



# YES–CV200RFS

The YES-CV200RFS system uses reactive, isotropic plasma exposure to strip tough layers of polyimide and photoresist. It manually cleans single wafers, sizes 100mm to 200mm, and includes a descum feature for gentler cleaning applications.



## Benefits

- Environmentally friendly – no wet chemical usage
- Higher yields
- Repeatable results
- Strip rates up to 6,000-7,000 Å/min
- No change to capacitance-voltage characteristic

## Applications

- Photoresist removal
- Polyimide removal
- Organics removal
- Etching
- Surface preparation
- CD master cleaning
- Descumming

## Downstream Process

The system features the same downstream process used in all YES plasma systems. Plasma must pass through a grounded, perforated plate to reach product substrates. The grounded plate serves to balance the charge in the plasma and shield the substrate from damaging UV exposure. For sensitive CMOS devices, low plasma charge paired with less UV exposure preserves CV characteristics.

## Variable Power Settings

The YES-CV200RFS allows variable plasma power settings from 150 watts to 1000 watts, enabling applications from aggressive strip processes to gentle cleaning and surface modification.

## Temperature Control

The YES-CV200RFS offers precise temperature control to achieve uniform, repeatable results. A maximum temperature can be set in order to limit substrate heat exposure. A temperature-limited process is available for long plasma exposures, allowing the tool to be used for applications with temperature-sensitive substrates that may require long exposure times, like polyimide strip or ion-implanted photoresist strip.

## Automatic Pressure Control

The system comes standard with a convection-type chamber pressure sensor for process pressure reading and chamber vent control. Automatic downstream pressure control is a system option, adding a 10 Torr capacitance diaphragm manometer (CDG) and an automatic vacuum throttle valve to the tool for accurate, repeatable control of process pressure independent of gas composition or, within the operating limits of the tool, gas flow rates.

## Multiple Process Gas Inputs

The system comes standard with four process gas connections plus a chamber vent gas connections. Mass Flow Controllers (MFCs) can be added as an option to any or all of the four process gas lines for accurate control of gas flow rate or gas mixing.

## Data Collection and Analysis

YES systems are designed to make detailed data collection easy. Real-time monitoring allows quick response to process upsets, while access to historical data provides the ability to study and improve process strategy. Process data can be exported to Excel® for analysis.



# YES-CV200RFS PLASMA STRIP/DESCUM SYSTEM

Powerful Cleaning Removes Photoresist, Polyimide and BCB;  
With Gentle Descum Function

## SPECIFICATIONS

### HARDWARE

Clean Room Compatibility	Class 10
Wafer Temperature Range	Ambient to 250 °C
Capacity	Single wafer/pieces for 50mm - 200mm; Dual wafer/pieces for two 100mm
N2 Flow Rate	1.7 SCFM
Process Gas Flow Rate	20-50 SCCM average
Process Gas Inputs	4 standard
Mass Flow Controllers	Optional, up to 4 for gas mixing
Interior Chamber Dimensions	25.4 cm (W) x 28.575 cm (D) x 4.978 cm (H) — (10" x 11.25" x 1.96")
Hot Plate Process Area	49 in <sup>2</sup> maximum (200mm wafer)
Overall System Dimensions	60.96 cm (W) x 109.3 cm, door open (D) x 114.3 cm (H) — (24" x 43" x 45")
Chamber Material	6061-T6 aluminum
Compliance	SEMI S2, CE, S8

### SOFTWARE

Tool Control	PLC control of valves, temperature set points, plasma generation power, auto operation, touch screen interface
Number of Recipes	12 with load/save/loop/link capability
Range of Exposure Time	0-1200 seconds (20 minutes)
Resolution of Timer Setting	1 second

### PERFORMANCE

RF Plasma Power	40 kHz, 100 – 1000 W capacitive, downstream
Process Pressure Measurement	Convection type pressure sensor, 0.1 mTorr to 1000 Torr (pressure measurement sensitive to process gas composition)
Vent Gas Consumption	0 SCF idle, 1.0 SCF peak, .44 SCF average
Reactant Gas Consumption	0 SCF idle, 4.2 x 10 <sup>-3</sup> peak and average
Heat Emission	920 watts average
Power Consumption with Pump	420W idle, 2100W peak, 1210W average
Throughput	1 wafer per minute (up to 200mm diameter), typically 90 seconds per wafer
Strip Rate	Up to 7,000 Angstroms per minute
Electron Shift	< 10mV electron shift in a 200A gate oxide variable plasma intensity
Uniformity (in wafer)	<10%
Cooling	Process chamber cooled by forced air convection

### ADDITIONAL

Power Requirements	200-250V, 20 amps, 50/60 Hz, 1 phase
Power Supply	Automatic frequency tuning
System Weight	147.42 kg (325 lbs)

**Contact Us:** We offer process demonstrations. If you would like to submit samples, please call us. We can run your samples and provide a detailed process report.

**Yield Engineering Systems, Inc.**

Call: **1-510-954-6889** (worldwide) or **1-888-YES-3637** (US toll free)

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