

# Elite300

## 300 mm Semi-automatic Probe System



### DATA SHEET

The Elite™ 300 is essential for characterizing devices at the 32 nm technology node and beyond. This probe systems uses PureLine™ technology to achieve one of the lowest noise levels available on the market. Patented AttoGuard® and MicroChamber® technologies significantly improve low-leakage and low-capacitance measurements. An advanced linear air stage provides unprecedented stepping accuracy and wafer planarity across a wide temperature range of -60°C to 300°C. Additionally, the Elite features a “hands-free,” high-stability microscope bridge mount and delivers true optical magnification with the eVue™ digital imaging system.

### FEATURES / BENEFITS

Measurement accuracy	Best solution for low-noise and 1/f measurements with advanced PureLine, AutoGuard and MicroChamber technologies Minimize AC and spectral noise with effective shielding capability Optimal test instrument integration
Positioning accuracy	Precision linear-motor/ air-bearing stage for accurate positioning with temperature compensation Precision sub-micron stepping with auto XYZ and theta correction High-force Z stage
Productivity	Unattended testing over multiple temperatures with VueTrack™ technology and High-Temperature Stability (HTS) enhancement eVue digital imaging system with enhanced optical visualization, fast set-up, and in-die and wafer navigation Powerful automation tools, such as automatic die-size measurements and wafer alignment
Flexibility and application-tailored solutions	RF/microwave device characterization, 1/f, WLR, FA and design debug Full thermal range of -60°C to +300°C Complete solution for small- and large-area multi-site probe cards Large-area TopHat™, universal test accessories mounting system and rotatable universal platen ring Versatile microscope mount system for fine-structure and large-area probing, and for wafer-level reliability test
Ease of use	Comfortable and ergonomic operation “Hands-free” microscope remote control, arm rest, and quick-access control panel Low-profile design Quick and comfortable wafer access via locking roll-out stage Ergonomic station accessory mounting feature

## MECHANICAL PERFORMANCE

### X-Y Stage

Travel	301 mm x 301 mm (11.9 in. x 11.9 in.)
Resolution	0.1 $\mu\text{m}$ (0.004 mils)
Repeatability	$\leq 1 \mu\text{m}$ (0.04 mils)
Accuracy	Precision mode: $\leq 0.3 \mu\text{m}$ (0.012 mils), Standard mode: $\leq 2 \mu\text{m}$ (0.08 mils)
Speed	100 mm/sec (4 in./sec)
Bearings	Air
Motor-drive system	Brushless linear servo motor
Feedback system	Ceramic ultra-low thermal expansion linear encoder

### Z Stage

Travel	10.0 mm (.39 in.)
Resolution	0.1 $\mu\text{m}$ (0.004 mils)
Repeatability	$\leq 1 \mu\text{m}$ (0.04 mils)
Accuracy	$\leq 2 \mu\text{m}$ (0.08 mils)
Speed	20 mm/sec (0.8 in./sec)
Lifting capacity	$\geq 20 \text{ kg}$ (44 lb.)
Probe-force deflection (measured at the chuck edge)	$\leq 0.001 \mu\text{m}/\mu\text{m}$ slope per 10 kg load (0.001 in./in. / 22 lb)

### Theta Stage

Travel	$\pm 7.5^\circ$
Resolution	0.65 $\mu\text{m}$ (0.03 mils)*
Repeatability	$\leq 1 \mu\text{m}$ (0.04 mils)*
Accuracy of standard moves	$\leq 2 \mu\text{m}$ (0.08 mils)*
Accuracy of large moves	$\leq 5 \mu\text{m}$ (0.20 mils)*

\* Measured at edge of 300 mm chuck

## PHYSICAL DIMENSIONS

### Station Platform

Station dimensions	128 cm (W) x 120 cm (D) x 165 cm (H) (51 in. x 47 in. x 65 in.)
Platen-to-eyepieces	32 cm (13 in.)
Weight	1,090 kg (2,400 lbs.)

### Height Options

Height kit – Standard	Standard height for Elite with floor-to-platen height of 103 cm (41 in.)
Height kit – Low-profile	Lowers Elite by 127 mm (5.0 in.) for floor-to-platen height of 93 cm (36 in.)

## MICROCHAMBER

Electrical	Elite300/AP	Elite300/M
EMI shielding	> 30 dB (typical) > 1 KHz	> 20 dB (typical) > 1 KHz
Light attenuation	≥ 120 dB	≥ 120 dB
Spectral noise floor	≤ -170 dBVrms/rtHz (≤1 MHz) *	≤ -150 dBVrms/rtHz (≤1 MHz) **
System AC noise	≤ 5 mVp-p (≤ 1 GHz)***	≤ 20 mVp-p (≤ 1 GHz) **

### Air-Purge Management

Purge	Dry air or nitrogen
Purge control	Manual or automatic (software controlled)
Purge flow rate – Standard	0 to 1.9 liters/sec (0 to 4 SCFM)
Purge flow rate – Quick purge	> 1.9 liters/sec (4 SCFM)

\* Test setup uses triaxial thermal chuck, 50 Ω termination, high-quality LNA, and DSA/DSO instrument

\*\* Typical results. Actual values depend on probe/test setup

\*\*\* Test setup: Station power ON, Thermal system ON (40 °C), MicroChamber closed. Instrument setup: Time domain digital scope (DC to 1 GHz), 50 Ω input impedance, cable to chuck BNC connector. Measurement: Peak-Peak Noise Voltage (acquire 1000 data points, and calculate mean of Vp-p data).

## PLATEN SYSTEM

### Platen

Dimensions	101.6 cm (W) x 86.4 cm (D) x 25 mm (T) (40.0 in. x 34.0 in. x 1.0 in.)
Mounting system	Kinematic, high thermal stability enhanced
Platen-to-chuck height	40.0 ± 0.5 mm (1.575 ± 0.02 in.)
Lift range	3.0 mm (0.12 in.)
Lift repeatability	≤ 3 μm (0.12 mils)
Accessory mounting	Universal Rail System: 53 cm (21 in.) Left / Right Rail, 71 cm (28 in.) Top Rail

### Platen Ring

Diameter	717.6 mm (28.25 in.)
Weight	43 kg (95 lb.)
Material	Steel for magnetic positioners
Surface finish	Fine ground for vacuum positioner high stability
Usability features	Removable and clockable in 90°C

### Platen Ring Insert

Diameter	342.9 mm (13.5 in.)
Standard interface	Probe card holders and custom adapters

## WAFER CHUCK

Diameter	305 mm (12 in.)
Material	Nickel- or gold-plated aluminum
DUT sizes supported	Shards or wafers 50 mm (2 in.) through 300 mm (12 in.)
Vacuum rings	50 mm, 130 mm, 180 mm, 280 mm (1.97 in., 5.12 in., 7.09 in., 11.02 in.)
Vacuum-ring actuation	Software controlled
Planarity	$\leq 10 \mu\text{m}$ (0.39 mils) @ 25°C
	$\leq 30 \mu\text{m}$ (1.2 mils) @ -60°C
	$\leq 30 \mu\text{m}$ (1.2 mils) @ 200°C
	$\leq 40 \mu\text{m}$ (1.6 mils) @ 300°C

## PLATFORM

### General

Attenuation of the vibration dampening system	$\geq 0 \text{ dB}$ @ 6 Hz, 5 dB per octave @ 6 Hz to 48 Hz, $\geq 15 \text{ dB}$ above 48 Hz*
Stage move time	$\leq 0.75 \text{ sec}$ (200 $\mu\text{m}$ Z down – 1000 $\mu\text{m}$ X-Y – 200 $\mu\text{m}$ Z up)
Stage dampening	$\geq 15 \text{ dB}$ in less than 1500 msec

### Communication Ports

Type	Qty	Location	Notes
USB 2.0	2	Side of station	For quick access to USB devices
USB 2.0	4	Rear connection panel	For security keys and USB instrument control
RS232	4	Rear connection panel	For instrument control (thermal, LASER, microscope, etc)
GPIB IEEE 488.2	1	Rear connection panel	For test instrument control

### Accessory Interface Ports

EDGE	1	Rear connection panel	Probe card contact sense
VNA-CAL	1	Rear connection panel	Control for switched GPIB (remote/local software control)
INKER	1	Rear connection panel	Control for die inker
ULC	1	Rear connection panel	Control for upward looking camera

### Switched ACAC Power

IEC (f) Microscope	1	Rear connection panel	Software ON/OFF control for Microscope light
IEC (f) Aux	1	Rear connection panel	Software ON/OFF control for Auxiliary power

\* Due to the sensitivity of measurements to vibrations, the Elite is equipped with a high-performance active vibration dampening system. However, unacceptable equipment vibrations can occur when the floor vibrations are high. For this reason the Elite must be used in an environment having background vibrations at or below the Operating Theatre level. This corresponds to a maximum level of 4000 micro-inches / sec (72 dB), measured using the 1/3-octave-band velocity spectra method (expressed in RMS velocity as specified by The International Standards Organization [ISO]). For further information, and technical solutions with environments using raised floors, please see the Cascade Microtech Stations Facilities guide.

## NON-THERMAL CHUCKS

Note: Results measured with non-thermal chuck at standard probing height (10,000  $\mu\text{m}$ ) with chuck in a dry environment. Moisture in the chuck may degrade performance.

### FemtoGuard® Chuck Performance

Breakdown voltage	Force-to-guard	$\geq 500 \text{ V}$
	Guard-to-shield	$\geq 500 \text{ V}$
	Force-to-shield	$\geq 500 \text{ V}$
Resistance	Force-to-guard	$\geq 5 \times 10^{12} \Omega$
	Guard-to-shield	$\geq 1 \times 10^{12} \Omega$
	Force-to-shield	$\geq 5 \times 10^{12} \Omega$
Capacitance	Force-to-guard	$\leq 800 \text{ pF}$
	Guard-to-shield	$\leq 4000 \text{ pF}$

### Coaxial Chuck Performance

Breakdown voltage	$\geq 500 \text{ V}$
Isolation	$\geq 5 \times 10^{12} \Omega$
Capacitance	800 pF

System Electrical Performance (with non-thermal chuck)	Elite300/AP FemtoGuard Chuck	Elite300/M	Elite300/M Coax Chuck
Probe leakage*	$\leq 1 \text{ fA}$	$\leq 1 \text{ fA}$	$\leq 1 \text{ fA}$
Chuck leakage*	$\leq 1 \text{ fA}$	$\leq 15 \text{ fA}$	$\leq 600 \text{ fA}$
Residual capacitance	$\leq 0.4 \text{ pF}$	$\leq 75 \text{ pF}$	N/A
Capacitance variation**	$\leq 2 \text{ fF}$	$\leq 75 \text{ fF}$	$\leq 75 \text{ fF}$
Settling time***	$\leq 25 \text{ fA @ 2 sec}$	$\leq 100 \text{ fA @ 2 sec}$	N/A

\* Overall leakage current is comprised of two distinctly separate components: 1) offset, and 2) noise. Offset is the DC value of current due to instrument voltage offset driving through isolation resistance. Noise is low frequency ripple superimposed on top of offset and is due to disturbances in the probe station environment.

Noise and leakage are measured with a 4156C NOISE.dat Cascade Microtech program or equivalent; 4 ms sample rate, auto scale, 1 nA compliance, 1 NPLC integration.

\*\* This is chuck capacitance variation based upon chuck position anywhere in the 300 mm area, as measured by a stationary DC probe. Test conditions: Agilent 4284A LCR meter (Cp-d, 1 MHz, 4 Ave, 0 Power), DCP-150, 75  $\mu\text{m}$  above chuck surface, 4-wire connection (HiZ/Hipot to chuck, LoZ/Lopot to probe).

\*\*\* Settling time is measured with a 4156C SETLB.dat Cascade Microtech program or equivalent; 2 ms sampling rate, limited auto 1 nA, 1  $\mu\text{A}$  compliance, 3 NPLC integration.

## THERMAL CHUCKS

Note: Results measured with thermal chuck at standard probing height (10,000 µm) with chuck in a dry environment. Moisture in the chuck may degrade performance.

### FemtoGuard Chuck Performance

		Thermal Chuck			
		@ -60°C	@ 25°C	@ 200°C	@ 300°C
Breakdown Voltage	Force-to-guard	≥ 500 V	≥ 500 V	≥ 500 V	≥ 500 V
	Guard-to-shield	≥ 500 V	≥ 500 V	≥ 500 V	≥ 500 V
	Force-to-shield	≥ 500 V	≥ 500 V	≥ 500 V	≥ 500 V
Resistance	Force-to-guard	≥ 5 x 10 <sup>12</sup> Ω	≥ 5 x 10 <sup>12</sup> Ω	≥ 5 x 10 <sup>11</sup> Ω	≥ 1 x 10 <sup>11</sup> Ω
	Guard-to-shield	≥ 5 x 10 <sup>11</sup> Ω	≥ 5 x 10 <sup>11</sup> Ω	≥ 1 x 10 <sup>10</sup> Ω	≥ 1 x 10 <sup>9</sup> Ω
	Force-to-shield	≥ 5 x 10 <sup>12</sup> Ω	≥ 5 x 10 <sup>12</sup> Ω	≥ 5 x 10 <sup>11</sup> Ω	≥ 1 x 10 <sup>11</sup> Ω
Capacitance	Force-to-guard	≤ 1000 pF	≤ 1000 pF	≤ 1000 pF	≤ 1000 pF
	Guard-to-shield	≤ 5000 pF	≤ 5000 pF	≤ 5000 pF	≤ 5000 pF

### Coaxial Chuck Performance

		Thermal Chuck			
		@ -60°C	@ 25°C	@ 200°C	@ 300°C
Breakdown voltage		≥ 500 V	≥ 500 V	≥ 500 V	≥ 500 V
Resistance		≥ 5 x 10 <sup>11</sup> Ω	≥ 5 x 10 <sup>11</sup> Ω	≥ 1 x 10 <sup>10</sup> Ω	≥ 1 x 10 <sup>9</sup> Ω
Capacitance		≤ 5000 pF	≤ 5000 pF	≤ 5000 pF	≤ 5000 pF

### System Electrical Performance ( with thermal chuck)

		Elite300/AP FemtoGuard	Elite300/M FemtoGuard	Elite300/M Coaxial
Probe leakage*	Thermal Controller OFF	≤ 1 fA	≤ 1 fA	≤ 1 fA
	Thermal Controller ON	≤ 5 fA	≤ 10 fA	≤ 10 fA
Chuck leakage* (ERS AC3)	Thermal Controller OFF	≤ 3 fA	≤ 15 fA	25 pA
	-60°C	≤ 6 fA	≤ 20 fA	25 pA
	25°C	≤ 3 fA	≤ 20 fA	25 pA
	200°C	≤ 3 fA	≤ 20 fA	25 pA
	300°C	≤ 6 fA	≤ 25 fA	220 pA
Residual capacitance		≤ 2.5 pF	≤ 75 pF	N/A
Capacitance variation**		≤ 2 fF	≤ 75 fF	≤ 75 fF
Settling time***	All temperatures @ 10 V	≤ 50 fA @ 0.5 sec	≤ 100 fA @ 2 sec	N/A

\* Overall leakage current is comprised of two separate components: 1) offset, and 2) noise. Offset is the DC value of current due to instrument voltage offset driving through isolation resistance. Noise is low-frequency ripple superimposed on top of offset and is due to disturbances in the probe-station environment

Noise and leakage are measured with a 4156C NOISE.dat Cascade Microtech program or equivalent; 4 ms sample rate, auto scale, 1 nA compliance, 1 NPLC integration

\*\* This is chuck capacitance variation based upon chuck position anywhere in the 300 mm area, as measured by a stationary DC probe. Test conditions: Agilent 4284A LCR meter (Cp-d, 1 MHz, 4 Ave, 0 Power), DCP-150, 75 µm above chuck surface, 4-wire connection (HiZ/Hipot to chuck, Loz/Lopot to Probe), 25°C.

\*\*\* Settling time is measured with a 4156C SETLB.dat Cascade Microtech program or equivalent; 2 ms sampling rate, limited auto 1 nA, 1 µA compliance, 3 NPLC integration.

**Thermal System Options**

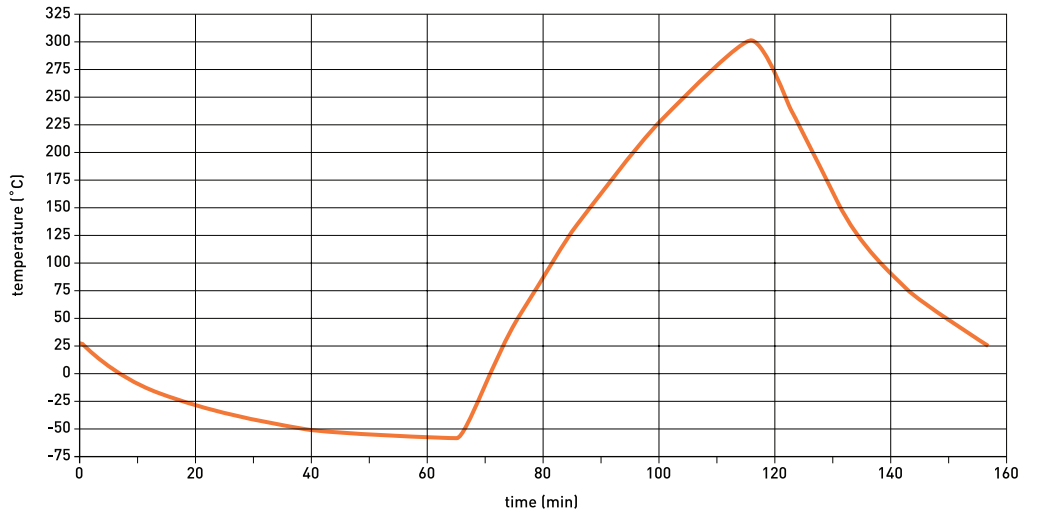
Temperature ranges	-60°C to 300°C, ERS AC3 (200/230 VAC 50/60 Hz)
	+20°C to 300°C, ERS AC3 (100-230 VAC 50/60 Hz)
	+30°C to 300°C, ERS AC3 (100-230 VAC 50/60 Hz)

**ERS AC3 Thermal System Specifications (-60 °C to 300 °C)**

Temperature range	-60°C to 300°C
Accuracy	±0.1°C (with calibrated controller)
Resolution	0.1°C
Thermal uniformity	≤ 0.5°C @ 25°C, ≤ 2.0°C @ -60°C, ≤ 3.0°C @ 300°C
Transition time – Heating	-60°C to 25°C = 7 min, 25°C to 300°C = 42 min (typical)
Transition time – Cooling	300°C to 25°C = 39 min, 25°C to -60°C = 58 min (typical)
Thermal chuck flatness	≤ 30 µm @ -60°C to 300°C
Supply voltage	200/230 VAC 50/60 Hz
Supply air	480 liters/min (17 SCFM), -45°C dew point
Power consumption	Controller: 950 VA, Chiller: 2300 VA
Audible noise	< 58 dB (C)
Dimensions	420 mm (W) x 500 mm (D) x 1020 mm (H) (16.5 in. x 19.7 in. x 40.2 in.)
Weight	140 kg (309 lb.)

**ERS AC3 Thermal Transition Time (-60°C to 300°C)**

Typical times using Elite300/AP with FemtoGuard Chuck; 10-15% faster with coaxial chuck.



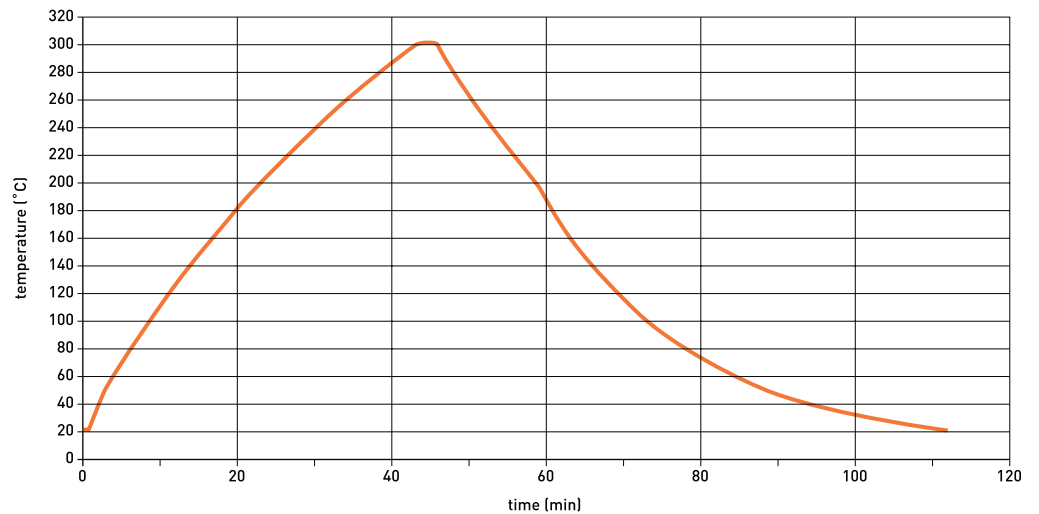
## THERMAL SYSTEM PERFORMANCE (CONTINUED)

### ERS AC3 Thermal System Specifications (+20°C to 300°C)

Temperature range	+20°C to 300°C
Accuracy	±0.1°C (with calibrated controller)
Resolution	0.1°C
Thermal uniformity	≤ 0.5°C @ 30°C, ≤ 3.0°C @ 300°C
Transition time – Heating	20°C to 300°C = 43 min (typical)
Transition time – Cooling	300°C to 20°C = 59 min (typical)
Thermal chuck flatness	≤ 30 μm @ +20°C to 300°C
Supply voltage	100/230 VAC 50/60 Hz
Supply air	350 liters/min (12 SCFM)
Power consumption	2015 VA
Audible noise	< 58 dB (C)
Dimensions	420 mm (W) x 300 mm (D) x 520 mm (H) [16.5 in. x 11.8 in. x 20.5 in.]
Weight	45 kg (99.2 lb.)

### ERS AC3 Thermal Transition Time (+20°C to 300°C)

Typical times using Elite300/M  
with FemtoGuard Chuck; 10-15%  
faster with coaxial chuck.





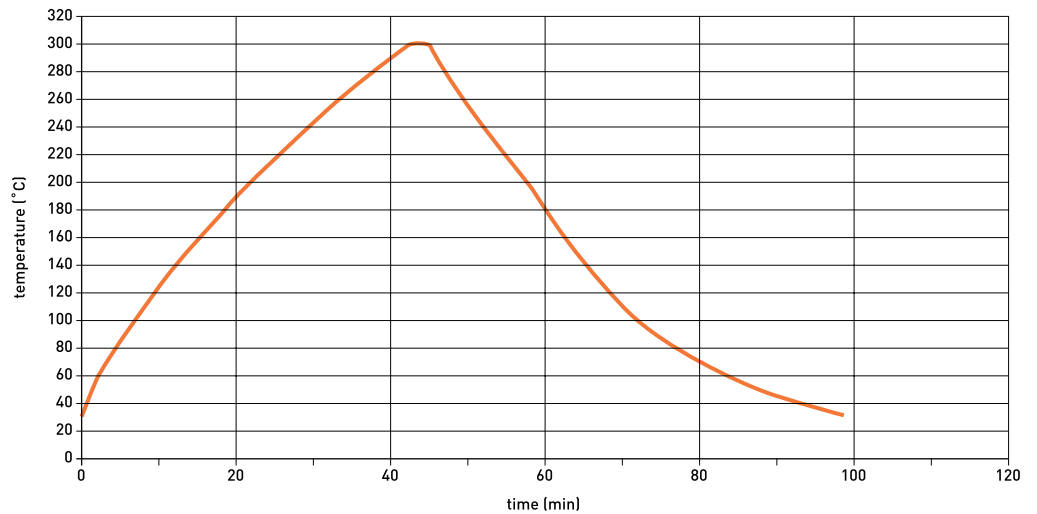
## THERMAL SYSTEM PERFORMANCE (CONTINUED)

### ERS AC3 Thermal System Specifications (+30°C to 300°C)

Temperature range	+30°C to 300°C
Accuracy	±0.1°C (with calibrated controller)
Resolution	0.1°C
Thermal uniformity	≤ 0.5°C @ 30°C, ≤ 3.0°C @ 300°C
Transition time – Heating	30°C to 300°C = 44 min (typical)
Transition time – Cooling	300°C to 30°C = 55 min (typical)
Thermal chuck flatness	≤ 30 μm @ +30°C to 300°C
Supply voltage	100/230 VAC 50/60 Hz
Supply air	350 liters/min (12 SCFM)
Power consumption	2015 VA
Audible noise	< 58 dB (C)
Dimensions	420 mm (W) x 300 mm (D) x 520 mm (H) [16.5 in. x 11.8 in. x 20.5 in.]
Weight	45 kg (99.2 lb.)

### ERS AC3 Thermal Transition Time (+30°C to 300°C)

Typical times using Elite300/M  
with FemtoGuard Chuck; 10-15%  
faster with coaxial chuck.



## MICROSCOPE BRIDGE MOUNT/TRANSPORTS

### Programmable Bridge/Transport Specifications

Travel	75 mm (X) x 75 mm (Y) x 150 mm (Z) (3.0 in. x 3.0 in. x 6.0 in.)
Travel in TopHat	13 mm x 13 mm (0.5 in. x 0.5 in.)
Z Lift	150 mm (6.0 in.)
Resolution, X-Y axis	0.4 $\mu\text{m}$ (.02 mils)
Resolution, Z axis	0.08 $\mu\text{m}$ (0.003 mils)
Repeatability, X-Y axis	$\leq 2 \mu\text{m}$ (0.08 mils)
Repeatability, Z axis	$\leq 1 \mu\text{m}$
Accuracy, X-Y axis	$\leq 5 \mu\text{m}$ (0.20 mils)
Accuracy, Z axis	$\leq 4 \mu\text{m}$
Speed	5 mm/sec (0.2 in./sec)

### Motorized Bridge/Transport Specifications

Travel	75 mm (X) x 75 mm (Y) x 150 mm (Z) (3.0 in. x 3.0 in. x 6.0 in.)
Travel in TopHat	13 mm x 13 mm (0.5 in. x 0.5 in.)
Z lift	150 mm (6.0 in.)
Resolution, X-Y axis	0.4 $\mu\text{m}$ (0.02 mils)
Resolution, Z axis	0.08 $\mu\text{m}$ (0.003 mils)
Repeatability, Z axis	$\leq 1 \mu\text{m}$
Speed	5 mm/sec (0.2 in./sec)

### Manual Bridge/Transport Specifications

Travel	50 mm (X) x 50 mm (Y) x 50 mm (Z) (2.0 in. x 2.0 in. x 2.0 in.)
Travel in TopHat	13 mm x 13 mm (0.5 in. x 0.5 in.)
Z lift	150 mm (6.0 in.)

## AUX CHUCK

Quantity	Two positions, mounted independent of the thermal chuck
Max substrate size	15.2 mm x 22.1 mm (0.6 in. x 0.87 in.) ISS substrate 19 mm x 19 mm (0.75 in. x 0.75 in.) Square substrate
Material	Magnetically loaded, RF absorbing Eccosorb
Thermal isolation	Air gap, > 10 mm
Flatness	$\leq 10 \mu\text{m}$ (0.39 mils)
Positional repeatability	$\leq 2 \mu\text{m}$ (0.08 mils) after rollout event
Vacuum actuation	Independent software control

## STATION CONTROLLER

E3-CTL1	Standard system controller with Intel processor
E3-CTL2	Optional system controller with AMD processor

## FACILITY REQUIREMENTS

Note: These are for the Elite probe station only. Thermal system not included. See the Stations Facility Guide for complete information.

Vacuum	400 mm (15 in.) of Hg min
Dry-air purge	2.8 liters/sec (6 SCFM)
Compressed air	0.5 liters/sec (1 SCFM) @ 6 bar (85 psi) min
Background vibrations	“Operating Theatre” level (as specified by ISO)
Power	100-120 V @ 2.5 A (50-60 Hz), 200-240 V @ 1 A (50-60 Hz)

## AVAILABLE MODELS

**Elite 300/AP** – Probe station platform, semi-automatic with MicroChamber, AttoGuard, AttoGuard and PureLine technologies

*Configuration includes:*

Elite 300 mm wafer probe system, microscope bridge/transport – programmable 75 mm (3”x3”) (E3-ST75P)

Elite 300 mm wafer probe system, Premium Control Kit (LCD, Manual XY Controls) (E3-PCK)

Elite 300 mm wafer probe system, AUX chuck kit (E3-AUX)

Elite 300 mm wafer probe system, computer accessory mount kit, 20” LCD monitor and ergo arm

Elite 300 mm wafer probe system, Intel controller (E3-CTL1)

Elite 300 mm wafer probe system, height kit – Standard (E3-SHK)

**Elite 300/M** – Probe station platform, semi-automatic with MicroChamber

*Configuration includes:*

Elite 300 mm wafer probe system, microscope bridge/transport – motorized 75 mm (3”x3”) (E3-ST75)

Elite 300 mm wafer probe system, computer accessory mount kit, 20” LCD monitor and ergo arm

Elite 300 mm wafer probe system, Intel controller (E3-CTL1)

Elite 300 mm wafer probe system, height kit – Standard (E3-SHK)

## AVAILABLE MODELS (CONTINUED)

Note: To complete the Elite probe system configuration:

1. Select a modular chuck from the following list (X=1 for Nickel-plated chuck and 2 for Gold-plated)
2. Select additional options from the following list (see compatibility chart below)

Options		Option Compatibility	
Part Number	General Description	AP	M
E3-ST75P	Elite 300 mm wafer probe system, microscope bridge/transport – programmable 75 mm (3"x3")	Std	●
E3-ST75	Elite 300 mm wafer probe system, microscope bridge/transport – motorized 75 mm (3"x3")		Std
E3-AUX	Elite 300 mm wafer probe system, AUX chuck kit	Std	●
E3-PCK	Elite 300 mm wafer probe system, Premium Control Kit (LCD, Manual X-Y Controls)	Std	●
E3-CTL1	Elite 300 mm wafer probe system, system controller, Intel	Std	Std
E3-CTL2	Elite 300 mm wafer probe system, system controller, AMD	●	●
E3-SHK	Elite 300 mm wafer probe system, height kit (Standard)	Std	Std
E3-LHK	Elite 300 mm wafer probe system, height kit (Low profile)	●	●

Non-Thermal Chucks		Chuck Compatibility	
Part Number	General Description	AP	M
TC-001-30x	FemtoGuard triaxial chuck, non-thermal, 300 mm (12")	●	
TC-001-10x	Coaxial chuck, non-thermal, 300 mm (12")		●

Thermal Chucks		Chuck Compatibility	
Part Number	General Description	AP	M
TC-231-30x	FemtoGuard triaxial chuck, thermal, -60°C to 300°C (ERS AC3), 300 mm (12")	●	●
TC-231-10x	Coaxial chuck, thermal, -60°C to 300°C (ERS AC3), 300 mm (12")		●

Note: X = 1 (Nickel), X = 2 (Gold)

Thermal Systems		Thermal Compatibility	
Part Number	General Description	AP	M
TS-231-14P	Thermal system for Elite300 AP/M, -60°C to 300°C, ERS AC3 (200/230 VAC 50/60 Hz)	●	●
TS-231-02T	Thermal system for Elite300 AP/M, +30°C to 300°C, ERS AC3 (100/230 VAC 50/60 Hz)	●	●
TS-231-05T	Thermal system for Elite300 AP/M, +20°C to 300°C, ERS AC3 (100/230 VAC 50/60 Hz)	●	●

Note: Thermal systems must match the thermal chuck selected, i.e. TS-231-xxx thermal systems are compatible with TC-231-xxx chucks.

## REGULATORY COMPLIANCE

Certification TÜV compliance tested for CE, certified for US and Canada, SEMI S2 and S8

## WARRANTY

Warranty\* Fifteen months from date of delivery or twelve months from date of installation

Service contracts Single and multi-year programs available to suit your needs

\*See Cascade Microtech's Terms and Conditions of Sale for more details.

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