

MEMS



PAV150

Semiautomatic Vacuum Prober



Main components

- VIT801 Vibration Isolation Table
- Different swivel arms for mounting/handling several microscopes or other equipment
- Chuck stage with 150x150 mm X-Y movement, Z and Theta
- Accuracy across movt. range: $\pm 8 \mu\text{m}$
- Repeatability: $\pm 3 \mu\text{m}$
- Remotely operated manipulation with control PC and ProberBench
- Probe platen prepared for mounting up to 8 PH110 ProbeHeads or Probecards
- Vibration-free high vacuum pump stand with turbo-molecular-pump (TMP), can be combined with upstream pressure control
- Top flange for easy change of the test set-up
- Up to 4 viewports

Applications

MEMS

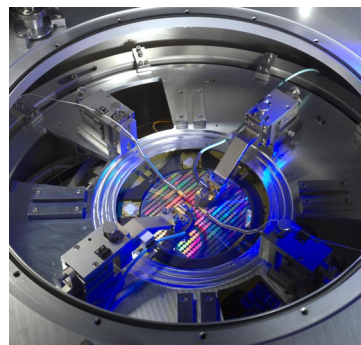
- Acceleration Sensors
- RF MEMS Switches
- Gas Sensors
- Micro-Bolometers

MOEMS

- Micro-Mirrors
- Optical Switches

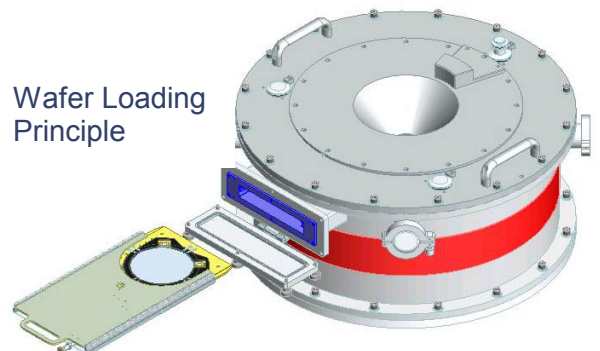
Features and benefits

- Probing under high vacuum up to 10^{-7} mbar
- Different substrate carriers for wafers up to 8" or single dies
- SUSS ProberBench
- High flexibility, system is customized to user's requirements
- wide range of measurements (I-V, C-V, HF)
- Other test equipment can be implemented (e.g. motion analysis)

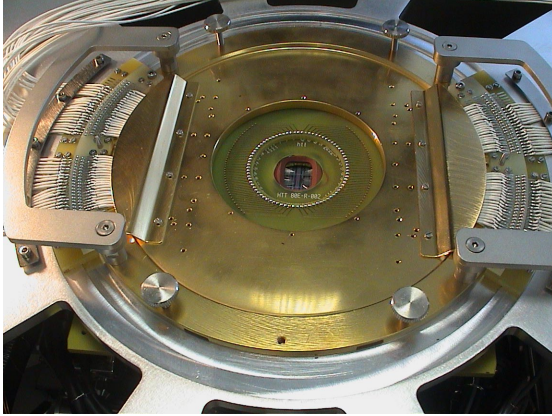


Vacuum Chamber with 4 PH110 (2 HF, 2 DC)

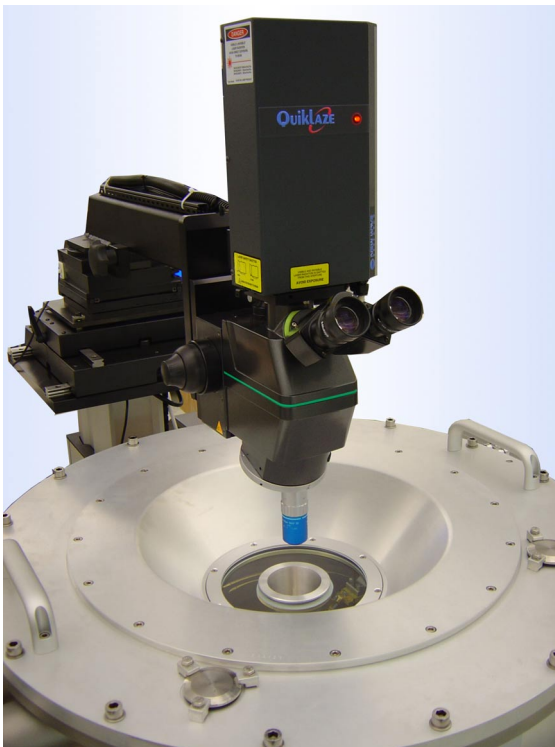
Wafer Loading Principle



Component Highlight – Vacuum Probecard



- Specially designed for use in high vacuum
- Easy-use probecard holder for fast change of probecard (needle ring)
- Coaxial cabling
- Pseudo Kelvin cabling – junction point at probecard holder



Laser trimming capability

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Status: June 2003

Application Focus: RF MEMS Switches

- Principle: capacitive switch
- Used in: air traffic control systems, satellite communication systems, telephone switching networks, multi-band wireless communication
- Test from ambient pressure to high vacuum with upstream pressure control
- Controlled gas atmosphere
- Vacuum prevents sticking
- Wafer carrier with holders for 2 calibration substrates
- |Z| Probes for measurement
- DC Probes for driving voltage
- MEMS Motion analysis



SUSS + MicroTec

www.suss.com