

The subject of this tender is the purchase, delivery, installation and commissioning of a computer-controlled semi-automatic tabletop wedge bonding system, along with complete user training. All provided equipment must be brand new, unused, and technically flawless.

Technical Requirements

Motorized axes

- A working X/Y-axis area of at least 150 mm x 200 mm.
- The vertical stroke of the Z-axis must be at least 100 mm.
- The mechanical axis resolution must be at least 1 μm .
- Placement accuracy $\pm 5 \mu\text{m}$ @ 3 sigma or better.
- Repeatability $\pm 3 \mu\text{m}$ @ 3 sigma or better.
- Manual positioning control interface (e.g., joystick).

Bondhead for Wedge-Wedge bonding

- Wedge-Wedge bonding for both thin wire and ribbon.
- 360° rotary Bondhead.
- Deep-access design supporting a 90° wire feed path.
- Suitable for gold and aluminium ribbon 30 x 12.5 μm up to 250 x 25 μm (or a broader range).
- Suitable for gold and aluminium wire sizes from 17.5 μm to 75 μm (or a broader range).
- Integrated motorized wire spool feed mechanism.

Hardware

- Ultrasonic generator for bonding, operating across a frequency range from at least 20 kHz to 200 kHz.
- Modular platform supporting future field upgrades.
- Mechanical, electrical, and software interfaces for fast exchange of bonding heads.
- Workholder supporting workpieces up to at least 15 x 15 cm with vacuum and mechanical clamping.
- Stereo-Zoom-Microscope.
- Ringlight.
- Colour Camera, at least 5 Mpixel.
- PC with Windows OS, Ethernet and a monitor.

Software

- Real-time diagnostic check for performance and health status of ultrasonic generator.
- Software for deformation limit control.
- Purpose crosshair on the screen.