Elite 300 Probe Station

Facility Planning Guide

This guide contains information to help prepare your facility for the arrival of your Elite 300 probe station.

> **NOTE**
> *Facility requirements for thermal systems are listed separately. See the Facility Planning Guide specific to your thermal system for details.*

Probe Station Requirements

Clean Dry Air (CDA)	General use	• ISO 8573.1 Class 1.4.1 (3°C dew point, oil less than 0.01 mg/m^3) [3] • 85 l/min (3 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage • 12.7 mm (1/2 in) OD push-in tube connection (3 m max tube length)
	MicroChamber probing environment	• ISO 8573.1 Class 1.1.1 (-70°C dew point, oil less than 0.01 mg/m^3) • Max flow: 170 l/min (6 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage • Continuous flow: 57-85 l/min (2-3 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage • 12.7 mm (1/2 in) OD push-in tube connection (3 m max tube length)
	NOTE *Note that the combined values for independent general use and MicroChamber purge flow are not equal to the value for simultaneous general use and MicroChamber purge flow.*	
	MicroChamber probing environment and general use CDA	• ISO 8573.1 Class 1.1.1 (-70°C dew point, oil less than 0.01 mg/m^3) • Max flow: 255 l/min (9 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage • Continuous flow: 57-85 l/min (2-3 CFM) at SATP* supplied at 6-8 bar (87 - 116 psi) gage • 12.7 mm (0.5 in.) OD push-in tube connection (max 3 m tube length) • Chamber atmospheric pressure dew point: – Thermal system operated down to +20°C: ≤ -45°C at SATP* (-29°C at 5 bar [73 psi] gage) – Thermal system operated down to -40°C: ≤ -50°C at SATP* (-35°C at 5 bar [73 psi] gage) – Thermal system operated down to -60°C: ≤ -70°C at SATP* (-57°C at 5 bar [73 psi] gage) CDA for general use may be supplied by the MicroChamber supply for a single service supply.
	WARNING *Cascade Microtech does not endorse or recommend using nitrogen instead of CDA for thermal system operation with any Cascade Microtech system due to the risk of oxygen depletion in the working environment.* *If your testing configuration requires the use of nitrogen instead of CDA for MicroChamber purge, time in Quick Purge mode should be controlled. Discuss your setup with your safety and facilities departments to ensure that the oxygen flow in your working environment is adequate to dissipate any nitrogen build up. The use of oxygen sensor alarms is also recommended.* **NOTE** *Modification of the manifold plumbing is required if you are using N_2. See the Summit User Guide for details.*	
Vacuum	• Wafer hold on chuck and positioners: – Required: < 500 mbar 14.8 inHg) absolute, -510 mbar (-15.0 inHg) gage, at up to 8 l/min (0.28 CFM) at SATP* – Recommended: < 400 mbar (11.8 inHg) absolute, -610 mbar (-18.0 inHg) gage, at up to 10 l/min (0.35 CFM) at SATP* – 12.7 mm (0.5 in.) OD push-in tube connection (3 m max tube length) • Wafer hold only (while under test to ensure measurement performance): – Vacuum pressure stability: ± 10 mbar (0.3 inHg)	

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Power	Station	• Single phase: 100-127 VAC or 208-240 VAC 50/60 Hz • 360 VA • Source: – North America: NEMA 5-20 for 100-127 VAC or NEMA L6-15 for 208-240 VAC – Europe: CEE VII (Schuko) – Other: consult factory • Appropriate international power cables will be supplied.	
	Circuit breaker	Minimum rating: 10,000 AIC	
	Accessories	Up to four additional power outlets are available depending on the configuration and are rated at 115V/230V for accessories.	
		Power to the dual LCD computer monitors is supplied by the built-in power strip on the station.	
		Additional AC outlets required: 115V/230V for accessories • Test equipment • Laser system • Instrument/video monitors • Vacuum pump	
Thermal Systems	Refer to the facility preparation guide for your thermal system.		
Environmental Conditions	Operating	• Altitude up to 2000 m • Main supply voltage fluctuations not to exceed ± 10% of the nominal voltage	
	Ambient temperature	• +18ºC to +28ºC	
	Relative humidity	• 20% to 60%	
	Ambient vibration (including floor)	The probe station is intended for use in an environment having background vibrations at or below the ISO Operating Theatre level: • Maximum level 4000 micro-in./sec (72 dB), measured using the 1/3-octave-band velocity spectra method	
	Seismic restraints	Installation of seismic restraints is required to safely restrain the probe station during a seismic event and to meet the safety requirements as outlined by SEMI-S2.	
Dimensions (WxDxH)	Station with bridge	• Standard height: See Dimensions on page 3. • Low profile: 1270 x 1170 x 1420 mm (50 x 46 x 56 in.)	
	Station with accessory shelves and monitors	• Standard height: See Dimensions on page 3. • Low profile: 2340 x 1520 x 1800 mm (92 x 60 x71 in.)	
	Additional clearance	Front	• 800 mm (32 in.) for operator/installation during installation or service
		Back	• 1000 mm (39 in.) for service access • 800 mm (32 in.) when using optional holders for monitor, keyboard or test instrument
		Left/right	• 200 mm (8 in.) for cables, maximum 450 mm (18 in.) for use of control console • 800 mm (32 in.) during installation or service, or permanently when using optional holders for monitor, keyboard or test instrument
		Top	• 400 mm (16 in.)
		Additional clearance may be required for thermal system cooling units.	
Weight	Probe station	• ~1090 kg (2400 pounds)	
	Lifting requirements	Use the integrated wheels to move the station short distances. For long distances, the station must be in the original shipping crate and a forklift must be used. To avoid personal injury and/or damage to the probe station, a forklift with a minimum 1364 kg (3000 pounds) capacity is required.	

Shipping Dimensions (WxDxH)	Probe station crate	• 1520 x 1520 x 1600 mm (60 x 60 x 63 in.)
Shipping Weight	Probe station and crate	• ~1295 kg (2850 pounds)

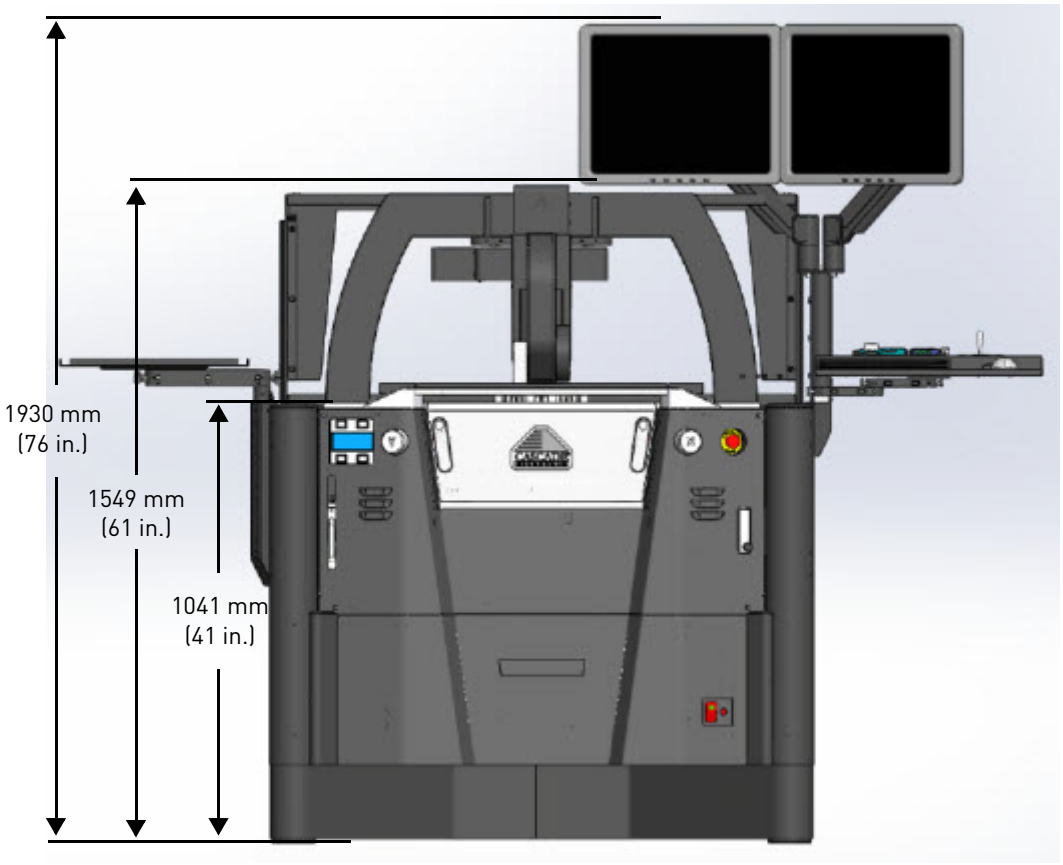
* Standard Ambient Temperature And Pressure (SATP)

Dimensions

NOTE

Refer to Additional clearance on page 2 for recommended working space around the station.

Front view (standard height option)



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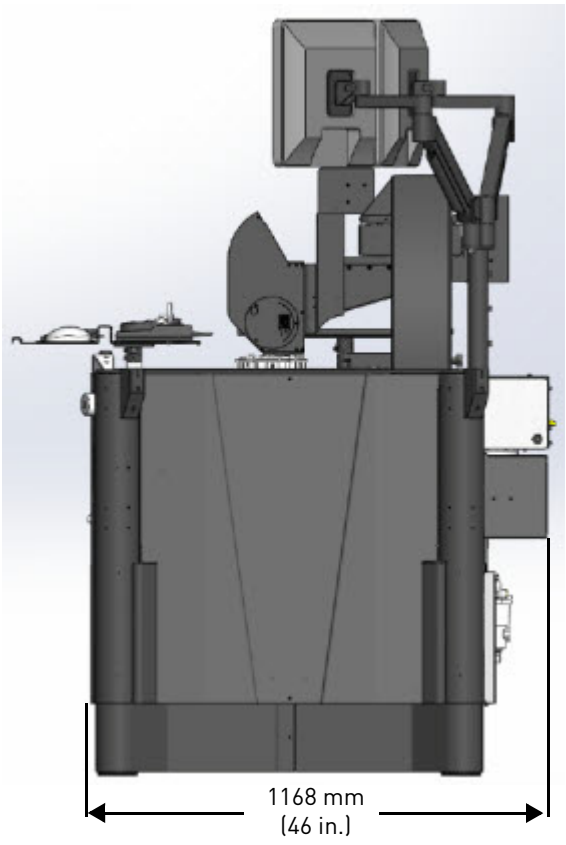
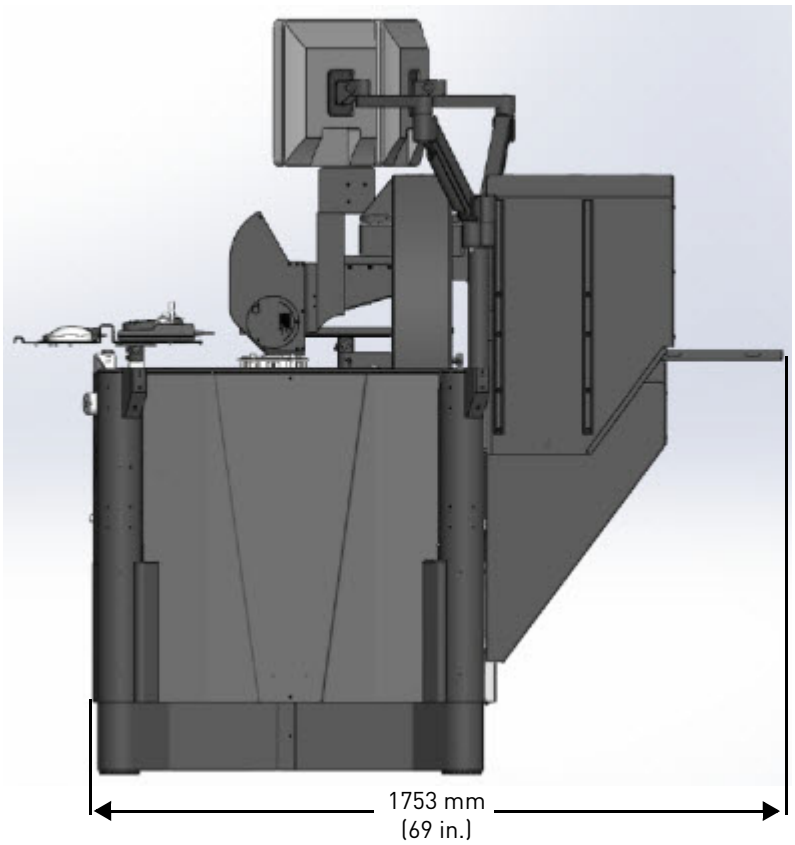
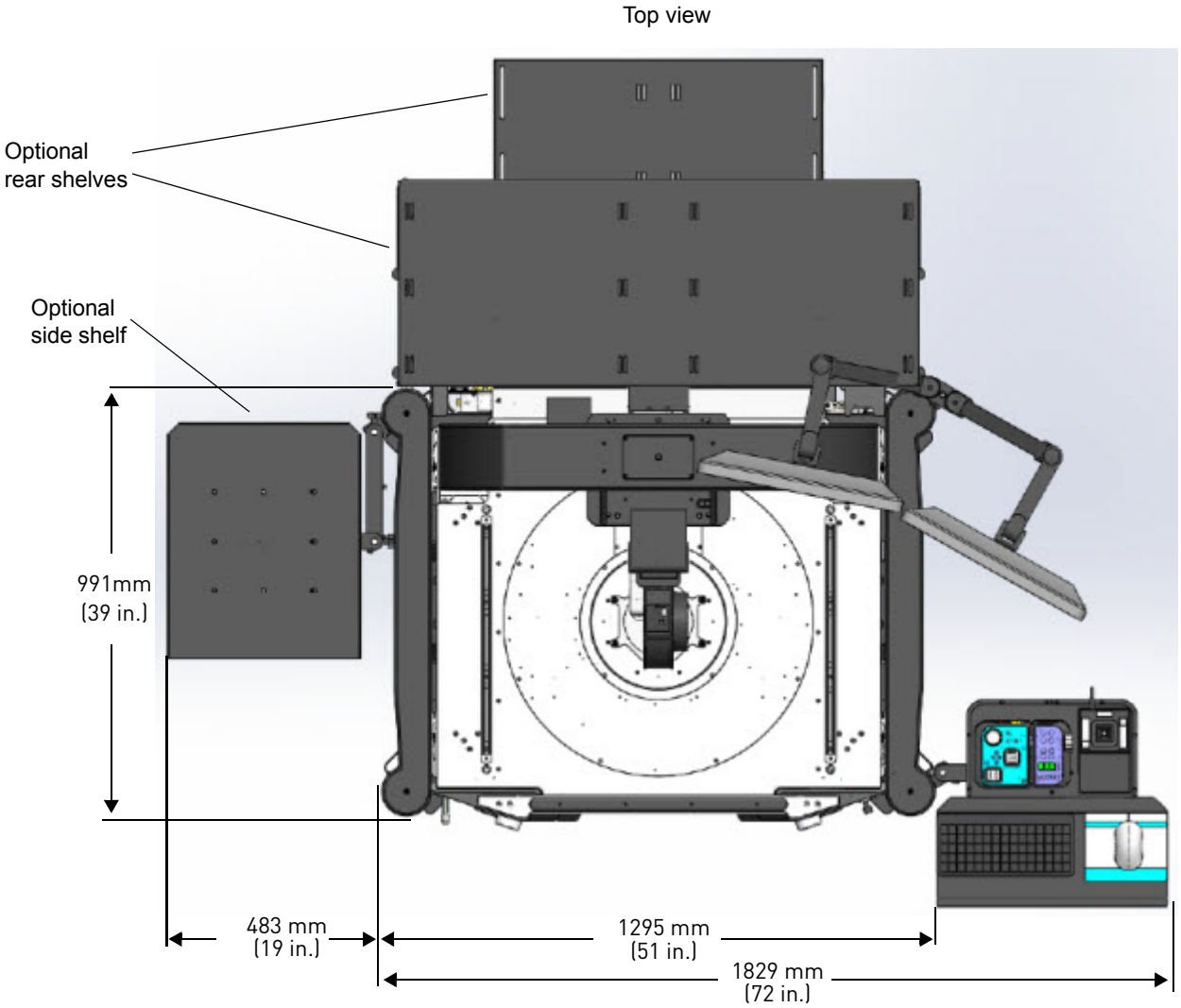
Side view



Side view with optional rear shelf



Top view


Optional
rear shelves
Optional
side shelf
991mm
(39 in.)
483 mm
(19 in.)
1295 mm
(51 in.)
1829 mm
(72 in.)

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