

# E Series Enhanced Manual Probe Station

An enhanced wafer test equipment for laboratory applications

## 1、Product Overview

The E series is a functionally advanced probe station capable of electrode Pad testing above 1 $\mu$ m. With an easy-to-operate ergonomic design and flexible UPStart™ modular design, customers can upgrade more test functions such as mmW, FA, MEMS, WLR, and optoelectronic testing with minimum cost.

### >Main Features

1. More flexible UPStart™ modular design with richer optional configurations, including chuck, needle holder, probe, fixtures, microscope, anti-vibration table, shielding box, and other options.
2. Large body structure for enhanced operating comfort and a larger platform for probe holders and probe card support to improve the accuracy of contact.
3. The chuck can be lifted and adjusted to facilitate quick sample separation from the probe.
4. Standard equipped with the metallographic microscope provides magnification for more than 1 $\mu$ m electrode Pad size. It can also carry laser for FA failure analysis/laser cutting.
5. Pneumatic quick lift of microscope provides easy access to change microscope and probe chuck fixture.



### >Test application

测试器件	Wafer level diode and triode test	●	Test application	DC/ (IV、CV) test	●	
	Power device (IGBT, MOSFET) test	●		Low current (100fA level) test	●	
	MEMS device test	●		1/f Noise test	●	
	LD (VSCEL) PD、LED optoelectronic device test	●		FA failure analysis test	●	
	PCB component test	●		Device characterization test	●	
	LCD -TFT test	●		WLR、aging test	●	
	Storage device (fast pulse test) test	●		RF	to 67GHz RF test	●
	RF device	●			mmW/sub THz test	●
	Silicon optical device test	○			THz and load traction test	○
					High power/High voltage/high current test	●
			low temperature test	○		
			Vacuum extremely low temperature test	○		
			Silicon Photon/Light Coupling Test	○		
			Photonics VSCEL test	○		

●Support Recommended, ● Support but not recommended, ○Not supported N/A

## 2、Product Structure

### Microscope

- Compatible with metallographic microscope/monocular video microscope with high magnification/high-resolution objective lens up to  $\mu\text{m}$ /sub- $\mu\text{m}$  level.
- LED coaxial / ring illumination, high contrast, can load laser for failure analysis/laser cutting
- Microscope pneumatic quick lift + X-Y translation table can adjust the microscope in the X-Y plane 2"×2" range of movement with the accuracy of  $1\mu\text{m}$ , travel 50mm, one-button quick operation, easy and quick replacement of the microscope and probe card fixture which can be customized for incline lift.

### Chuck

- Using central and multi-loop vacuum adsorption rings to fix the sample, and each vacuum channel is independently controlled
- Chuck is an electrically independent suspension with a banana head socket, which can be used as a back electrode
- Optional multi-hole adsorption Chuck or high and low-temperature carrier system; coaxial /triaxial /gold-plated chucks are available.

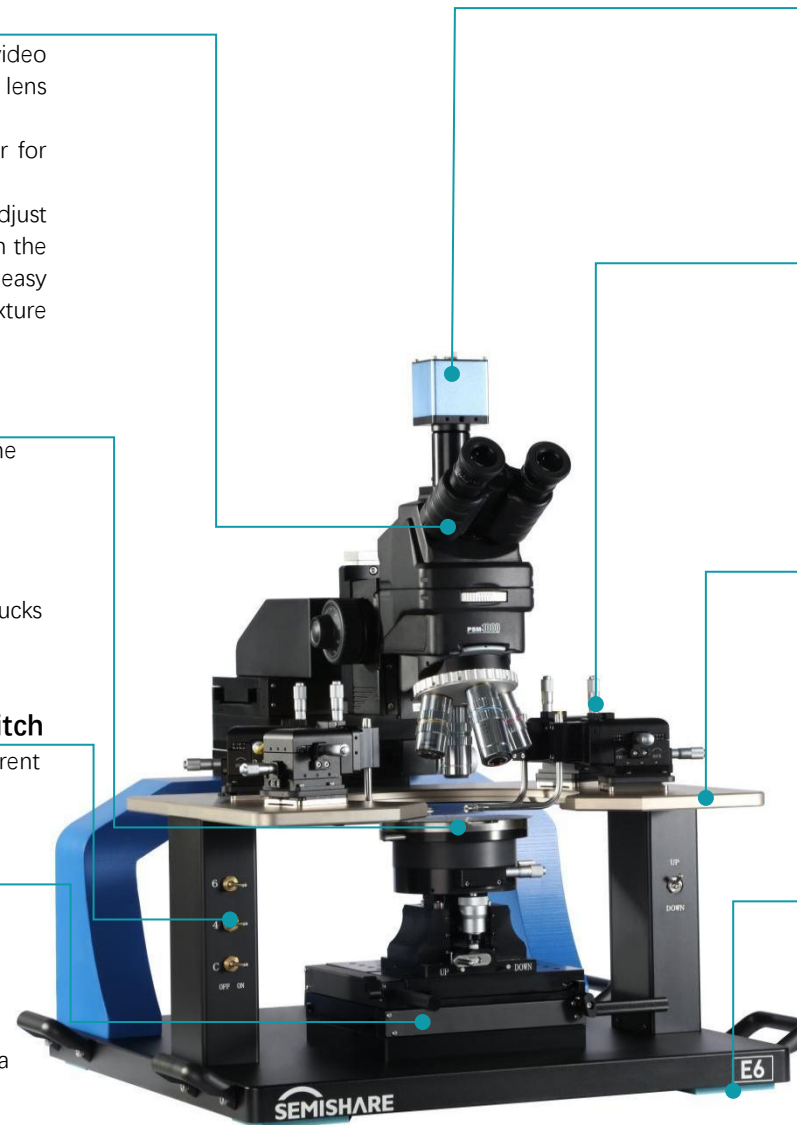
### Chuck multi-stage adsorption channel control switch

- The centralized arrangement and independent control of different channels of adsorption holes

### Chuck moving stage - X/Y stroke adjustment

- Chuck fine adjustment lift of 5mm stroke with the precision of  $10\mu\text{m}$
- The chuck table can adopt quick adjustment mode in X/Y direction corresponding to the size of the chuck with the precision of  $1\mu\text{m}$ , and all with a locking knob
- Chuck X/Y axis for clearance-free movement, each rotation of a turn of travel for 1mm
- Chuck rotation angle: 360 degrees, fine-tuning rotation angle  $\pm 8^\circ$ , adjustment accuracy  $0.002^\circ$

2nd



### CCD camera

- C/CS interface high-definition CCD/CMOS camera, 2 million / 5 million / 1200 pixels optional, resolution up to  $1920 * 1080$  and above
- With an SD card interface, it can store pictures and videos
- With HDMI video cable, you can connect the display for real-time observation

### Multiple probe holders, fixture options

- Two types of attachment options (magnetic/vacuum), optional according to the application
- 12mm travel in X-Y-Z directions respectively
- Adjustable point measurement angle:  $0-30^\circ$
- 3 different precision holders available ( $0.1\mu\text{m}/0.7\mu\text{m}/10\mu\text{m}$ )
- Coaxial fixture 10PA, optional triaxial fixture 100fA
- U.S. GGB probes

### U-shaped probe holder platform

- wide loading space for probe holders
- Thicker grade alloy steel material, good rigidity, and stable fastening
- New surface treatment process has better grip characteristics as compared to the chrome plating process probe holder, which as a result, improves test accuracy
- Probe card fixture can be installed, which is compatible with testing with a probe card.

### POMater™ Adaptive vibration isolation base

- German imported vibration isolation material, with enhanced elastic support to achieve different degrees of rigidity and load range, to improve the stability of equipment testing.

### 3、Specification parameters

Model		E4	E6	E8	E12
Shape (L*W*H/mm)		680*670*760	680*670*760	750*670*800	1030*800*850
About Weight (KG)		90kg	95kg	110kg	210kg
Power requirement		220VC,50~60Hz			
Chuck Normal temperature standard	Chuck size	4"	6"	8"	12"
	Sample fixing method	Annular vacuum adsorption (customizable porous adsorption)			
	Back electrode test	Yes, sample stage electrically independent overhang			
	Chuck material	316# stainless steel (optional brass nickel plated OR gold plated)			
Chuck moving platform	Theta Stroke	360 °rotation (coarse adjustment); fine-tuning range $\pm 8^\circ$ , fine-tuning accuracy $0.002^\circ$			
	Chuck lift	Chuck table can be quickly lifted up and down 5 mm, fine-tuning lift stroke 6 mm, precision 1 $\mu\text{m}$			
	X-Y Stroke	100*100mm	150*150mm	200*200mm	250*250mm
	Movement accuracy	10 $\mu\text{m}$			
	Rapid chuck pull-out	N/A			
	Control method	Small knob drive			
Probe holder platform	Dimensions(L*W)	550*405mm		720*405mm	980*480mm
	Distance from chuck to platform	8mm (The upper surface of the chuck and the lower surface of the probe holder platform)			
	Maximum number	6	8		10
	Platform lift	N/A			
	Positioning method	Magnetic adsorption or vacuum adsorption			
Optical characteristics	Optical characteristics	Standard PSM-1000 metallurgical microscope / optional (GX-6 metallurgical, body view, video) microscope			
	Lens Specifications	20-2000X			
	Magnification	3 CCD options: 200W (digital) / 500W (digital) / 650W (digital)			
	CCD Pixels	axis movement stroke 50.8 mm, coaxial knob adjustment, fine tuning accuracy better than 1 $\mu\text{m}$			
	Motion control	Microscope 2 inches XY panning table range of movement			
	Microscope travel	1 $\mu\text{m}$			
Probe Specifications	X-Y-Z stroke	12mm-12mm-12mm			
	Mechanical accuracy	10 $\mu\text{m}$ /2 $\mu\text{m}$ /0.7 $\mu\text{m}$			
	Leakage accuracy	Coaxial 1pA/V @ 25 °C; Triaxial 100fA/V @ 25 °C; Triaxial 10pA@3kv @25°C, Test conditions: dry environment for grounding shield (air dew point lower than - 40 ° C)			
	Interface form	Banana head / alligator clip / coaxial / triaxial interface			

\*Specifications and designs are subject to change without notice.

## 4、 Product Selection Guide


### 1、 Microscope-4 kinds of microscope options

#### 1.1 PSM-1000 high magnification metallurgical microscope/loadable laser (standard)

	Optical magnification	2000X (eyepiece*zoom magnification*objective lens)
	Eyepiece	10X
	Zoom	1X~2X
	Objective lens (standard)	5X(Operating Distance: 34.0mm,NA:0.14)
		10X(Operating Distance: 33.5mm,NA:0.28)
		20X(Operating Distance: 20mm,NA:0.42)
	Objective lens (optional)	2X(Operating Distance: 34mm,NA:0.055)
		50X(Operating Distance: 13mm,NA:0.55)
		100X(Operating Distance: 3mm,NA:0.8)
Microscope focusing mechanism	Z-axis travel 50.8 mm, coaxial knob adjustment, fine tuning accuracy better than 1 $\mu$ m	
Converter	4-hole manual objective switching nosewheel (4-hole motorized nosewheel can be customized)	
CCD interface form	1X C Mount	
Illumination system	150W high power white illumination source (sleepless brightness adjustment)	


**Note:** PSM-1000 can be equipped with a laser for FA failure analysis/laser cutting function and camera interface with laser safety positioning pins, leaving a position for mounting laser safety filters in front of the microscope binocular head and providing compensation spacers. The laser and safety filter can be easily installed without a special tool kit.

#### 1.2 GX-6 long working distance metallurgical microscope (optional)


	Optical magnification	2000X (Eyepiece*Zoom magnification*Objective lens)
	Eyepiece	10X/22X
	Zoom	1X
	Objective lens (standard)	2X(Operating Distance: 34.0mm)
		5X(Operating Distance: 45mm)
		10X(Operating Distance: 34mm)
		20X(Operating Distance: 30.8mm)
		50X(Operating Distance: 20.5mm)
	Objective lens (optional)	100X(Operating Distance: 12.5mm)
Microscope Focusing Mechanism	Z-axis travel 50.8 mm, coaxial knob adjustment, fine tuning accuracy better than 1 $\mu$ m	
Converter	5-hole manual objective switching nose wheel	

CCD interface form	1X C Mount
Illumination system	Cold light source fiber optic reflector illuminator:12V/150W

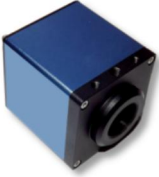

### 1.3 Stereomicroscope/SS-M (optional)

	Total magnification: 16X-100X
	Continuous zoom ratio of 6.3:1
	Eyepiece magnification: 20X
	Optical system, continuous zoom range 0.8X ~ 5X
	Objective magnification: 2X, working distance: 34mm, (this is optional)
	Binocular observation tilt 45 degrees, double pupil distance adjustment range of 52-75mm
	Ring LED light source (sleepless brightness adjustment)
	Microscope in the Z-axis adjustment range of 50.8 mm
	CCD interface C MOUNT can be configured with a PC to control the CCD for sample photo acquisition and video recording.

### 1.4 Video Microscope/70XL (optional)

	<ul style="list-style-type: none"> <li>• Microscope optical magnification range: 0.75 - 5.25X, with 19inch monitor magnification can reach 216X</li> </ul>
	<ul style="list-style-type: none"> <li>• Continuous zoom ratio: 7:1</li> </ul>
	<ul style="list-style-type: none"> <li>• Resolution: 72 - 240 lp/mm, highest resolution better than 4μm</li> </ul>
	<ul style="list-style-type: none"> <li>• NA value: 0.0240 - 0.080</li> </ul>
	<ul style="list-style-type: none"> <li>• Depth of field: 0.98 - 0.09 mm</li> </ul>
	<ul style="list-style-type: none"> <li>• Field of view at low magnification: 6.40 x 8.53 mm</li> </ul>
	<ul style="list-style-type: none"> <li>• Field of view at high magnification: 0.91 x 1.22 mm</li> </ul>
	<ul style="list-style-type: none"> <li>• Working distance: 89mm</li> </ul>
	<ul style="list-style-type: none"> <li>• 150W high power white illumination source (sleepless brightness adjustment)</li> </ul>
	<ul style="list-style-type: none"> <li>• Microscope focus mechanism: Z-axis travel 50.8 mm</li> </ul>

## 2、CCD camera - 2 options

Model Parameters		
Model	O200C	ZX-201HC
Pixel Size	2.75 (H) $\mu$ m * 2.75(V) $\mu$ m	3.75 (H) $\mu$ m * 3.75(V) $\mu$ m
Optical Size	1/2.5 inch	1/2.8 inches
Resolution	1920 * 1080	1920 * 1080
Output Color	8:8:8 24-bit true color	12/12/12 36-bit true color output
Output Frame	60fps	60fps
Output Method	HDMI pure digital output	HDMI pure digital output
Adjustment	OSD menu adjustment	Mouse operation UI adjustment
Storage method	SD card	U-Drive
Wide Dynamic	3 levels of wide dynamic adjustment	1-10 level adjustable
Edge	3 levels of edge enhancement	1-10 level adjustable
Exposure method	Manual/Auto	Manual / Auto
White Balance	One button white balance	One button white balance
Color Adjustment	R, G, B adjustable respectively	R, G, B are adjustable
Lens interface	C-Mount	C-Mount
Power supply	DC-5V	12V/1A
Appearance size	61mm*61mm*72mm	98mm*65mm*50mm
Working Humidity	20%~80%	20%~80%
Working	0~80°C	0~80°C
Weight	270g	350g

Features	<ul style="list-style-type: none"> <li>• Image sampling frame rate: 60fps/second high-speed image capture, no dragging, delay phenomenon.</li> <li>• New color algorithm to ensure true image color reproduction.</li> <li>• 8:8:8 --24bits true color image.</li> <li>• HDMI pure digital HD output, supporting 16:9 display.</li> <li>• Colors can be adjusted independently, with a unique multi-level wide dynamic (HDR) function.</li> <li>• With cross center line, movable line function overlay function with edge enhancement mode enhances special image effects.</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt 2 million pixels Sony new generation high dynamic range CMOS 1/2 inch image sensor.</li> <li>• Support for photo and video recording, built-in latest V3.0 measurement software.</li> <li>• Support manual one-touch exposure, manual one-touch white balance, and red, green, and blue adjustment.</li> <li>• Provide 100 lines of drawing function, line color, and position adjustment.</li> <li>• Take pictures without shaking images and provides more clarity.</li> <li>• Support for Chinese and English menu language (default English). It can save the parameters settings upon shutdown.</li> </ul>
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### 3、 Normal temperature standard chucks options

#### 3.1 Normal temperature coaxial chucks (Coax)

Technical parameters (Coax)	
Interface Type	Coax BNC(m)
Product Diameter	4"/6"/8"
Material	Stainless steel/brass nickel plating (gold plating optional)
Chuck surface	Flat center pinhole and vacuum groove
Vacuum hole cross-section diameter	4" chuck: 4, 27, 45, 69, 93, 117 mm 6" chuck: 4, 27, 45, 69, 93, 117, 141 mm 8" chuck: 4, 27, 45, 69, 93, 117, 141, 164, 195 mm
Vacuum drive	3-stage vacuum adsorption control
Supported DUT size	Single grain 4×4mm, or 50mm to 200mm wafer
Surface flatness	<±5μm
Rigidity	<15μm/10N at the edge of the chuck
Electrical Specifications (Coax)	
Operating Voltage	Operates at -200V to +200V DC
Maximum voltage between chuck surface and GND	500v DC
Insulation	>2GΩ

### 3.2 Normal temperature triple axis chucks (Triax)

Technical parameters (Triax)	
Interface Type	Triax(m)
Product Diameter	4"/6"/8"
Material	Stainless steel/gold plated brass (gold plated optional)
Chuck surface	Vacuum-absorbed pinhole in the center of the plane (0.5 mm)
Vacuum hole cross-section diameter	4" chucks: 4, 27, 45, 69, 93, 117 mm
Vacuum drive	6" chucks: 4, 27, 45, 69, 93, 117, 141 mm
Supported DUT size	8" chucks: 4, 27, 45, 69, 93, 117, 141, 164, 195 mm
Surface flatness	3-stage vacuum clamping control
Rigidity	Single grain 4 x 4 mm, or 50mm to 200 mm wafer
Electrical specifications (Triax)	
Chuck Insulation	Measured at 10V DC>100
Force to guard	>2TΩ
Guard to shield	>7TΩ
Force to shield	>15TΩ

## 4、 Temperature chuck options




Specification	Coaxial heated chucks (Coax)	Triaxial heated chucks (Triax )	3KV heated chucks (Triax)
Temperature range	+25°C to +300°C	+25°C to +200°C	+25°C to +200°C
Temperature control method	Resistance heaters	Resistance heaters	Resistance heaters
Cooling method	water	water	air
Minimum temperature adjustment resolution	0.1°C	0.1°C	0.1°C
Temperature display resolution	0.01°C	0.01°C	0.01°C
Touch screen operation	Yes	Yes	Yes
Temperature stability	±0.1°C	±0.1°C	±0.1°C
Temperature Accuracy	±0.5°C	±0.5°C	±0.5°C
Control method	Low noise DC/PID power supply	Low noise DC/PID power supply	Low noise DC/PID power supply
Communication control interface	RS232C	RS232C	RS232C
Test cable interface	Coaxial cable (BNC)	Triaxial cable (Triax)	SHV triaxial
Chuck surface plating	Nickel/gold plated	Nickel/gold plated	Nickel/gold plated
Temperature sensor	RTD	RTD	RTD



Temperature uniformity	Room temperature heating to 200°C. ±1% for any one zone. Temperature >200°C, ±1.5%		
Surface flatness	<±10µm	<±10µm	<±10µm
Electrical insulation, coaxial/BNC(m)/SHV triaxial	>5TΩ	>5TΩ	>5TΩ
Heating rate	25°C to 200°C <28min 200°C to 300°C < 40min	25°C to 200°C < 28min	25°C to 200°C < 28min
Cooling rate	200°C to 25°C <20min	200°C to 25°C <20min	200°C to 25°C <50min
Leakage current at 10V Kelvin triaxial	N/A	<100fA	<400fA
Test conditions: dry environment for grounding shield (air dew point lower than - 40 ° C)			
Residual Capacitance	N/A	<200fF	<1pF
Maximum voltage between chuck surface and GND	500V	500V	3kV
Vacuum adsorption type	Ring adsorption (optional porous adsorption)		
Vacuum area	Central adsorption, 4"/6"/8"/12"		

## 5、Probe - DC/RF/Large Voltage Probe Options

### 5.1 DC Probe Selection Guide

			
Specification	Coaxial probes	Triaxial probes	Kelvin probes
Maximum Voltage	500V	500V	500V
Temperature Range	150°C	150°C	-60°C 至 300°C
Leakage current	<10pA	<100fA	<20fA
Interface Type	Coaxial male connector	Triaxial male connector	SSMC female to triaxial connector male
Characteristic impedance	50Ω	50Ω	50Ω
Residual Capacitance	<200fF	<200fF	<200fF
Probe holder material	Brass	Brass	Brass

Probe material	Tungsten wire alloy	Tungsten wire alloy	Tungsten wire alloy
Probe tip size	0.2μm–25μm	0.2μm–25μm	1μm–100μm

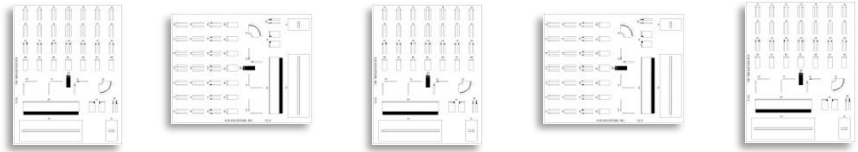
## 5.2 High Voltage / High Current Probe Selection Guide

	High Voltage Probe			High Current Probe
Product Model	SHV-C-3kV	HV-T-3kV	UHV-C-10KV	HC-B-500V
Maximum Voltage	3kV	3kV	10kV	500V
Max. current value	1ADC/30A Pulsed Electric	120mA DC	20mA DC	10A DC/100APulsed Electric
Temperature range	-60°C to 300°C	-60°C to 300°C	-60°C to 300°C	-60°C to 300°C
Leakage current	<200pA@3kV <5pA@10V	<1pA@3kV <100fA@10V	<100pA@10kV	N/A
Interface type	SHV	High pressure triaxial	UHV Coaxial	High Voltage Banana
Probe material	Tungsten Probe	Tungsten Probe	Tungsten Probe	BeCu or Tungsten Probe

## 5.2 RF Probe Selection Guide



	40a	50a	67a	110A	145A
Usage frequency	DC Power -40GHz	DC Power -50GHz	DC Power -67GHz	DC Power -110GHz	DC Power -145GHz
Connection	2.92mm	2.4mm	1.85mm	1.0mm	0.8mm
Needle tip configuration	GS/SG/GSG	GS/SG/GSG	GS/SG/GSG	GS/SG/GSG	GSG
Pitch range	50μ-2540μ	50μ-1250μ	50μ-1250μ	50μ-1250μ	50μ-200μ
Insertion loss	<.8db	<1.0db	<1.1db	<1.5db	<1.75db
Loop loss	>18db	>18db	>14db	>15db	>15db



>Calibration substrates





GSG	CS-5	CS-9	CS-10	SC-18
PAD Size	50µX50µ	100µX100µ	150µX150µ	300µX300µ
	100µX100µ			
	150µX150µ			
Pitch range	75µ-250µ	250µ-600µ	600µ-1250µ	1250µ-2540µ
GS	CS-8	CS-14	CS-11	CS-17
PAD Size	50µX50µ	100µX100µ	150µX150µ	300µX300µ
	100µX100µ			
	150µX150µ			
Pitch range	50µ-200µ	200µ-400µ	400µ-1250µ	750µ-2540µ
GSG>110GHz	CS-15			
PAD Size	25µX25µ			
Pitch range	40µ-150µ(SOLT)			
	30µ-150µ(LRM)			

## 6、 Probe holders - 3 different accuracy options for probe holders

			
	<b>SS-700</b> Sub- $\mu$ m circuits/RF	<b>SS-100</b> Sub- $\mu$ m circuits/RF	<b>SS-40</b> Optical Testing
<b>Model</b>	Sub- $\mu$ m Process IC Circuit Testing	Sub- $\mu$ m Process IC Circuit Testing	Affordable price
	Linear, recoil-free movement	Linear, recoil-free movement	Linear Motion
	Can be used with coaxial/three-axis probe fixtures	Can be used with coaxial/three-axis probe fixtures	I/O Pad Spot Test
	Tungsten probes can be used	Tungsten probes can be used	Optical device spot measurement
	Can be configured for four directions of east/south/west/north RF probe holders	Can be configured for east/south/west/north directions	Small footprint
	RF test capability: DC to 40GHz ~ 120GHz	RF probe holders	Can be used with coaxial/three-axis probe fixtures
	Can be used with calibration sheet and calibration software	RF test capability: DC to 40GHz ~ 120GHz	/
	Probe interface and cable 45 degree connection	Can be used with calibration sheet and calibration software	/
	No need for L-shaped adapters	Probe interface and cable 45 degree connection.	/
	Probe can be disassembled for maintenance	No need for L-shaped adapters	/

<b>Specification</b>	X-Y-Z Trip	8 x 8 x 8mm	12 x 12x 12mm	12 x 12x 12mm
	Movement method	Linear movement	Linear movement	Linear movement
	Screw accuracy	700 Thread / Inch	100 Thread / Inch	40 Thread / Inch
	Movement accuracy	0.1 $\mu$ m	0.7 $\mu$ m	10 $\mu$ m
	Size (L*W*H)	148*120*140	115*100*112	64*47*55
	Weight (g)	1500	1000	175

## 7、 Probe Fixture - 4 different fixture options

SEMISHARE	Triaxial Tip Holder for triaxial interface	
T2H	Shield box with leakage accuracy up to 100FA	
	Wire length 2m One-way screwdriver for probe installation	
SEMISHARE	Coax (male) Tip Holder	
C2H	Leakage accuracy up to 10PA	
	Wire length 2m Screwdriver for probe installation	
SEMISHARE	L shape Triaxial Tip Holder	
T2L	Leakage accuracy up to 100FA with shield box	
	Wire length 2m Screwdriver for probe installation	
SEMISHARE	L-shape Coax (male) Tip Holder	
C2L	Leakage accuracy up to 10PA	
	Wire length 2m Screwdriver for probe installation	

## 8、 Vacuum Pumps

### >Specifications

- ◆Voltage: AC220V
- ◆Flow rate: 7L/min
- ◆Vacuum level: -60KPa
- ◆Weight: 0.7Kg

### >Functions

- ◆Provides a vacuum source.
- ◆Provides vacuum adsorption on the CHUCK to hold the sample in place.
- ◆Use with vacuum adsorption-type micropositioner to fix the probe holder.

### >Features

- ◆Oil-free and silent, especially suitable for laboratory and clean room use
- ◆7 L/min for 24-hour uninterrupted operation



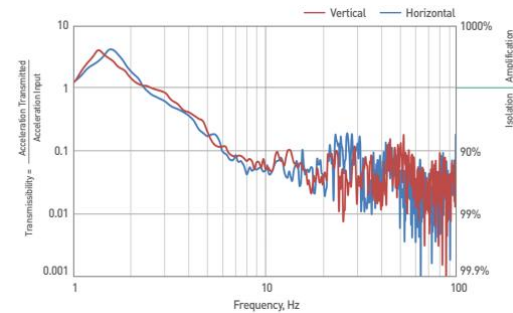
## 9、 Air-floating automatic balance anti-vibration table

### (1) High precision type

The pneumatic support frame is designed and manufactured with a special two-chamber system to keep natural vibration frequency low, provide excellent vibration isolation in vertical and horizontal directions, and excellent damping and automatic leveling.

#### >Specifications

Reference Size (L*W*H)	600*900*600mm
Isolation System	Pneumatic isolation
Resonance frequency	Vertical/horizontal = 1.2 - 3.0 Hz
10 Hz Isolation	Vertical/horizontal = 80 - 99%
Leveling repeatability	Standard leveling valve = $\pm 1.0$ mm (0.04 in.)
Maximum load capacity	Precision leveling valve = $\pm 0.05$ mm (0.002 in.)
Automatic leveling	500 kg
Height adjustment	Yes
Required air supply	$\pm 20$ mm



### (2) Economy type

Through a series of design improvements of shock absorption systems, such as the shape and material of the air spring, the volume of the spring chamber and the volume of the auxiliary tank, the damping aperture, and the level adjustment valve, etc., it provides good overall stability.

#### Specifications

- Size: L\*W\*H( 800\*800\*700mm) (Custom sizes available)
- Load-bearing: 500kg



Note: Anti-vibration table can be used with an economic optical flat panel or high-precision honeycomb panel according to the budget.

## 10、 Lasers (FA failure analysis / laser cutting)

The multi-band laser cutting system can be mounted on most microscopes which can be used for FA (failure analysis), enabling precise cutting at the microscopic level and selective removal of specific materials without damaging the underlying layers. The sophisticated and reliable Advanced Laser Delivery System (ABDS) allows the selection of different wavelengths to cope with different material cutting and machining requirements. The maximum laser output energy is  $\geq 2.7\text{mJ}$ , and the energy can be adjusted in steps of  $\geq 300$ . The water circulation cooling structure makes the system more compact and maintenance-free.

### Application

IV/CV characteristics testing and failure analysis of materials/devices, RF characteristics device failure analysis, IC/panel internal circuit modification/delamination, failure analysis lab special

### >Advantages of multi-band laser

- Multi-band lasers provide quick IC design, failure analysis, and LCD repairs by switching between different wavelengths according to application requirements. For example, UV light can remove polyimide directly without causing damage to the underlying material. Infrared light can partially penetrate silicon and gallium arsenide to cut through metal lines with minimal damage to the substrate. Green light is the most widely used one, which can effectively cut metal and remove the oxide layer. There are often multiple materials on the device, so multi-band switching is required for different operations.

All actions, including the selection of output energy level, spot size, and wavelength, are done through the remote operation panel, which reduces the chance of bruising the microscope.

### Features

- The ability to select different wavelengths to cope with a larger range of material cuts.
- Good laser machining, with good repeatability ranging in size from  $50\mu\text{m} \times 50\mu\text{m}$  (using 50X objective lens, 1064nm band) to  $1\mu\text{m} \times 1\mu\text{m}$  (using 100X objective lens, 532, 355nm band) with good uniformity.
- Continuous fast material cutting (10 seconds of operation at 5 Hz for every 10 seconds of rest), which can be operated intuitively from a remote control panel with LCD menu display panel HI/LO energy level control knob for precise control of a wide range of cutting energies while maintaining optimum beam performance.
- Easy installation and maintenance.



>Specifications

Laser Characteristics	Waveband	Wavelength can choose 1064/532/355/266nm band
	Power	Output power 2.2mJ/pulse (upgradeable)
	Micromachining Capability	Processable materials: Cr/Al/ITO/Ni/TFT/RGB/Poly Silicon/Mo/SiN/CF internal impurities, etc.
	Accuracy	Minimum processing accuracy of 1*1um (when equipped with 100X lens)
	Cooling method	Air-cooled laser or water-cooled laser can be selected

## 11、Shielding box

>Specifications and Features



With grounding terminal

Shielding box door opening method: up-and-over door opening structure (as shown in the figure)

The Left and right sides have 8 holes each for the adapter mounting plate

The concealed cable outlet is at the backside.

The shielding box is independent of the anti-vibration platform design

provide Shielding from light and electromagnetic interference.

Matching probe table and anti-vibration table design.

The probe fixture can test the electrical signal leakage accuracy to 100fa and resist 2000V high voltage.

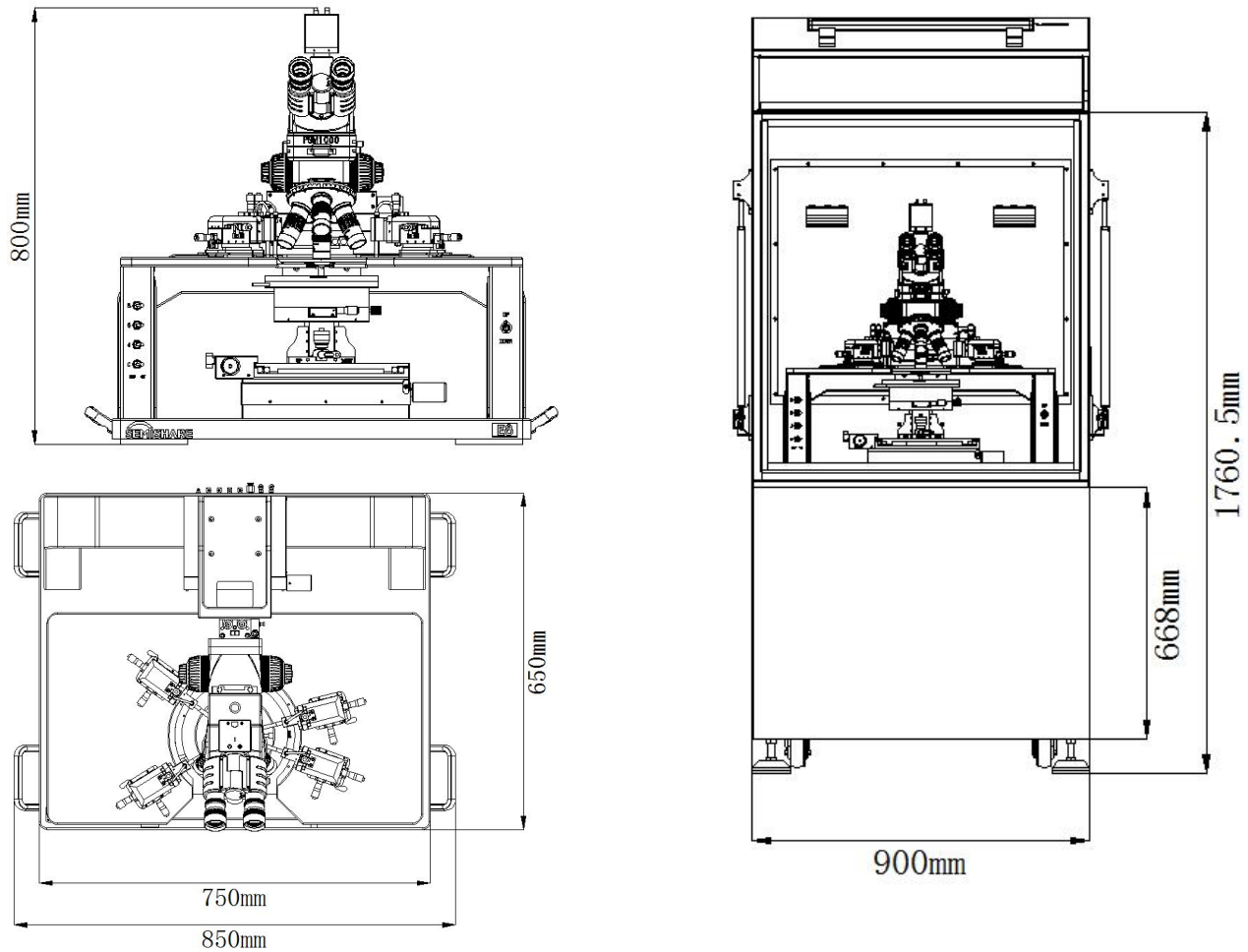
The shielding box is equipped with adapters to facilitate the good connection of lines inside and outside the box when the shielding box is closed.



## 12、 Dimension

➤E8 includes microscope and shockproof table, shielded case form factor

Size: 850mmX650mmX800mm



## 5、Product Service

### Solution consulting service

Our experienced technical experts will provide professional advice on system testing according to your application requirements to help you quickly select satisfactory equipment to purchase.

### Warranty service

All SEMISHARE's products have passed strict factory inspection, and we also provide you with professional warranty service.

### Technical Training

To help you better understand SEMISHARE products and execute additional application solutions, we can provide customized, systematic technical skills training according to your specific requirements. Please apply to the website or contact us by phone if you require our service.

### Product Upgrade Service

Our technology provides value-added services for your products. SEMISHARE can provide hardware and software upgrade services when your testing needs change to help you get more value out of your equipment.

### Service Promise

SEMISHARE is committed to responding quickly to your requirements. We will value your every need if you contact us by any means. Online support: 7\*24h customer response supported by a professional FAE technical team.

Onsite Support:

- 1) For customers in Shenzhen, after-sales service personnel should arrive at the customer site within 4 hours
- 2) For customers in Guangdong Province, after-sales service personnel should arrive at the customer site within 24 hours
- 3) For customers outside Guangdong Province, after-sales service personnel shall arrive at the customer site within 48 hours

### Service Contact

You can easily reach us or our partners wherever you are.

#### After-sales Service

E-Mail: [service@semishare.com](mailto:service@semishare.com)

Customer Complaint

Telephone: 0755-2690 6952 to 808

E-Mail: [alvin@semishare.com](mailto:alvin@semishare.com)



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