YES-PB12 High Vacuum Oven

For Copper Anneal
Essential for MEMS and Wafer-level Packaging

Specifications

Hardware			
Clean Room Compatibility		Class 10	
Chamber Cleanliness		Class 1	
Operation Temperature		Ambient to 450 °C	
Nitrogen Consumption		15-25 liters/min.	
Interior Chamber Dimensions		53.34 cm barrel (ID) x 76.96 cm (D) (21" x 30.3")	
Chamber Process Area		37.59 cm (W) x 56.64 cm (D) x 36.07 cm (H) (14.8" x 22.3" x 14.2")	
Overall System Dimensions		85.85 cm (W) x 203 cm (D) x 95 cm (H) (33.8" x 80.0" x 37.4")	
Chamber Material		316L stainless steel	
Process Gas Inputs		1 standard, up to 3 optional	
Mass Flow Controllers		Optional – up to 3 for gas mixing	
Laminar Flow Filter		100 micron Mott™ plate filter	
Cleanliness		Particle reduction in most applications	
Software			
Number of Recipes		8 temperature profiles	
Number of Steps for Each Recipe		16 program steps	
Range of Segment Time		0-99 hours	
Resolution of Timer Setting		1 minute	
Performance			
Oxygen Concentration		<10 ppm over background	
Maximum Heat-Up Rate (150°C-450°C)		6.5 °C/min. (at low end of range: changes ~ 1°C/100°C increment)	
Maximum Cool-Down Rate (450°C - 150°C)		3.5 °C/min. (at high end of range: changes ~ 1°C/100°C increment)	
Laminar Process Pressure Range		50-400Torr	
High Vacuum Base Pressure		$1x10^{-5}$Torr	
N_2 Flow Rate		15-25 liters/min	
Additional			
Power Requirements		208V, 60 amps, 50/60 Hz, 3 phase	
# of cassettes that fit inside the laminar flow zone			
2 inch wafers	25 cassettes	150 mm wafers	10 cassettes
3 inch wafers	15 cassettes	200 mm wafers	3 cassettes
100 mm wafers	10 cassettes	300 mm wafers	2 cassettes
125 mm wafers	10 cassettes		

Tool temperature performance is a combination of temperature control accuracy and temperature uniformity. Accuracy is the deviation of the average product temperature from the set point. Uniformity is the deviation between the maximum and minimum product temperatures and is not related to the set point. Accuracy is calculated as set point – average temperature. Uniformity is calculated as (max-min)/(max+min). YES-PB series tools have dwell accuracy of +/-1.5°C after stabilization. YES-450PB12-2P-CP has a uniformity of +/-5°C. After stabilizing at dwell, all product temperatures should be within 10°C or 14°C of each other (depending on the tool) and within 7°C or 8.5°C of set point (depending on the tool).

Contact Us

When you're ready to run process tests, a demonstration can be arranged using your chemicals and samples. Call +1 925-373-8353 (worldwide), 1-888-YES-3637 (US toll free), or visit us online at www.yieldengineering.com.

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