HESSE & KNIPPS
SEMICONDUCTOR EQUIPMENT

BONDJET BJ820

High Speed Fully Automatic Wedge Bonder

The Bondjet BJ820 is the latest development of Hesse & Knipps' wedge bonding innovation, handling all challenging wire bonding applications on a single platform – RF and microwave devices, COB, MCM and hybrids, fiberoptics and automotive using aluminium or gold wire or ribbon.

High Speed Fine Pitch Wedge Bonder

Precision

- *1 μm at 3 σ axis repeatability at an interpolated encoder resultuion of 20 nm*

Largest Bonding Area

- *305 mm x 410 mm (12" x 16.1") work area can serve as two or more smaller stations for efficient handling of smaller products or substrates, eliminating index time and maximizing throughput*
- *Enables intelligent automation of extra large products*

Speed

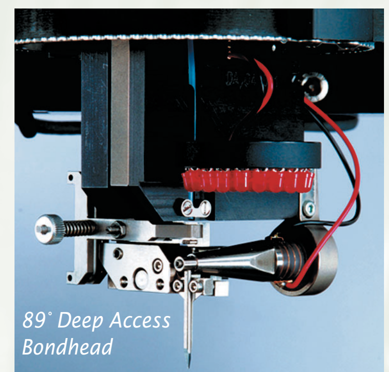
- *Up to 7 wires per second*

Quality

- *Consistant performance for the highest yields*
- *Realtime bond quality monitoring system*
- *Wear- and maintenance free piezo bondhead with solid state hinges*
- *Software supports control by host computer, product traceability and external statistical analysis*

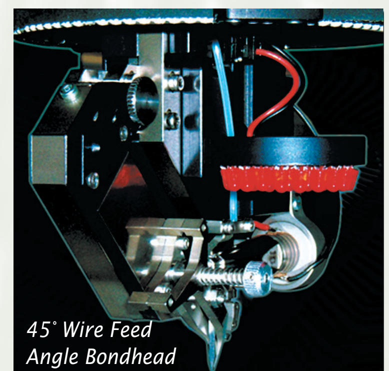
Small footprint, big capability

- *Integrates easily into complex production lines*

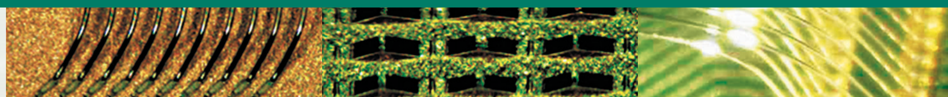


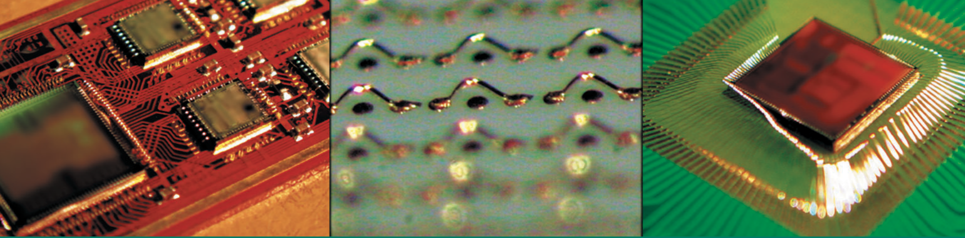
89° Deep Access Bondhead

In real mass volume production of a complex COG chip on glass application, the BJ820 bonds more than 5 wires per second with a wire length over 2 mm. These bonds fulfill all visual demands and have consistent outstanding pull values.



45° Wire Feed Angle Bondhead





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BONDJET BJ820 SPECIFICATIONS

Machine dimensions

Footprint	722 mm x 1250 mm (28.3" x 49.2")
Work area	305 mm x 410 mm (12.3" x 16.14")

Solid piezo bondheads

45° standard head, 89° deep access optional

Wear-free PIEZO technique

Programmable tail length, tear off and wire clamp gap opening

Multi-directonal wire clamp adjustment

Wear-free components

Easy maintenance

Immediate recognition of touchdown signal

Precise control of the bond force to ± 1 cN both static & dynamic

Mechanical rigidity for reduced vibration, yielding higher bond speed and quality

Process advantages

Loop length 70 µm – 20 mm

Constant wire length function

Constant loop height function

Fine Pitch capability < 40 µm

High precision touchdown detection

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 three intervals

Wire

Al, Au (aluminium, gold)	*17.5 µm – 60 µm*
optional	*12.5 µm – 85 µm*

Ribbon

Al, Au *6 µm x 35 µm – 25 µm x 250 µm*

Positioning repeatability

Axis repeatability *1 µm at 3 ∂*

In-line capabilities

Intelligent automation concepts

Integrated PLC controller

Standard SMEMA input & ouput ports

Profibus support

Software

Portability of bond programs

Graphic display of leamed connections

Graphic display of reference systems

Programmable contours of wire loops

Parameter library

Group and repeat capability

Multiple levels of user access control

Program changes in seconds

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the wedge bonding experts.