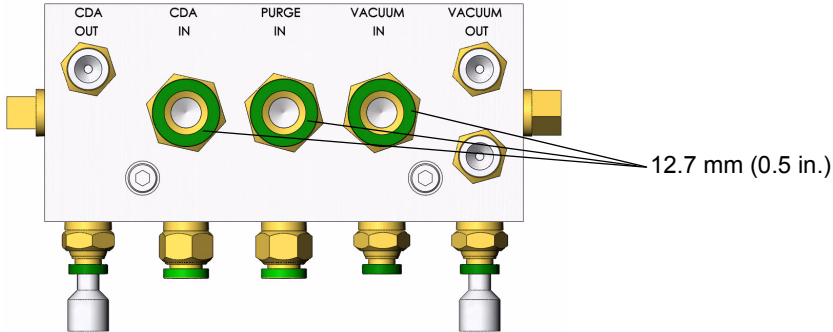


Edge Flicker Noise Measurement System

Facility Planning Guide

This guide contains information to help prepare your facility for the arrival of your Edge system.

Probe Station Requirements

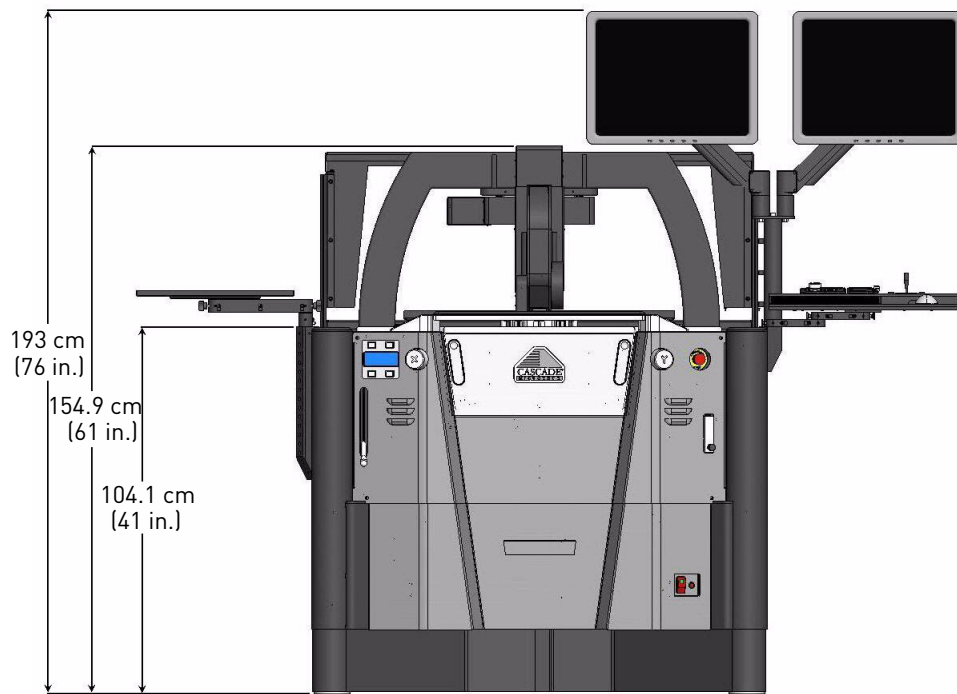
Air and Vacuum	<ul style="list-style-type: none"> Three input/output connections at rear of station for vacuum, clean dry air (CDA), and MicroChamber purge.
Connections	 <ul style="list-style-type: none"> 12.7 mm (0.50 inch) O.D. polyurethane tubing; 3 meters (10 feet) of polyurethane tubing provided in the Accessories Kit for use in vacuum and air connections.
Vacuum	<ul style="list-style-type: none"> 400mmHg (15 inch of mercury) minimum Flow Rate: 50 l/min (1.8 SCFM)
Clean dry air (CDA)	<ul style="list-style-type: none"> Dew point: -70°C @ 0.1MPa Total system flow rate: max. 700 l/min (24.7 SCFM) Thermal system flow rate: max. 500 l/min (17.7 SCFM) Probe station flow rate: max. 200 l/min (7.1 SCFM)
MicroChamber Purge	<ul style="list-style-type: none"> Purge flow rate <ul style="list-style-type: none"> Standard: 0 to 110 l/min (0 to 4 SCFM) Quick purge: > 110 l/min (4 SCFM)
Purge connection	<ul style="list-style-type: none"> 12.7 mm (0.50 inch) O.D. polyurethane tubing; 3 meters (10 feet) is provided in the Accessories Kit
Dew Point (Dry Air or Nitrogen)	<ul style="list-style-type: none"> < -70°C (can be provided by optional air dryer unit)
Environmental Conditions	<ul style="list-style-type: none"> Temperature <ul style="list-style-type: none"> Range: 20-28°C Stability: ±1°C
Low light	<p>Direct sunlight affects thermal performance of the system and may cause measurement error at low current levels. Windows should have adequate shades and should be least 4m away from the Edge system.</p>
Minimal airflow	<p>Chilled air from nearby ventilation outlets can affect thermal performance and induce significant measurement error. The Edge system should be placed as far as possible from sources of moving air and care should be taken to aim airflow away from the system.</p>
Low vibration environment	<p>Low frequency vibration from the building structure, nearby foot traffic, and doors opening and closing can cause significant measurement error. The Edge system should be installed on a rigid ground floor, at least 5m from doors or passages.</p>
Seismic restraints	<p>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.</p>

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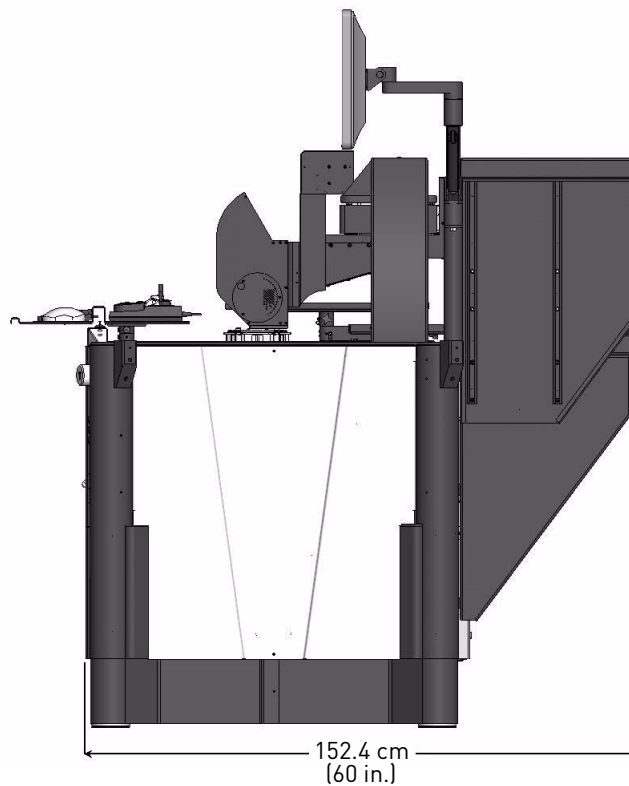
Environmental Conditions (continued)	Low Electro-Magnetic Noise Environment	<p>Your Edge station must be adequately isolated from many sources of electrical disturbances which can cause measurement errors.</p> <ul style="list-style-type: none"> • Inverter type fluorescent lights emit significant electromagnetic noise in the 40 to 200KHz frequency range. The installation location should have 5m high ceilings to prevent interference from lights. • Your Edge station must have a separate power line from other industrial equipment including SEM/FIB, process equipment, thermal chambers, compressors, cryogenic pumps, power distribution units, etc. The system must be located at least 10m away the separate power line. • UPS units can inject power line harmonics onto the power line, which can result in measurement errors at harmonic frequencies. Power for the Edge station should not be routed through a UPS. • AM/FM/VHF/UHF broadcast stations within 5km can cause significant measurement error. Frequency and power of such stations must be identified. Ideal installation will have suitable electrical and magnetic shielding to prevent interference from broadcast stations.
Electrical Requirements	System	<p>Two receptacles are required: receptacle 1, 10 A minimum, receptacle 2, 20 A minimum.</p> <p>An internal switch in the Edge probe station is used to select between the two voltage ranges. Set the voltage range for your system to 230 V.</p>
	Circuit breaker	The main circuit breaker in your facility must have a minimum rating of 10,000 AIC.
	Voltage and Frequency	<p>Station • 200V, 220V, 230V, or 240V, 50/60 Hz, single phase</p> <p>Module • 100V, 110V, 120V, 200V, 220V, 230V, or 240V, 50/60 Hz, single phase</p>
	Current	<p>Station • Outlet 1: 10A (minimum) • Outlet 2: 20A (minimum)</p> <p>Module • 4A (minimum)</p>
Ground Terminal Requirements	Station	<p>Clean ground and/or earth ground is required.</p> <ul style="list-style-type: none"> • Dedicated ground line from building reference ground. • Dedicated ground line from earth ground.
	Module	Grounded electrical outlet
Dimensions	Station with bridge	• 127 cm/50 in. (W) x 116.8 cm/46 in. (D) x 154.9 cm/61 in. (H)
	Station with mounted accessory shelves and monitors	• 233.7 cm/92 in. (W) x 152.4 cm/60 in. (D) x 193 cm/76 in. (H)
Weight	Probe station	• 1090 kg (2400-pound)
	Lifting requirements	<ul style="list-style-type: none"> • If the station is to be moved short distances, use the integrated wheels. • To move the probe station long distances, it 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-pound) capacity is required.
Shipping Dimensions and Weight	Station	<ul style="list-style-type: none"> • 152.4 cm/60 in. (W) x 152.4 cm/60 in. (D) x 160 cm/63 in. (H) • Weight: 1295 kg (2850-pound)

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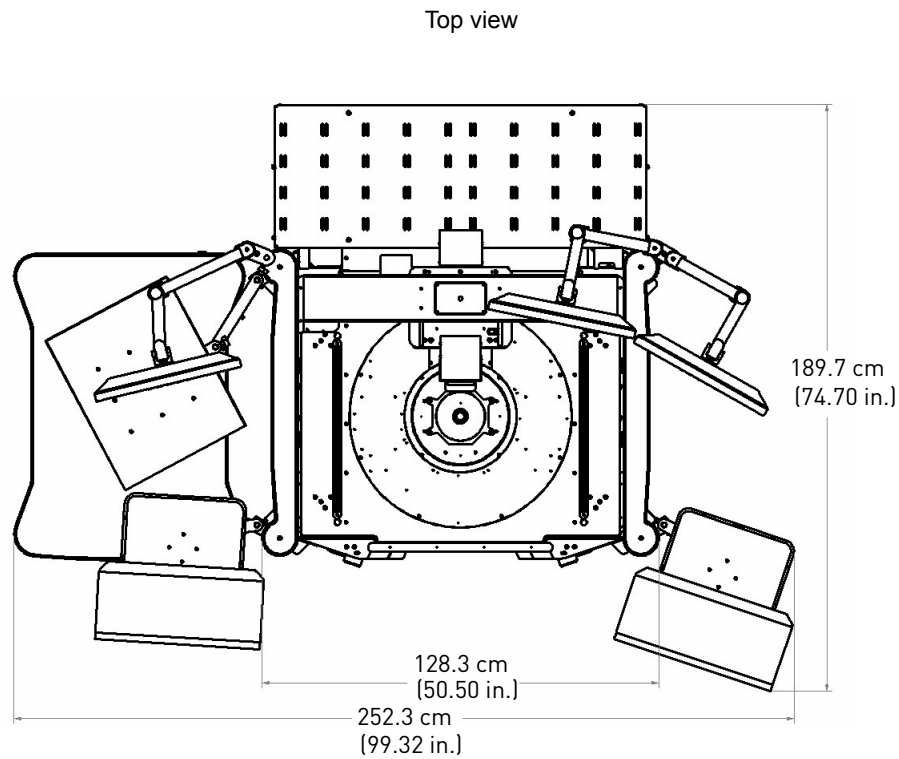
Front view



Side view with rear shelf



Edge Flicker Noise Measurement System



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