

e3511

SINGLE WAFER ASHING SYSTEM

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- ▶ **Features**
- ▶ **PC / Controller Configuration**
- ▶ **Product Specification**



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Features



True downstream mw plasma process uses a heated platen with temp up to 300° for extreme low damage Photoresist removal or light etch



Process assisted with 1KW heat lamp for better uniformity/ash rate. Solid State lamp controller eliminates calibration requirement

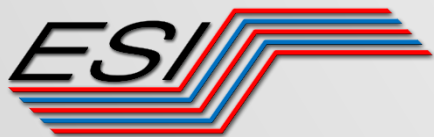
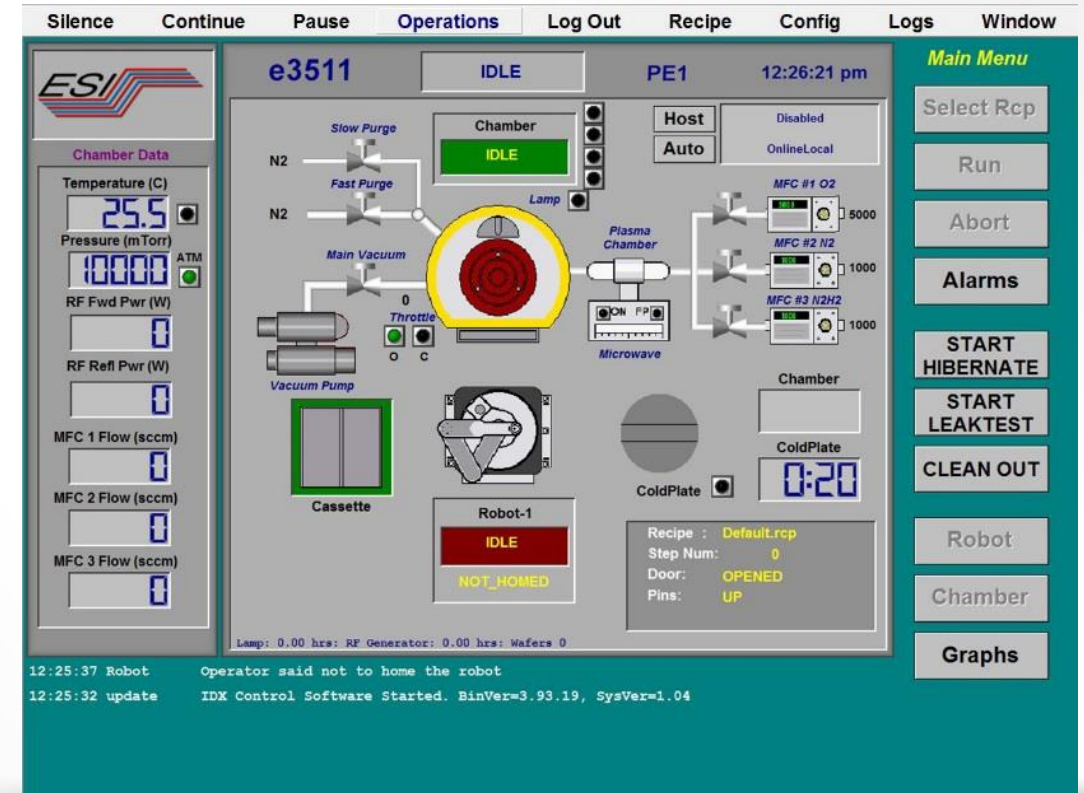


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Features: PC/HMI

IDX Flexware

- ▶ Versatile, Flexible & Configurable
- ▶ Improve Performance and Yield
- ▶ Easy User Interface
- ▶ SECS/GEM Compliant
- ▶ Field Proven Performance
- ▶ Easy-to-Use, Configurable Display



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Features: PC/HMI

- ▶ Embedded Intel® Atom PC with Slice type I/O modules attached to the PC
- ▶ Optional quad core Intel® Atom PC
- ▶ Flash drive data storage & USB Backup for recipes/data
- ▶ Easy to see 17" touchscreen
- ▶ Optional Platen overheat protection system
- ▶ Built-in watchdog timer for safe operation
- ▶ LED status of power and Digital I/O

Silence Continue Pause **Operations** Log Out Recipe Config Logs Window

Inputs

- System Power
- Cassette Present
- Cooler Wafer
- Platen Lift Up
- Platen Lift Dn
- RF Full / RF On
- Door Open
- Door Closed
- Lamp Fail
- Throttle Closed
- Throttle Opened
- Platen Overtemp
- Lamp Lock
- Platen OverHeat
- Pres Low iLock
- Pres High iLock
- Lamp Sensor
- Stepper Moving

Outputs

- RF Enable
- Lamp Enable
- Red Light
- Amber Light
- Green Light
- Blue Light
- Light Enable
- Alarm Buzzer
- MFC1 Valve
- MFC2 Valve
- MFC3 Valve
- Open Door
- Close Door
- Platen Lift
- Isolation Valve
- Slow Purge
- Fast Purge
- RF Monitor
- Platen Heater

Analog Inputs

- MFC1 0.00
- MFC2 0.00
- MFC3 0.00
- RF Reflective 0.00
- RF Forward 0.00
- Temperature 0.50
- Pressure 10.00
- ATM Pressure 6.60
- EOP Signal 0.00

Analog Outputs

- MFC1 0.00
- MFC2 0.00
- MFC3 0.00
- RF Power 0.00
- Lamp Level 0.00

Poll Rate 20

EXIT

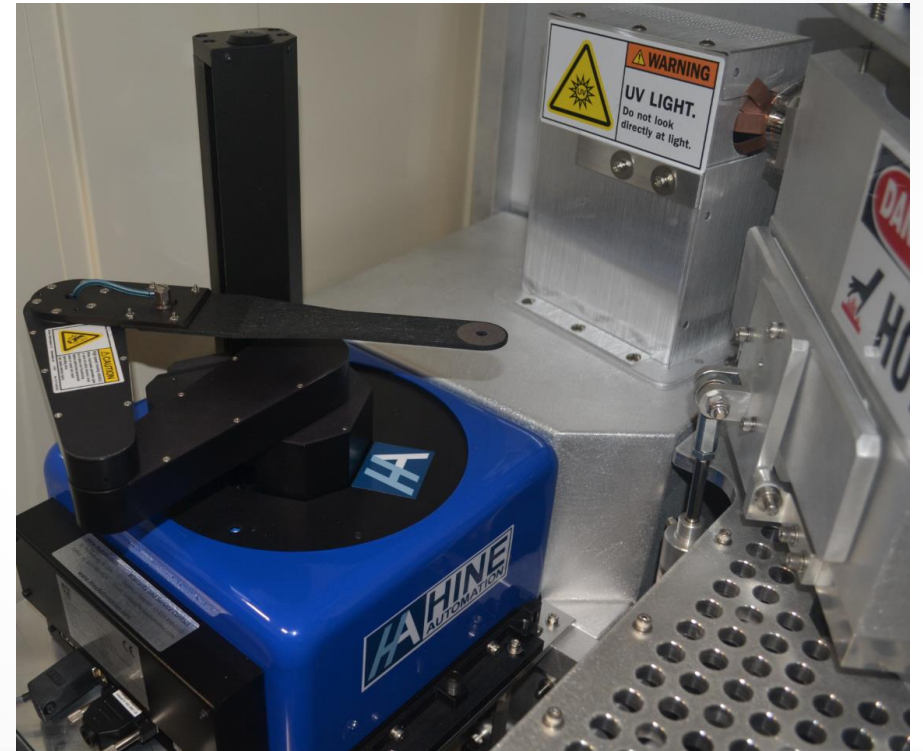
12:27:06 operator Executing the RESUME command on Group 0
12:26:57 Cassette Cassette was Removed



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Features: Sub-systems

- ▶ Power supply system with DC-DC power supplies for clean power
- ▶ Wafer cooling station with touch wafer sensor, works with substrates, glass etc.
- ▶ Advanced Hine Hatm-5 pick and place robot
- ▶ Gerling GL139 1.2kw microwave generator
- ▶ Mititoyo 3 stub mw tuning
- ▶ 6 pole mw applicator
- ▶ Automatic photoemission end-point detection



Process

Gas Flows	O ₂ =1000 – 4000 sccm. N ₂ /H ₂ = 100-1000 sccm; N ₂ – 100 –500 scc
Pressure	0.5-> 5.0 torr
Platen Temperature	100° – 300° C
μ-wave Power	0-1200 watt at 2.45 GHz
Lamp Utilization	0-100% (1000 watts)
Throughput	1.2 μm blanket softbaked resist ashed to end point except for deccums ≤ 300Å
	Descum/S.T. 45 - 60 WPH
	Baked Photoresist 45 - 60 WPH
	Implanted & Damaged Photoresist 25 - 55 WPH
Uniformity	Sigma, ashed to 50% of ≥ 1.2 μm
	With in Wafer 2% - 5%
	Wafer to Wafer 2% - 4%
Ash Rate	< 200Å - ≥3.5. μm./min.
System Matching	2% - 5% (1 sigma)
Mobile Ion Concentration	E _{I0} /cm ² – E _{I1} /cm ²
CV Shift	≤0.1 volt
Particle	<0.02/cm ² , size of 0.2 μm



Reliability

MTBF	≥168 hr.
MTBA	≥ 36 hr.
MTTR	≤ 3 hr. for 80% of all downs
MTTA	<5 min.
UPTIME (SEMI E10-92 STD)	89 – 95%

General Information

Substrate size	4 – 8 inch 100-200 mm
Footprint	30" (762 mm) W x 38" (965mm) D x 58" (1473mm) H
Electrical	200-240 VAC. 2 Phase, 50/60 Hz, WYE configuration, 30A Breaker
Typical Process Gases	O ₂ , N ₂ /H ₂ , N ₂ – regulated 18 – 23 PSIG

e3510 upgrade kit

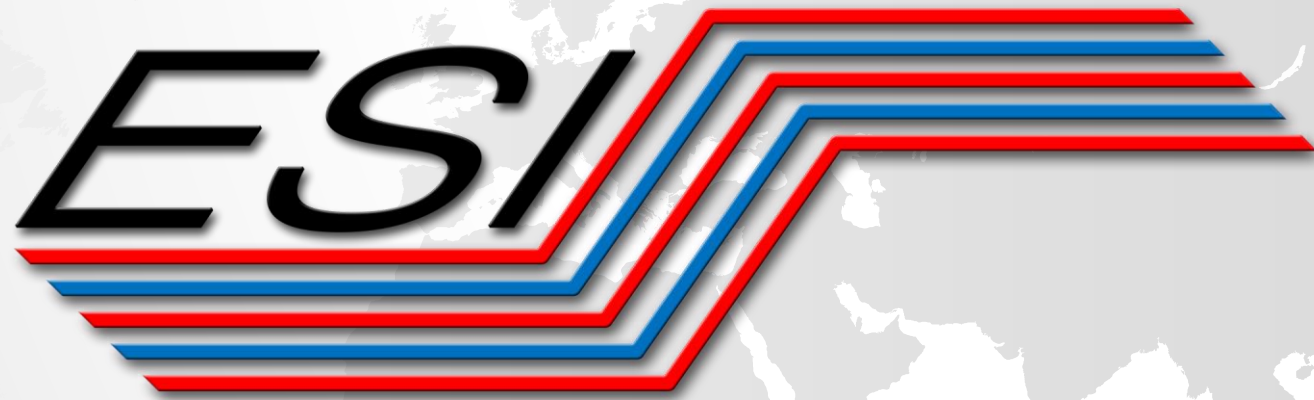
Available as PLUG AND PLAY UPGRADE TO ANY GASONICS L3500 SERIES TOOL

Note – Due to the complexity of customer's process variations and requirements, the above process performance can deviate or be improved. Therefore, customers should submit demo samples to the Application's Lab via their sales person to establish the optimum applicable specifications and conditions. Actual numbers on reliability will depend upon specific support available through contracts, knowledge of people performing PM and sufficient consumables and spare parts on site.



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