



BONDJET BJ820

THIN WIRE WEDGE BONDER

The BONDJET BJ820 is an innovation of the Hesse & Knipps GmbH for the thin wire wedge bonding market. All challenging wire bonding applications can be handled on a single platform - RF and microwave devices, COB, MCM and hybrids, fiberoptics and automotive using aluminium or gold wire or ribbon.

High Speed Fully Automatic Thin Wire Wedge Bonder

Precision

- ▶ 1 μm at 3 σ axis repeatability
- ▶ High precision touchdown detection without time delay
- ▶ Precise control of bond force (1 cN)

Flexibility

- ▶ Largest bonding area: 305 mm x 410 mm (12" x 16.1")
- ▶ Can serve with two or more smaller bonding stations for efficient handling of smaller products or substrates, eliminating indexing time and maximizing throughput (with indexers as well as with manual loading)
- ▶ Enables intelligent automation of extra large products

Speed

- ▶ Up to 7 wires per second

Quality

- ▶ Realtime bond quality monitoring system
- ▶ Wear free and almost maintenance free piezo bondhead with solid state hinges
- ▶ The PBS200 software supports control by host computer, product traceability and external statistical analysis
- ▶ Process integrated Quality Control (PiQC) for advanced quality monitoring
- ▶ E-box: patented solution for optimized tool change and programmable alignment marks for guide, cutter and bond wedge

Small Footprint, Big Capability

- ▶ Integrates easily into complex production lines

Process Advantages

- ▶ Loop length: 70 μm up to 20 mm
- ▶ Various loop form functions
 - ▶ Constant wire length
 - ▶ Constant loop height
 - ▶ Individual loop shapes
- ▶ Fine pitch capability < 40 μm

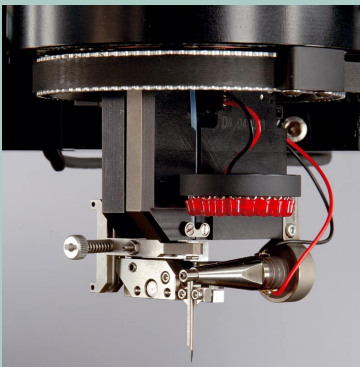
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Piezo bondheads

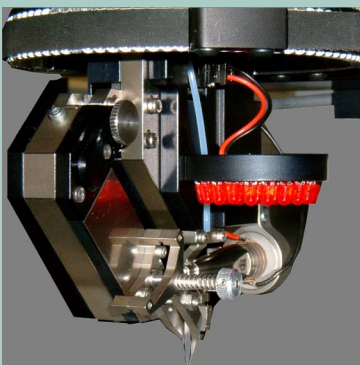
- ▶ 45° standard bondhead, 89° deep access optional
- ▶ Wear-free PIEZO technique
- ▶ Programmable tail length, tear off and wire clamp gap opening
- ▶ Multi-directional wire clamp adjustment
- ▶ Easy maintenance
- ▶ Recognition of touchdown signal without delay
- ▶ Precise control of the bond force to ± 1 cN both static & dynamic
- ▶ Mechanical rigidity for reduced vibration, yielding higher bond speed and quality

Wire

- ▶ Al, Au (aluminium, gold): 17.5 μm up to 60 μm
- ▶ Optional: 12,5 μm up to 85 μm



BJ820 deep access bondhead (89°)



BJ820 standard bondhead (45°)

Ribbon

- ▶ Al, Au (aluminium, gold): 6 μm x 35 μm up to 25 μm x 250 μm

Process

- ▶ Bonding cycle time: 120 ms (at 2 mm loop length, 45° wire feed angle, without movement time to next wire)

Bond quality control

- ▶ Continuous real time monitoring of wire deformation and transducer current within programmable upper and lower control limits
- ▶ Process-oriented sequencer for bonding with up to four definable intervals
- ▶ PIQC with transducer integrated sensor (optional)

Positioning repeatability

- ▶ Axis repeatability: 1 μm at 3 σ

In-line capabilities

- ▶ Intelligent automation concepts
- ▶ Integrated PLC controller
- ▶ Standard SMEMA input & output ports
- ▶ Fieldbus support

Software

- ▶ Portability of bond programs
- ▶ Graphic display of learned connections and created reference systems
- ▶ Programmable contours of wire loops
- ▶ Parameter library
- ▶ Grouping and repeating functions
- ▶ Multiple levels of user access control
- ▶ Program changes in seconds

Machine dimensions

- ▶ Footprint: 722 mm x 1250 mm (28.3" x 49.5")
- ▶ Work area: 305 mm x 410 mm (12.3" x 16.14")
- ▶ Weight: 1300 kg

Power supply

- ▶ 230 V, 50-60 Hz, +8%, -10%

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