Athena
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Specifications

Utilities	AC Input Power	380-480 VAC; 3 phase + ground; 48A
	Vacuum Supply Input	-24 In-Hg (-0.8 bar)
	Vacuum Consumption	0.36 SCFM (10l/min)
	Air Pressure	Operating 87.0 PSI (6 bar) Min/Max: 80 PSI (5.5 bar)/ 145 PSI (10 bar)
Physical Dimensions	Height x Width x Depth	191.5 cm x 369 cm x 185 cm
	Weight	9038 kg Autoloader Version / 7060 kg Debug Version
	Tie Down	Earthquake Tie Down Provided
	Portability	FSE required to move
Environmental Requirements	Ambient Temp Operating	68-74°F (20-23°C)
	Cleanliness	Class 10,000 or better
	Humidity Operating	Dewpoint 45.9-60.9°F (7.7-16.0°C)
Compliance and Standards	Semi S2-93 & S2-93A Safety Guidelines	Standard
	Semi S8-95 Ergo Guidelines	Standard
	NFPA 79	Standard
	CE Mark	Standard
PC Computer	Processor	i9 @ 4.7GHz
	Operating System	Windows 10
	Storage	2SSDs in RAID configuration (1TB system, 1TB data)
	Memory	32 GB
	Monitor	Dual 24" touchscreen displays
	I/O	4 ethernet ports
Probe Card Interface	Type	Accommodates any tester platform
	Motherboard Weight	Up to 230 kg
Wafer / Measurement Stage	Diameter	Up to 12", 300 mm
	Flatness	100 mm: 2 µm TIR (Ceramic or Conductive) 300 mm: 5 µm TIR (Ceramic or Conductive)
	Pop-up Isolation Pin	50 um Standard. Optional sizes available
	Max Total Probe Tip Force	600 kg
	Travel	X ≥300 mm, Y ≥ 300 mm, Z ≥ 100 mm
Optical Inspection System	Type	White Light Interferometer (WLI)
	Encoder Resolution	0.01 µm
	Optical Resolution	0.8 µm standard. Customizable
	Optical Field of View Size	0.86 x 0.81 mm. Configurable per customer need
	3D Tip Morphology	Optional
	Upper Video	Debug mode binocular microscope/video standard

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Electrical Measurement System	Type	Solid State Switch Matrix
	Number of Channels	2304 channels per SmartSocket; 9216 Standard. Up to 18432 optional
	Per Smart Socket:	Measuring channels per SS: (up to 100 mA, 10Vdc): 2304 Relay Cbit (150 mA): 120 Special Relay Cbit (500 mA): 20 High Current Relay: 8 (6 HCR matrix @ 2A, 2 HCR @ 2A EXT. Power supply auxiliary)
	Components	Resistors: Serial and Parallel
	Components	Capacitor: Parallel
Electrical Measurements	Channel Current Spec	Current supply range = 0.005 to 100 mA; user/receipe programmable
		Step Size 5 µA
		Accuracy 0,15 µA
		Limit Voltage Range 1.7-10 V
		Limit Voltage Step Size 50 mV
		Settling Time from 0.005 to 100 mA < 50 msec
	Channel Voltage Spec	Voltage Range 0.1 to 10 V; user/recipe programmable
		Voltage Step Size 50 mV
		Voltage Accuracy 8 mV
		Limit Current Range 1.5 to 150 mA
		Limit Current Step Size: • 1.5mA-5mA step size = 16 µA • 5mA-10mA step size = 65 µA • 10mA-20mA step size = 270 µA • 20mA-50mA step size = 1.75 mA • 50mA-100mA step size = 7.2 mA
		Settling Time from 0 to 10 V < 50 msec
	Resistance Measurement	6*σ<1% of nominal value
	Leakage Measurement	σ ≤ 0.2 nA
	Capacitance Measurement	σ <1% of nominal value
DC Loopback Test	Fast Post	2
	Fast Post Diameter	50 µm Standard. Optional sizes available
	Fast Post Min Separation	25 µm
	Fast Post Max Separation	35 mm x 35 mm square
	Fast Post Z Travel	4 mm

		Travel	Load	Resolution	Accuracy (±)	Repeatability (±) 3s
Physical Measurements	Planarity	100 mm	600 kg	0.05 µm	0.5 µm / 1 mm	Plate (bulk): 1.0 µm Fast post: 3.0 µm
					0.4 µm / 1 mm	Optical: 0.45 µm
	Alignment	12"	-	0.01 µm	XY: 0.5 µm / 300 mm	XY: 0.6 µm
					Z: <0.4 µm / 1 mm	Z: 0.45 µm
	Gram Force	**Range**	**Repeatability (±) 3s**			
		0-10 g	0.03 g			

Note: Specifications may change without notice.

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