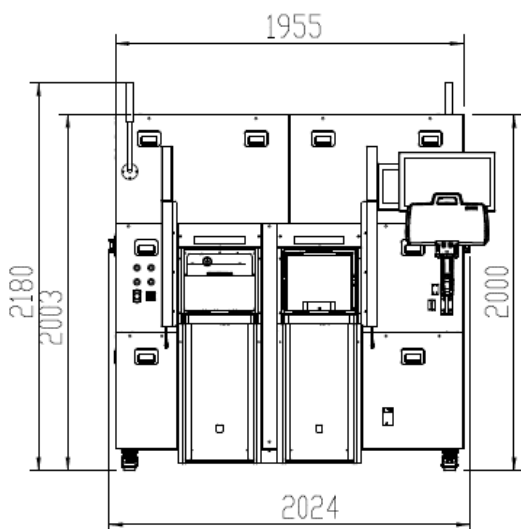
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# STW-10

The STW-10 is designed specifically for precision plasma cleaning of semiconductor wafers with zero damage, high reliability and single -wafer traceability .

Facilities	
Power supply	380 VAC, 3 P/N/PE, 25 A, 50/60 Hz
Normal power consumption	6 kW
Air supply (CDA)	0.4-0.6 MPa (60-90 psig), <280 LPM (<10 CFM)
Vacuum	450 – 600 mm Hg (17 – 24 inches Hg), 2 – 3.5 CMH (1.2 – 2.1 CFM)
Footprint (W*D*H)	2,024 x 2,900 x 2,180 mm (80 x 114 x 86 inches)
Weight	2,200 kg (4,850 lbs)
Exhaust (flange, factory flow required)	Qty two 100 mm diameter, combined 600 CMH (350 CFM)
Machine specifications	
Wafer size options	300 mm, 200 mm, 150 mm
Traceability	RFID, character recognition, barcode scan carriers and substrates
Automated loader	Dual FOUP, dual cassettes, or mixed
Carrier mapping	Yes
Substrate handling	EFEM, OHT, AGV ready
Factory communication	SECS/GEM
Atomflo™ plasma specifications	
RF Power	600 W at 27.12 MHz
Main plasma gas	Argon (Ar)
Process gases	Oxygen (O <sub>2</sub> ), nitrogen (N <sub>2</sub> ), or hydrogen (5.0% H <sub>2</sub> in Ar)
Process specifications	
Nominal contact angle after plasma	WCA < 10° (native oxide on silicon wafer)
Plasma cleaning process	O <sub>2</sub> + Ar to remove organics, or H <sub>2</sub> + Ar to remove metal oxidation



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