H150 SERIES

Economy Hybrid Probe Station & Accessories

The H150 Series of manual probe stations has been designed specifically for the economical testing of hybrids, MCM's, wafers, substrates, and photonics devices. The wide range of options and accessories enables the user to customize the station to meet the specific needs of the application. Unlike other low-cost systems, the H150 provides complete control over the platen to DUT separation, with independent platen lift and height adjustment.

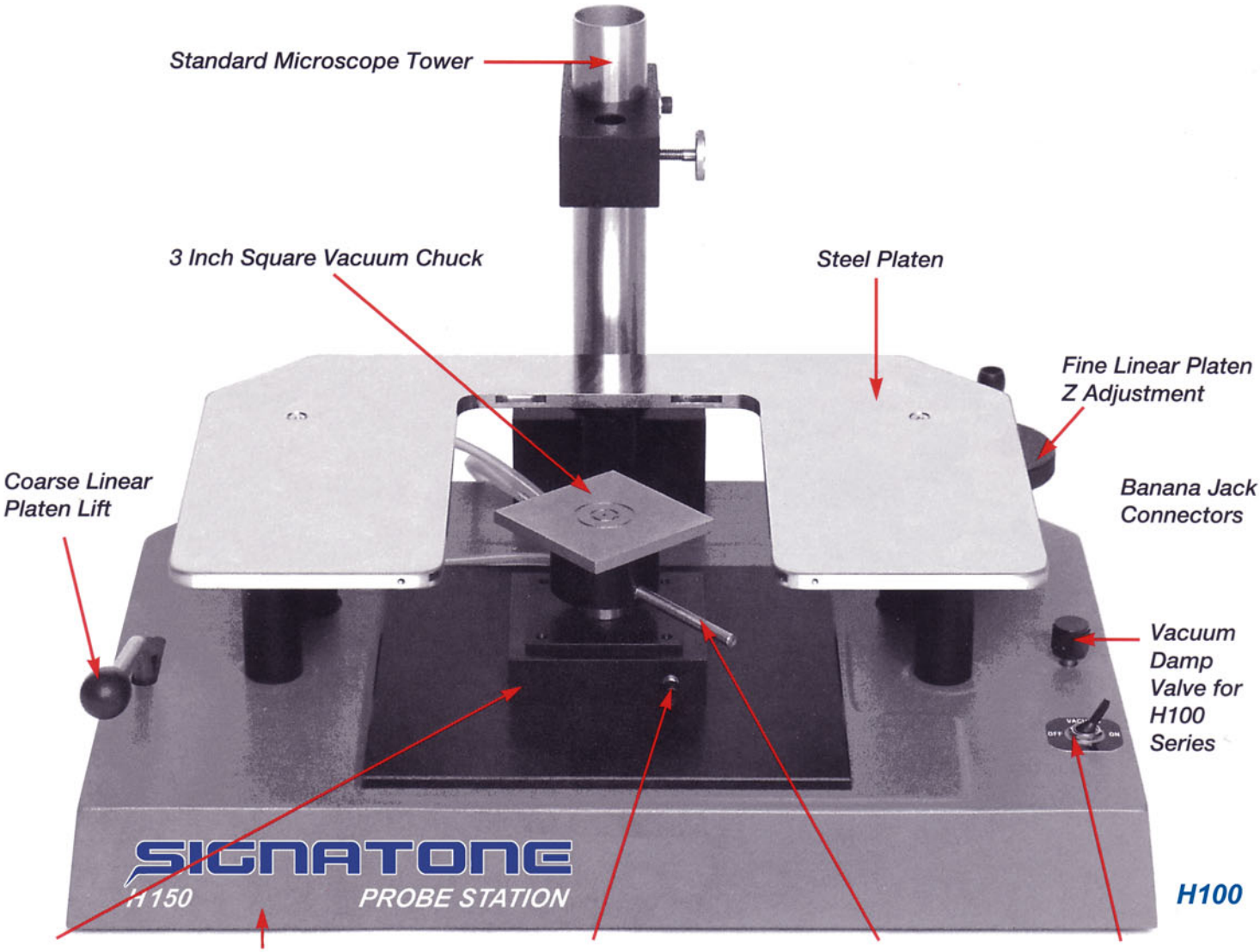
PERFORMANCE, QUALITY, VALUE

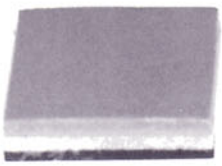
SIGNATONE®

Advanced Microprobing Solutions Since 1968

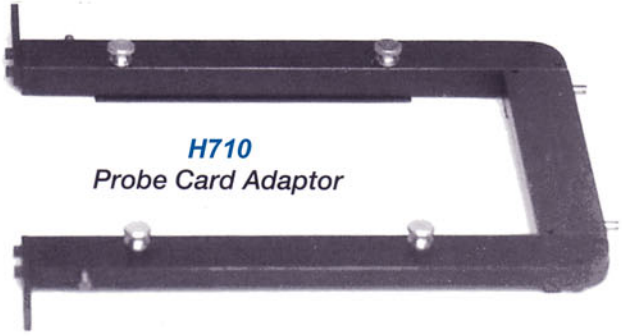
H150 SERIES

FEATURES





HK12
Foam Chuck



H710
Probe Card Adaptor

SPECIFICATIONS

Dimensions
Width - 18 inches
Depth - 15 inches
Height - 12 inches
Weight - 60 pounds

Facilities Required
Vacuum - 20 inches Hg
@ .1 CFM

H150 SERIES

CONFIGURATIONS

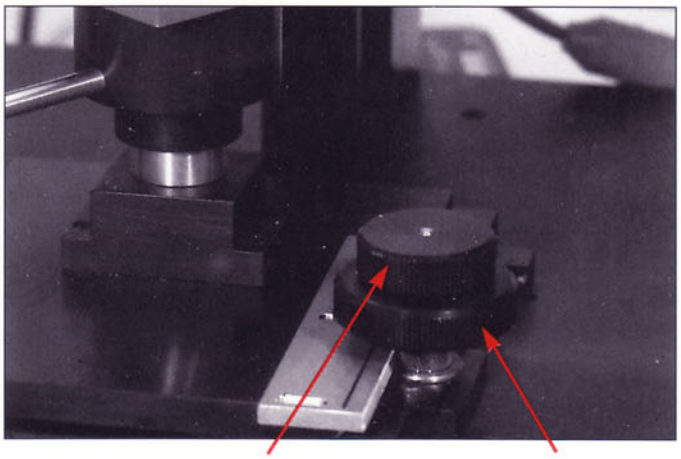
The H150 Series consists of three basic configurations: the H100, H120, and H150. Each of the configurations includes the following features:

1. A 4" X 4" stage movement for positioning samples up to 4" square.
2. A fine platen lift that allows accurate set-up positioning of wafers, ceramic substrates, or deep cavity packages.
3. A coarse platen lift lever that raises the platen 3/8" allowing the sample to be repositioned or changed, and then returns the probe tips to the same position with .0005" accuracy.

The coarse platen lift incorporates a friction clutch that allows the platen to be stopped at any position within its travel. The surface ground steel platen can accommodate up to six vacuum or magnetic base micropositioners. The 3" vacuum chuck is designed to hold down smooth surfaced DUT structures ranging in size from 1.4" to 3". The vacuum chuck may also be rotated 180° for alignment of the DUT.

Testers are typically connected to the station with banana connectors, although the H150 is compatible with the full range of Signatone micropositioners and probe tip holders. The microscope tower has been designed to accommodate most stereo-zoom microscopes utilizing the bonder arm bayonet mount. This allows the microscope to be swiveled to the right or left.

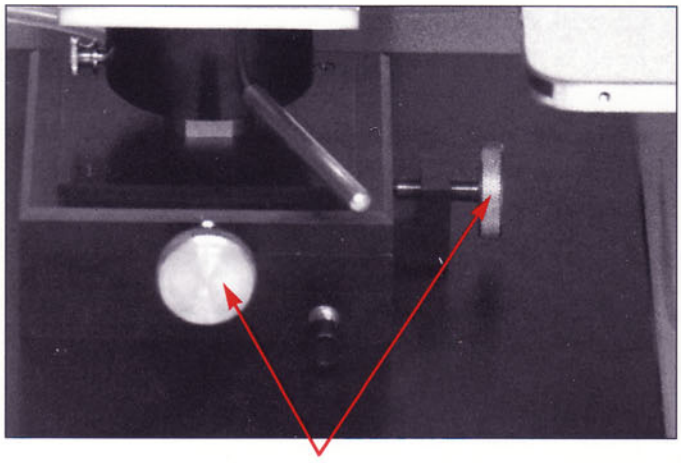
While similar, the three models of the H150 family differ in the manner in which the stage is controlled, and the inherent accuracy provided in DUT movement.



H150 X Stage Drive *H150 Y Stage Drive*

H100

The H100 includes all of the features previously mentioned. The chuck is held in place by means of an integrated vacuum base. Pressing a button on the base releases the vacuum and allows the chuck to be moved to any location on the base plate. When released, the vacuum holds the chuck in place. A master vacuum control allows the hold to be adjusted for various applications. The accuracy of chuck placement is primarily a function of the operator, but usually is in the .003" to .005" range.



H120 X-Y Fine Adjust

H120

Like the H100, the H120 also uses a vacuum hold-down chuck assembly, but also incorporates additional high-resolution X & Y control knobs. The fine motion range is .5", with a control pitch of 40 TPI. This typically yields 12µ or .0005" chuck placement accuracy. This added control feature is valuable where the DUT must be aligned to an previously aligned set of probes, or where a probe card is being used. As with the H100 a master vacuum damper control allows the desired holding force for the chuck assembly to be set.

H150

The H150 is the flagship of the Series, and features a precision rack and pinion gear driven stage, as used in our S-1160 Series of analytical probe stations. The chuck is positioned by turning the smooth compound knobs. The inner knob moves the stage in the X direction with a resolution of 1.25" per revolution. The outer knob moves the stage in the Y direction at a rate of 1.75" per revolution. The compound knobs provide quick and accurate positioning in the range of 3µ to 5µ. The straightforward design of the stage allows easy field service, and provides for many years of reliable probing.

H150 SERIES

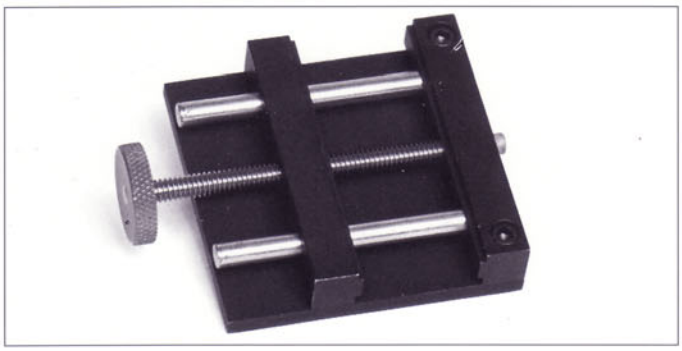
ACCESSORIES

HK10 Custom Vacuum Chuck

Certain Samples and substrates have shapes other than square or round, or may be too small to be held to the chuck by the standard vacuum pattern (1.2" diameter ring). The HK10 is a flat blank that allows the user to drill holes in a pattern that will fit the needs of his specific DUT outline. The custom fixture is then placed on the standard chuck, with the DUT installed in the fixture. Vacuum feed-throughs provide the means to hold both the fixture and the DUT securely in place.

HK12 Foam Chuck

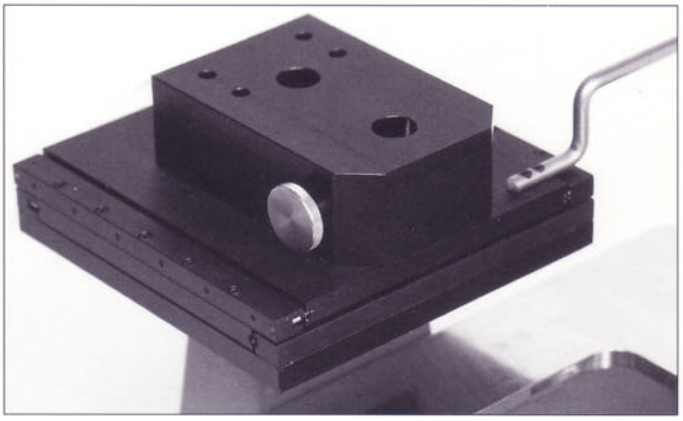
Samples which have metal leads and cannot be held by the standard vacuum pattern may be inserted into the non-conductive foam of the HK12 and held for probing. The HK12 is a flat piece of aluminum with a .5" layer of foam bonded to its top surface. After the sample is firmly inserted in the foam, the HK12 is then placed on the vacuum chuck and held securely by the vacuum rings.



HK18 Clamp Chuck

HK 18 Clamp Chuck

Two-sided hybrids, or samples that cannot be held with vacuum may be held in place by means of the HK12 Clamp Chuck. The Clamp Chuck is a miniature vise that grips the two edges of the DUT. The Clamp Chuck will accept samples up to 3.5" wide. After clamping, the entire assembly is placed on the vacuum chuck and held by chuck vacuum.



HK44 Microscope Stage

HK44 Microscope Transport

The HK44 quickly allows moving the microscope 4" X 4" in the XY plane. The microscope transport is ideal for applications where the probe tips must be placed in a pattern larger than the field of view of the microscope. Since the typical FOV for a stereo zoom microscope is in the range of .75" to 1" this is essential with larger DUT's.

HV14 Platen Vacuum Ports

Vacuum-based micropositioners allow for quick, precise coarse positioning of the probe tips, and offer excellent hold-down performance. The HV14 bolts to the underside of the platen, and supports up to 6 micropositioners.

HW4 Round or Wafer Chuck

The HW4 is a 4" diameter vacuum chuck which may be used in place of the standard 3" square chuck. The HW4 accepts from 2" to 4" wafers, and includes a substrate grounding screw. The HW4 is nickel-plated brass.

H710 Probe Card Adapter

The HT710 Probe Card Adapter accepts standard 4.5" probe cards, and is quickly mounted by 2 thumbscrews.

SIGNATONE
393-J Tomkins Court, Gilroy CA 95020
Phone: 408-848-2851 Fax: 408-848-5763
E-Mail: sales@signatone.com WWW: http://www.signatone.com