PROCESS SOLUTIONS, EQUIPMENT AND SERVICES

VertaCure™ XP

High-Volume Automated System for Polyimide Vacuum Cure

Yield Engineering Systems, Inc.

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

yieldengineering.com

VertaCure™ XP

High-Volume Automated System for Polyimide Vacuum Cure

Chosen by the world's largest companies, the VertaCure XP is a production-proven platform that accommodates 200 mm/300 mm wafers with automated processing for up to two process modules inside an integrated Class 1 mini-environment. The VertaCure XP 1PM and 2PM systems accommodate 50 and 100 wafers respectively.

The Vacuum Cure Advantage

- 3.5 hours vs. 8+ hours for atmospheric
- Laminar flow reduces/eliminates particles
- More complete cure (5x less outgassing)
- Less film stress and low wafer warpage
- 1.6x to 2x less power and N_2 consumption
- Much lower capital cost, 2-3x lower CoO

COMMON APPLICATIONS

Polyimide, BCB and PBO cure
Low temp polymer cure
Copper anneal
Wafer to wafer bonding anneal

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.

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VertaCure™ XP

300 MM SYSTEM SPECIFICATIONS

Section	DESCRIPTION	SPECIFICATION
SYSTEM / PROCESS	Environment Cleanliness	Class 1 (ISO 3)
	EFEM Cleanliness	Class 1 (ISO 3)
	Max Temp	450˚C
	WiW Temp Uniformity*	≤ 1% up to 400˚C
	WtW Temp Uniformity*	≤ 1% at dwell after temperature stabilization
	Ramp-rate*	Maximum 6˚C/min from 150˚C to 350˚C (slope)
	Ramp-down*	Maximum 4˚C/min from 350˚C to 150˚C (slope)
	Up-time	≥ 95%
	MTTR	≤ 4 hours
	Warpage	≤ 3 mm one side
	Process Pressure	Sub-atmospheric and atmospheric pressures
	System Footprint	6.5 m^2 (EFEM and one process module); 10.7 m^2 (EFEM and two process modules)
HARDWARE	Wafer Size	300 mm
	Load Port Quantity	2 or 4
	Process Gas Type	N_2 gas (preheated)
	MFC	N_2 calibrated MFC
	N_2 Flow	25–300 SLM
	Pump	Purchasable option (process-dependent)
	Standard Cooling	Forced air cooling outside of chamber
	Pump Exhaust	Scrubber-max flow 21 CFM (provided by customer)
	Aligner	Purchasable option
	Safety Compliance	SEMI S2 and S8, CE and NFPA79 compliance
	Chamber Material	Stainless steel chamber 316L
	Process Capability	1 process module for 50 wafers, 2 process modules for 100 wafers
	O_2 Concentration	<10 ppm
	Warranty	12 months after acceptance
SOFTWARE	SEMI Equipment Communication Standard 2 Message Content (SECS II)	SEMI E5
	Generic Model for Communications and Control of SEMI Equipment (GEM)	SEMI E30
	High-Speed SECS Message Services Generic Services (HSMS)	SEMI E37
	High-Speed SECS Message Services Single-Session Mode (HSMS-SS)	SEMI E37.1
	Standard for Carrier Management (CMS)	SEMI E87
	Specification for Enhanced Carrier Handoff Parallel I/O Interface	SEMI E84
	Specification for Substrate Tracking (STS)	SEMI E90
	Specification for Process Job Management (PJM)	SEMI E40
	Specification for Control Job Management (CJM)	SEMI E94
	Operating System	Windows 10

* Using YES BKM recipe: one-step process and 375˚C dwell

VertaCure™ XP

200/300 MM BRIDGE SYSTEM SPECIFICATIONS

Section	DESCRIPTION	SPECIFICATION	
SYSTEM / PROCESS	Environment Cleanliness	Class 1 (ISO 3)	
	EFEM Cleanliness	Class 1 (ISO 3)	
	Max Temp	450˚C	* Using YES BKM recipe: one-step process and 375˚C dwell
	WiW Temp Uniformity*	≤ 1% up to 400˚C	
	WtW Temp Uniformity*	≤ 1% at dwell after temperature stabilization	
	Ramp-rate*	Maximum 4.0˚C/min from 150˚C to 350˚C (slope)	
	Ramp-down*	Maximum 3.0˚C/min from 350˚C to 150˚C (slope)	
	Up-time	≥ 95%	
	MTTR	≤ 4 hours	
	Warpage	≤ 3 mm one side	
	Process Pressure	Sub-atmospheric and atmospheric pressures	
	System Footprint	6.5 m^2 (EFEM and one process module); 10.7 m^2 (EFEM and two process modules)	
HARDWARE	Wafer Size	200/300 mm	
	Load Port Quantity	2 or 4	
	Process Gas Type	N_2 gas (preheated)	
	MFC	N_2 calibrated MFC	
	N_2 Flow	25–300 SLM	
	Pump	Purchasable option (process-dependent)	
	Standard Cooling	Forced air cooling outside of chamber	
	Pump Exhaust	Scrubber-max flow 21 CFM (provided by customer)	
	Aligner	Purchasable option	
	Safety Compliance	SEMI S2 and S8 compliance	
	Chamber Material	Stainless steel chamber 316L	
	Process Capability	1 process module for 50 wafers, 2 process modules for 100 wafers	
	O_2 Concentration	<10 ppm	
	Warranty	12 months after acceptance	

Section	DESCRIPTION	SPECIFICATION
SOFTWARE	SEMI Equipment Communication Standard 2 Message Content (SECS II)	SEMI E5
	Generic Model for Communications and Control of SEMI Equipment (GEM)	SEMI E30
	High-Speed SECS Message Services Generic Services (HSMS)	SEMI E37
	High-Speed SECS Message Services Single-Session Mode (HSMS-SS)	SEMI E37.1
	Standard for Carrier Management (CMS)	SEMI E87
	Specification for Enhanced Carrier Handoff Parallel I/O Interface	SEMI E84
	Specification for Substrate Tracking (STS)	SEMI E90
	Specification for Process Job Management (PJM)	SEMI E40
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