

# EP6DC

## 150 mm Manual Probe System



### DATA SHEET

The EP6 DC is the most cost-effective, simple and precise probing solution for wafers and substrates up to 150 mm, including everything you need for basic device characterization, such as I-V and C-V measurements and failure analysis. The complete package includes the EP6 manual probe station with a stereo microscope, four high-precision positioners with coaxial probe arms and 2 m connection cables, and a package of 25 tungsten probes with a 7  $\mu\text{m}$  tip radius. A low-signal measurement option is available. It upgrades the probe arms and cables to a triaxial configuration and adds the SE750 ShieldEnclosure™. With this option, you can easily make accurate, repeatable measurements in the fA range.

Ergonomically, the EP6 DC has been designed with the operator in mind. All knobs are located to allow easy and precise movement of the chuck stage with one hand. The X and Y axes can be independently adjusted. Once it has reached the test position, the stage locks into place and provides additional fine adjustment in the Z direction and a 360° theta movement. A pull-out stage enables quick and ergonomic loading and unloading of wafers and substrates.

The platen drive equally distributes force over two massive, stable columns to the base of the system. Its height can be adjusted up to 40 mm allowing a quick and easy set up of the system. The additional contact separation of 200  $\mu\text{m}$  ensures accurate fine adjustment of the probe platen. The positioners incorporate independent X,Y and Z stages optimized for high stability and low mechanical crosstalk. This provides high-control accuracy for precise needle positioning. A gold-plated collet clamping design provides maximum flexibility and freedom to adjust the needles to three pre-defined angles, while guaranteeing that the tip is held firmly in place.

### FEATURES / BENEFITS

Flexibility	<ul style="list-style-type: none"><li>Accurate 40 mm probe platen and 360° theta chuck movement</li><li>Stereo microscope upgradeable with video option</li><li>Four positioners for accurate probe positioning</li><li>25 tungsten probe tips with 7 <math>\mu\text{m}</math> tip radius</li><li>Low-signal option for measurements in fA range</li></ul>
Stability	<ul style="list-style-type: none"><li>Solid frame</li><li>Robust design and reliable mechanics</li><li>Magnetic-base positioners provide high stability</li></ul>
Ease of use	<ul style="list-style-type: none"><li>Quick DUT change with pull-out stage and simple microscope operation</li><li>Simple, straightforward design for comfortable, ergonomic operation</li></ul>

## SPECIFICATIONS\*

<b>Wafer / Substrate Size</b>	Up to 6 inch (150 mm)
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### X, Y, Theta Stage

Planarity over travel range	±5 µm
Resolution	5 µm
Range of movement	155 mm x 155 mm
Load stroke Y axis	90 mm
Z height adjustment range	10 mm
Z contact/separation stroke	3 mm
Theta travel	360°

### Chuck

Planarity	3 µm
Vertical deflection	15 µm at 10 N
Vacuum	-0.8 bar

### Probe Platen

Fixation type	Vacuum, magnetic
Travel range	40 mm
Contact/separation stroke	0.2 mm
Repeatability	1 µm

### Positioners

X and Y movement	12.5 mm
Z movement	10 mm
Z coarse adjustment	± 4 mm
Screw resolution X, Y, Z	250 µm/rev (100 tpi)
Base	Magnetic
Footprint dimensions	65 mm x 65 mm

### 7x Zoom Stereo Microscope

Working distance	113 mm
Magnification	15.0x - 100.0x
Field diameter	17.3 mm - 2.6 mm
Light source	150 W cold light source with fiber optic ring light
Video option	1/2" CCD PAL camera and 17" monitor

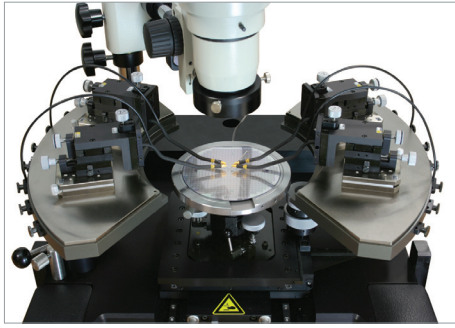
### Low-Signal Measurement Option

EMI / RFI shielding	ShieldEnclosure SE750 with EMC feedthrough panel
Triaxial configuration	Triaxial probe arms and cables

\*Data, design and specification depend on individual process conditions and can vary according to equipment configurations.  
Not all specifications may be valid simultaneously.

## PHYSICAL DIMENSIONS

Width x Depth x Height	490 mm x 490 mm x 480 mm
Weight	60 kg (132 lb.)



*EP6 DC probing package for accurate I-V and C-V measurements.*



*Low-signal option with triaxial measurement capabilities (option: ShieldEnclosure 750 for light-tight, EMI-/RFI-shielded measurements).*



*The EP6 DC package is also available with a video option for improved wafer navigation.*

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**Cascade Microtech, Inc.  
Corporate Headquarters**  
toll free: +1-800-550-3279  
phone: +1-503-601-1000  
email: [cmi\\_sales@cmicro.com](mailto:cmi_sales@cmicro.com)

**Germany**  
phone: +49-89-9090195-0  
email: [cmg\\_sales@cmicro.com](mailto:cmg_sales@cmicro.com)

**Japan**  
phone: +81-3-5615-5150  
email: [cmj\\_sales@cmicro.com](mailto:cmj_sales@cmicro.com)

**China**  
phone: +86-21-3330-3188  
email: [cmc\\_sales@cmicro.com](mailto:cmc_sales@cmicro.com)

**Singapore**  
phone: +65-6873-7482  
email: [cms\\_sales@cmicro.com](mailto:cms_sales@cmicro.com)

**Taiwan**  
phone: +886-3-5722810  
email: [cmt\\_sales@cmicro.com](mailto:cmt_sales@cmicro.com)

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