

CHUCKS

SemiProbe provides numerous types of chucks to meet a wide array of probing applications. Chucks are primarily used to hold the device under test (wafer, substrate, photovoltaic, partial wafer and individual die) to the chuck surface via vacuum. They can be round or square and vary in size from 50 mm to > 400 mm. They are manufactured with different base materials with aluminum and steel being the most common. Most chucks are available with concentric ring (vacuum grooves) or vacuum holes. The most often used plating materials are nickel or gold. A number of application specific chucks are available. Custom chucks are available.

- Standard (non-thermal) – round or square , vacuum rings or vacuum holes, coaxial or triaxial, nickel or gold plating
- Thermal – many sizes, shapes, materials, hole patterns and temperature ranges. Ambient to 200 C or 300 C are common as well as -60 to 200 C or 300 C. Other temperature ranges also available – 400 C, 500 C and 1,000 C.
- High Frequency – ambient and temperature available. Are usually provided with vacuum holes to handle thin and fragile III-V compound materials. Include two (2) independently vacuum controlled calibration or buffing pad locations (also referred to as calibration substrate holders or auxiliary chucks).
- High Voltage – standard or thermal, 3 KV or 10 KV, coaxial, kelvin or triaxial
- Lift Pin Chucks – used for automation (material handling) modules and allow lift pins to be mechanically, pneumatically or electrically raised and lowered for wafer, substrate or tray transfers.
- Double Sided Probing (DSP) – chucks with round or square openings that allow devices to be held in place with mechanical clamps. Wafers, partial wafers and individual die can be tested or stimulated from the top, bottom or both sides of the device under test.
- MEMS – chucks that can be moved at an incline in X or Y or used in vacuum chambers