Pitt Research

Western Pennsylvania Quantum Information Core

HESSE BJ855 Automatic Wire Bonder

The Hesse BJ855 Automatic Wire Bonder is a high-speed fully automated fine wire bonding system designed for high-precision interconnections in microelectronics and device fabrication. It supports both wedge–wedge and ball–wedge bonding techniques, making it suitable for a wide range of applications including semiconductor devices, sensors, and quantum device packaging.

The system incorporates advanced automation and process control features to ensure high reliability, repeatability, and bonding accuracy.

Technical Specifications

- Speed: 7 wires per second (fastest bonding speed in the industry)
- Working area: X: 305 mm; Y: 410 mm; Z: 19 mm
- Wire available: 1 mil Aluminum (Al) and gold (Au) (customer-supplied wires with other sizes or materials are supported upon request)
- Ribbon: up to 25 µm x 250 µm (customer-supplied ribbons are supported upon request)
- Bondhead angle: 45°

Assist Tool – E-box

- Integrated camera system for real-time optical display of the wedge, cutter, and wire guide
- Provides graphical support for precise adjustment and positioning
- Reduced machine setting up time.
- Software enhanced optical adjustment system for wedge, cutter and wire guide and wire clamp