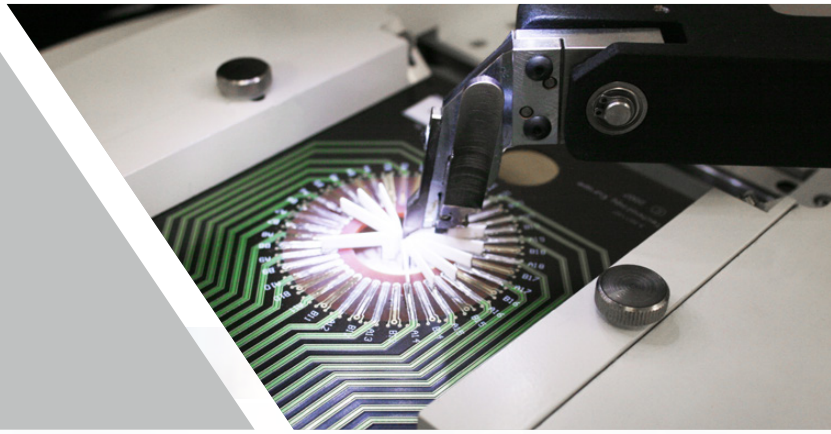
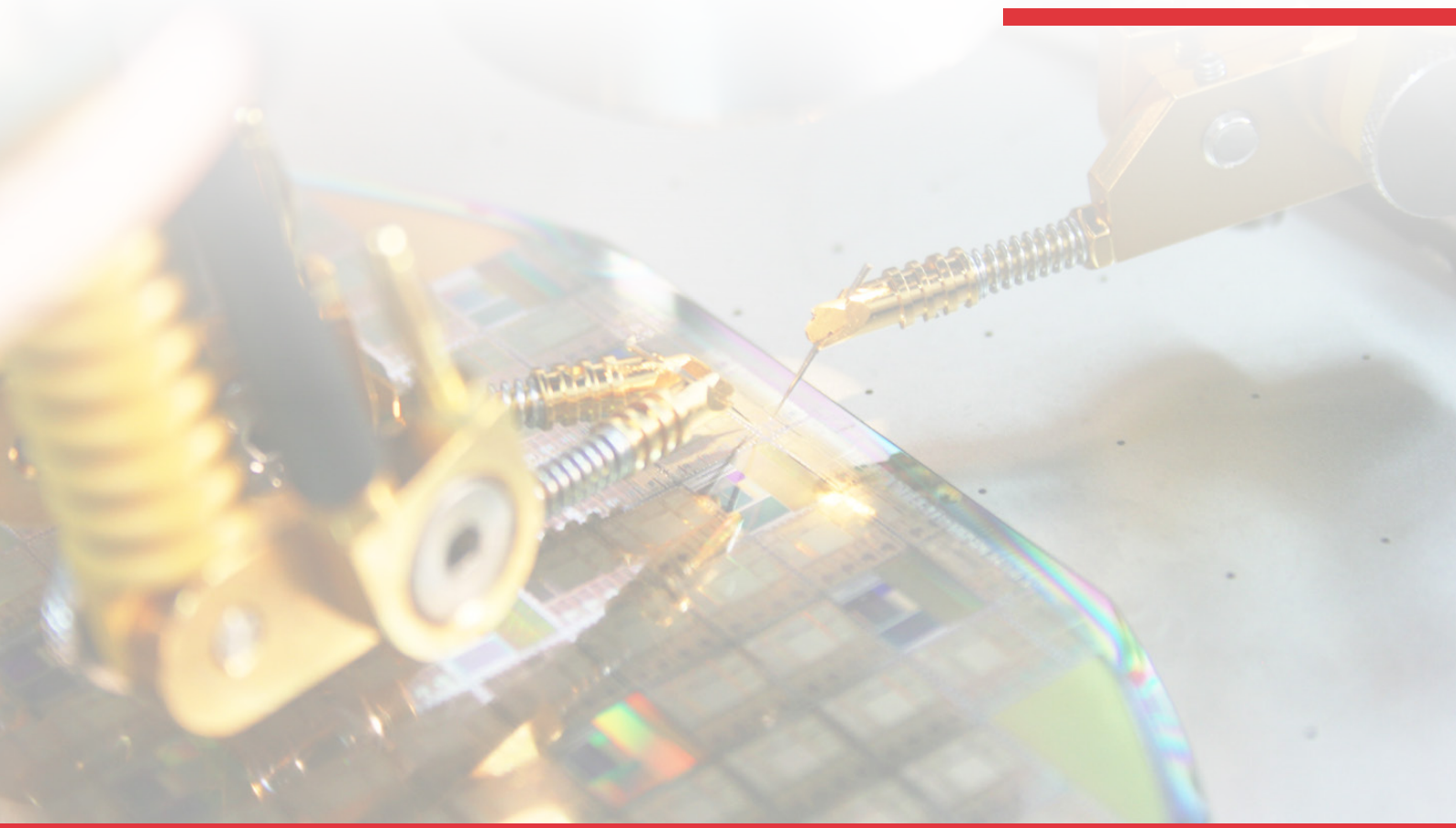
Wentworth Laboratories

PROBE CARD EQUIPMENT:
COMPASS TEST STATION





THE DESIGN

IN-HOUSE PROBE CARD SUPPORT

Probe card maintenance made easy

The Compass test station is designed for the build, maintenance and test of blade or epoxy cantilever probe cards. It enables the operator to easily align, planarize and replace probes.

The test station's 360° rotating 6" wafer vacuum chuck allows for easy access to all probe card areas, and can be easily locked in place to provide a stable assembly platform.

An in-built planarizer indicates which probes are making contact to assist the process of planarizing. The overdrive can be adjusted to replicate the wafer prober overdrive to ensure scrub mark accuracy. In addition, an integrated Ohms tester measures contact resistance.

Thanks to a probe card holder suitable for sizes ranging from 4.5" to 10", the test station accommodates a wide variety of probe cards.

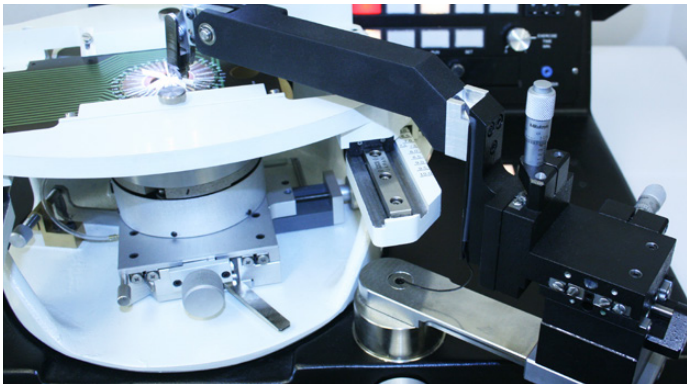
KEY FEATURES

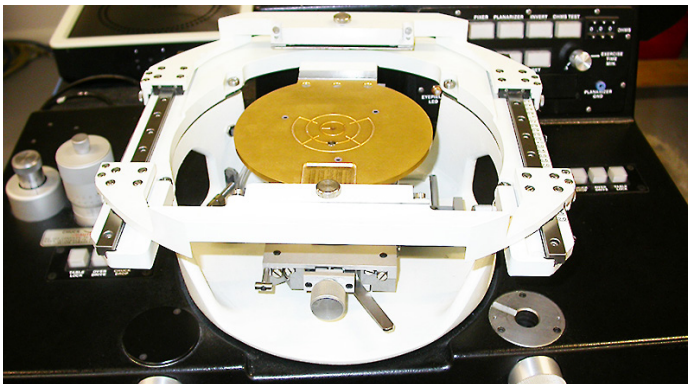
- Up to 288 channel LED light box planarizer with digital display
- 360° rotating 6" wafer vacuum chuck
- 2" XY stage
- Chuck with ceramic pad for probe cleaning
- Probe card holder with position lock
- Robust mechanical design
- Wide range of product enhancing accessories

BUILDING BLADE PROBE CARDS

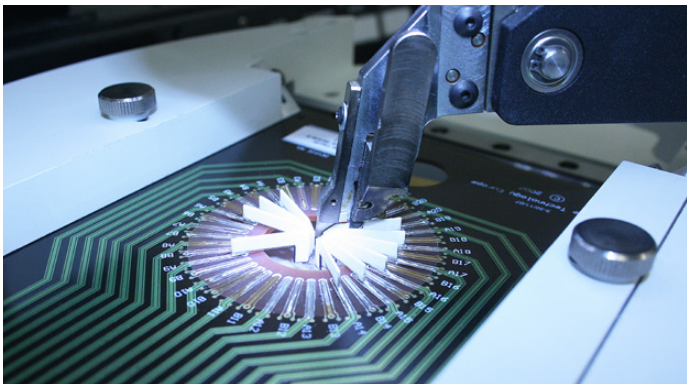
Using a specially designed gripper arm, the Compass test station can support the full build of blade probe cards using Wentworth supplied blade needles.

The arm can be mounted on the right or left of the station to support left- and right-handed working. It's designed to hold the blade needle during the positioning and soldering processes and can be easily removed for better access during the planarization stage.





Compass chuck & probe card rails



Compass gripper arms for blade needles

SPECIFICATIONS

COMPASS TEST STATION

Wafer Chuck
360° rotating 6" (150 mm) wafer vacuum chuck
2" (50 mm) XY stage, 0.5" (12.7 mm) travel and 20° theta
Gold plated aluminum
Ceramic pad for probe cleaning
Probe Card Holder
Supplied as required by customer
Interchangeable
Chuck-to-card holder parallelism—plus or minus 0.0005" per inch. Field adjustable.
Planarizer/Cleaning Station
Planarizer sliding chuck assembly for probe alignment and cleaning.
Chuck of plated, hardened steel and ceramic; 30 x 65 mm (15 x 65 mm) + (15 x 65 mm)
Interchangeable light boxes (72 and 144 standard). A double light box for up to 288 lights is available.
Contact resistance go/no go test with 0.01 to 9.99 Ω capacity accurate to ± 3% and ± .03 Ω
Turntable
Rotates 360° for access to blades
Locks at any point by pushbutton control
Exerciser
Deflects probes 10 mils (± 2 mils)
Cycles at approximately 10 per second (600 per minute). Time approximately 0.5 to 5 minutes.
Microscope
Stere microscope
LED illuminator
Microscope Mount
Gear driven Y movement, plus focusing
Microscope swings aside for blade loading, without disturbing the Y location
Alignment
Cross hair targets provided to align wafer, card holder and card hoole.
Services
110 VAC 60 Hz or 220 VAC 50/60 Hz system, 200 VA.
Vacuum 0.5 cfm @ 20" Hg (min)
Filtered compressed air 40-90 psi
Dimensions
Height 635 mm (25"), length 711 mm (28"), width 457 mm (18")
Weight 59 kg (130 lb)

ABOUT US

A LEADING AUTHORITY IN FLEXIBLE PROBING SOLUTIONS SINCE 1967

Wentworth Laboratories is a leader in performance wafer probe stations and advanced cantilever probe cards. In close association with our customers, we play a pivotal role in the conception and development of cost-effective, productivity-enhancing wafer probing solutions for the semiconductor device test market. Our ability to craft customised and integrated wafer test solutions, with meticulous project communication and post-project monitoring, is second to none.

Our standard cantilever products accommodate blade and epoxy technology for a range of applications such as memory, RF and logic probe cards. Engineered solutions offer an impressive array of cantilever products for high voltage, extreme high and low temperatures and an unprecedented portfolio of bespoke products. We also offer design services for high speed, digital, analogue, mixed signal and memory applications.

Our global team supports probe card and wafer probing projects with sophisticated design, proven technology, experienced applications and technical support. Wentworth wafer prober products have been selected for many leading-edge wafer test applications across the semiconductor technology landscape, culminating in such products as hand-held devices, video game stations, PCs and medical diagnostic equipment, amongst others. As award-winning wafer test industry innovators, we are skilled in delivering wafer probers and cantilever probe card solutions that enable our customers to maximise their productivity and reduce cost.

The company was founded in 1967, has global representation and manufactures two major product lines. In our UK facilities, we manufacture wafer probers and cantilever probe cards whilst in the US, we manufacture cantilever probe cards and needle holder assemblies.

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