

Data Sheet

The W4.0 x L6.5 mini probe station is a manual probe station designed for a versatile and comfortable operation on up to 4.0" wafers or 4.0" x 6.5" printed circuit board assemblies.

This mini probe station is affordable and offers a flexible design with portability in mind. It is light weight and can be transferred to wherever you need to make your measurements - laboratory, office, "in the field", etc. The probe station fits easily in front of equipment without obstructing it. If needed, use a microscope for more accurate probe placement. The microscope, on its own separate stand, can be brought in from the side as to not to block your test equipment. The X – Y positioning is free floating which allows for quick positioning at the angle you need. Using magnetically attached positioners, probes can be positioned in all 4-quadrants as well as off angle for convenient probe placement. The Z positioning is via a digital readout in millimeters or inches for repeatable probe "touch-downs". You can sit or stand while using this unit due to the very low table to chuck height.

Features/ Benefits

Flexibility

Ideal for a wide range of applications such as wafer test for mm-Wave, Microwave, differential probing, single ended probing. RF in PCB test, Automotive, Mid-bus probing, and hand-held type probes (with probe holder)

The probe station can be customized for specific tests, for example, multi-pin connector holder, PCBAs, pockets in chuck for specific packages, dedicated fixturing, etc.

Multiple probe mounting positions (9 mounting holes on each probe holder) allows more freedom for probe deployment or multiple probe deployment and additional accessories

Magnetic mounting area for extra positioners (add the magnetic plate)

Magnetic probe holders are fully adjustable for more DUT heights and probe styles

Planarity adjustment for probes (on magnetic probe holders)

Vacuum chuck

Variety of accessories are available such as wafer probes, TDR probes and probe holders, cables

Features/ Benefits (continued)

Ease of Use	Fully Portable
	Simple design for straight-forward-use
	Small footprint, low profile
	Allows placement very close to the instrumentation

Stability	Solid station frame
	X - Y probe holder locks
	Vibration Isolation feet

Mechanical Performance

Probe Positioner

Travel	Left Positioner: X direction 3.8 inches, Y direction +/- 2.7 inches*
Travel	Right Positioner: X direction 3.8 inches, Y direction +/- 2.7 inches*
X – Y resolution	depends on the microscope, the probe positioners are infinitely adjustable, magnetically mounted probe positioners adds fine resolution
Z height adjustment range (coarse adjustment)	0.80 inches**, the addition of magnetically mounted positioners adds more range
Angle Range	+/- 45 degrees on the coarse movement, 90 degrees on the magnetically mounted positioners

*refer to Drawing section, Drawing 1 & 2

**refer to Drawing section, Drawing 3

Physical Dimensions

Probe Station

Dimensions with both positioners out	X=22 inches by Y=9 inches by Z=8 inches
Dimensions with both positioners in	X=14.25 inches by Y=9 inches by Z=8 inches
Weight	9.0 lb.

Model W 4.0 x L6.5 Probe Station
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Physical Dimensions (continued)

Chuck

Area	4.0 x 6.5 inches
Material	Aluminum
DUT size supported	4.0 x 6.5 inches
Probe mounting area	1) Use the mounting holes for standard probes 2) Use the removable magnetic plates for magnetically mounted positioners
Vacuum location	Chuck center, 4 holes, square pattern ***
Vacuum Ring Diameter	0.25 inch ring minimum, effective up to 4.0 inch diameter
Vacuum Actuation	Mechanical valve (not supplied)
Chuck surface	Planar smooth surface
Surface planarity	+/- 0.002 inches
Rigidity	Fixed

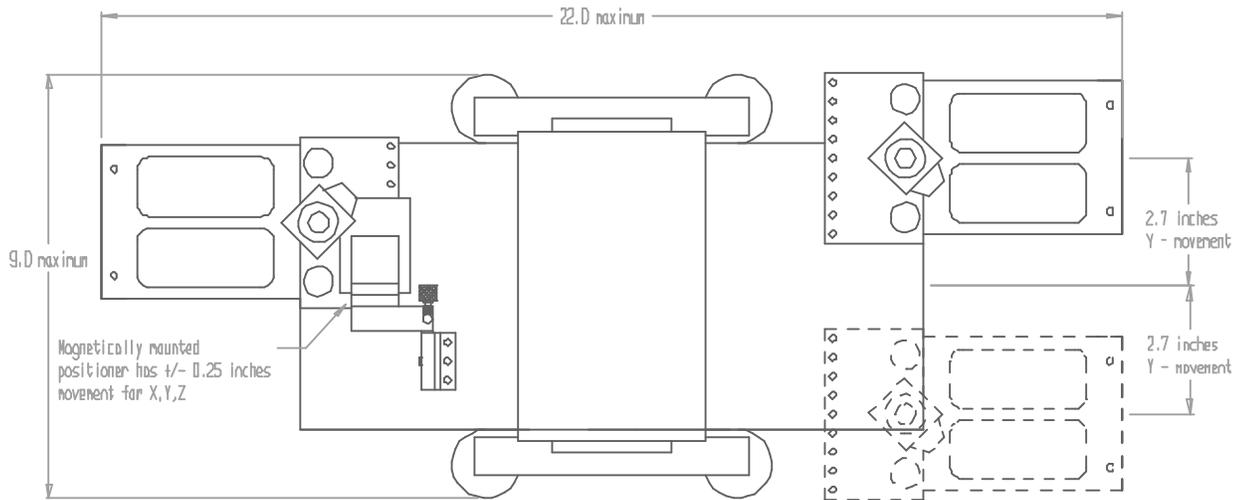
***refer to Drawing section, Drawing 4

Facility Requirements

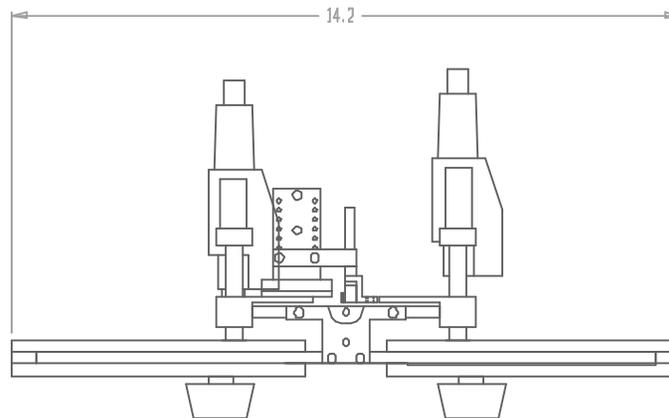
Vacuum	15 mbar min for smooth DUT
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Drawings

Drawing 1: Y travel range.

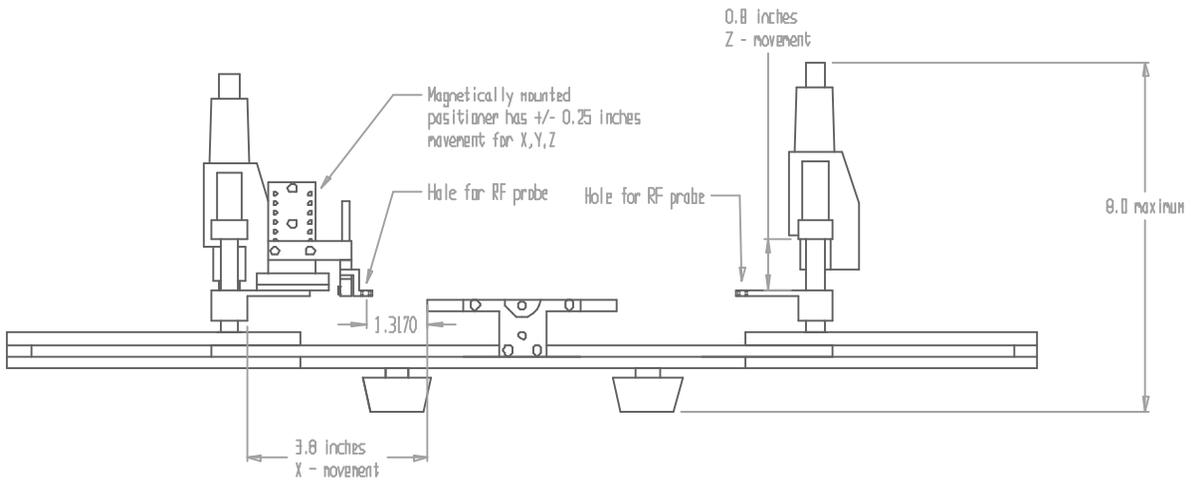


Drawing 2: X travel range. Both of the coarse positioning arms are moved up to the chuck; typical wafer probes can reach all the way across the 4 inch wide chuck.



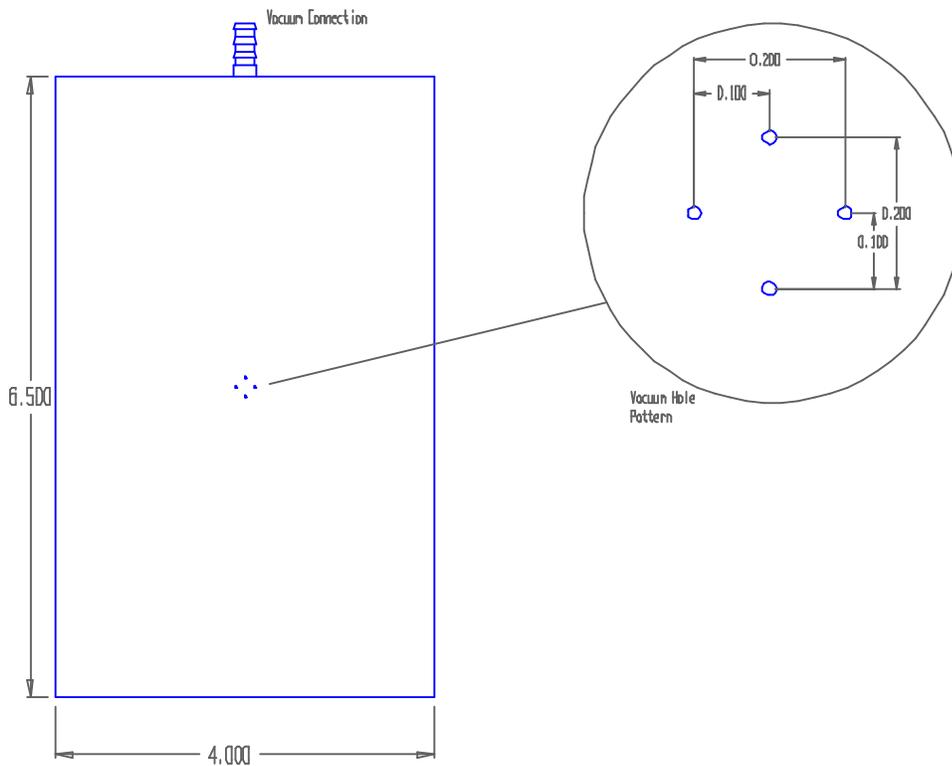
Drawings (continued)

Drawing 3: X - Z travel range. A typical GGB wafer probe length (1.30 inches) is used as an example on this drawing. The center of the mounting whole of the probe to the tip of the probe at the chuck edge is dimensioned. Depending on the probe length, the X range will be shifted either to the left or to the right.



Drawings (continued)

Drawing 4: Location and size of the vacuum holes



Part Number

W4.0 x L6.5 mini probe station

D-COAX, P/N 600-00180-00, manual portable mini probe station

Model W 4.0 x L6.5 Probe Station
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Available Accessories

Vacuum Pump	Gast, P/N DOA-P701-AA, 115 Volts, 60 Hz, single phase, vacuum up to 29 in. Hg (31 mbar)
Vacuum Bleed Valve	Pneumadyne, C040501, exhausting 3-way vacuum valve
Pneumatic Fitting	EdraulicsDirect, INB103-104-020, pneumatic fitting, quick disconnect, ¼ inch
Tubing	AutomationDirect, PU14BLU100, polyurethane pneumatic tubing
Microscope	Olympus, P/N SZ-6145, 6.7X – 45X magnification, higher magnification P/N's are available
Microscope Stand	Spot Imaging Solutions, P/N SMS16A, Boom Stand with 15.75", Vertical Post & Weighted Base
Wafer Probe Adapter	D-COAX, P/N 600-00038-00, 90 degree wafer probe adapter/converter
Probe Holder	D-COAX, P/N 600-00045-00, adjustable probe holder
Omni Probe	D-COAX, P/N 600-00051-00, 44 GHz High frequency coaxial PCB probe
OmniJet Probe	D-COAX, P/N 600-00178-00, 44 GHz High frequency coaxial PCB probe with probe holder
HyPac Probe	D-COAX, P/N 600-00179-00, 40 GHz High frequency coaxial packaging probe
DP1.4 probe	D-COAX, P/N xxx-xxxxx-xx, 40 GHz, 100 ohm Differential probe, uncoupled 50 ohm single-ended
40 GHz flexible cable	D-COAX, P/N 600-00169-00, 12 inch long, phase stable 16° per IEC 60966-1
40 GHz flexible cable	D-COAX, P/N 600-00170-00, 24 inch long, phase stable 16° per IEC 60966-1
40 GHz flexible cable	D-COAX, P/N 600-00171-00, 48 inch long, phase stable 16° per IEC 60966-1
40 GHz flexible cable	D-COAX, P/N 600-00169-00, 12 inch long, ≤ 1ps skew matched, phase stable 16° per IEC 60966-1
40 GHz flexible cable	D-COAX, P/N 600-00170-00, 24 inch long, ≤ 1ps skew matched, phase stable 16° per IEC 60966-1
40 GHz flexible cable	D-COAX, P/N 600-00171-00, 48 inch long, ≤ 1ps skew matched, phase stable 16° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00172-00, 12 inch long, ≤ 1ps skew matched, phase stable 29° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00173-00, 24 inch long, ≤ 1ps skew matched, phase stable 29° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00174-00, 48 inch long, ≤ 1ps skew matched, phase stable 29° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00175-00, 12 inch long, ≤ 1ps skew matched, phase stable 20° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00176-00, 24 inch long, ≤ 1ps skew matched, phase stable 20° per IEC 60966-1
65 GHz flexible cable	D-COAX, P/N 600-00177-00, 48 inch long, ≤ 1ps skew matched, phase stable 20° per IEC 60966-1

Available Accessories (continued)

65 GHz flexible cable	D-COAX, P/N 600-00030-00, 12 inch long or custom length
40 GHz flexible cable	D-COAX, P/N 600-00029-00, 12 inch long or custom length
65 GHz semi-rigid cable	D-COAX, P/N 600-00028-00, 12 inch long or custom length
40 GHz semi-rigid cable	D-COAX, P/N 600-00027-00, 12 inch long or custom length

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