PROCESS SOLUTIONS, EQUIPMENT AND SERVICES

VertaCure™ XP G2

Next-Generation Vacuum Curing System

Yield Engineering Systems, Inc.

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

yieldengineering.com

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Next-Generation Vacuum Curing System

YES is pleased to present the latest update of our flagship VertaCure™ XP system, offering superior particle reduction, better outgassing, and higher productivity. Optimized heating provides superior WiW and WtW temperature uniformity, and a new PID controller delivers faster process tuning and qualification. And we've incorporated a powerful, HVM-validated filtration solution that extends the PM interval to 8000+ wafers.

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 G2 300 MM SYSTEM SPECIFICATIONS

DESCRIPTION	SPECIFICATION
SYSTEM / PROCESS	
Environment Cleanliness	Class 1 (ISO 3)
EFEM Cleanliness	Class 1 (ISO 3)
Max Temp	400˚C
WiW Temp Uniformity*	≥ 250˚C: ± 2% at dwell after temperature stabilization ≤ 250˚C: ± 3˚C at dwell after temperature stabilization
WtW Temp Uniformity*	± 2.5˚C at dwell after temperature stabilization (3-zone control TC)
Ramp-rate*	Maximum 3.5˚C/min from 150 to 350˚C (slope)
Ramp-down*	Maximum 3.0˚C/min from 350 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	20 – 250 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 within 20 minutes of process initiation
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 G2

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	400˚C	* Using YES BKM recipe: one-step process and 375˚C dwell
	WiW Temp Uniformity*	≥ 250˚C: ± 2% at dwell after temperature stabilization ≤ 250˚C: ± 3˚C at dwell after temperature stabilization	
	WtW Temp Uniformity*	± 2.5˚C at dwell after temperature stabilization (3-zone control TC)	
	Ramp-rate*	Maximum 3.5˚C/min from 150 to 350˚C (slope)	
	Ramp-down*	Maximum 3.0˚C/min from 350 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	20 – 250 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 within 20 minutes of process initiation	
	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
	Specification for Control Job Management (CJM)	SEMI E94
	Operating System	Windows 10

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