

Bondjet BJ830

Large Area Ball-Wedge Bonder

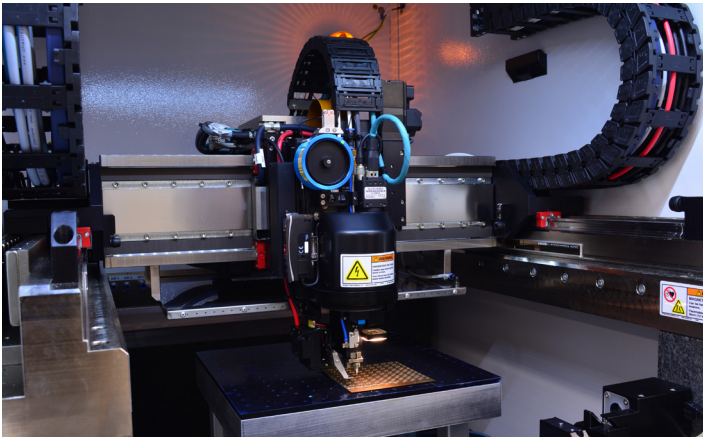


Bondjet BJ830

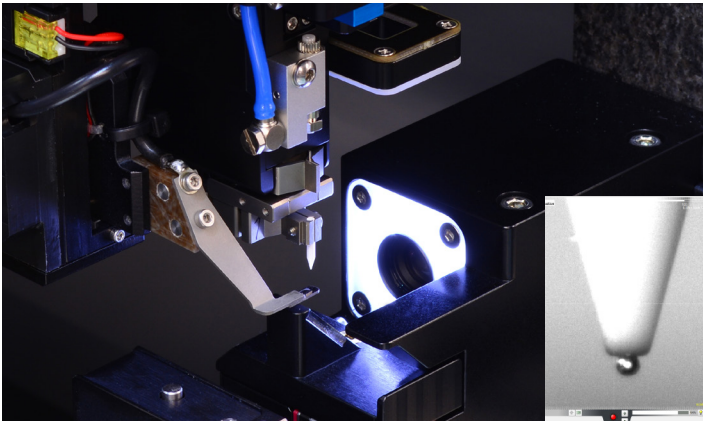
Fully Automatic Large Area Ball-Wedge Bonder

The Bondjet BJ830 is a fully automated, thermosonic fine wire ball-wedge bonder with a large working area. The BJ830 is designed for wire bonding challenges on a single platform. Typical applications are components in the HF and RF technology, COB, MCM and hybrids, opto and automotive electronics. The BJ830 defines the latest state of technological development compared to the competition and is benchmark for:

- The largest working area of ball-wedge bonders
- Precise positioning according to great axis accuracy
- High reliability and repeatability



BW01 Ball-Wedge Bondhead



E-Box: graphical ball inspection

Your benefits in the spotlight

Advanced features and process advantages

- High precision touchdown detection without time delay, e.g. for bonding on very thin substrates
- Precise bondforce control
- Multi-level bonding according to Z axis stroke of 31 mm (1.22")
- E-Box: graphical ball inspection
- Automated bondforce calibration
- Rapid image capture with new digital image processing and flash light illumination

Flexibility

- Working area : 305 mm x 410 mm (12" x 16")
- Can serve two or more smaller bonding stations for efficient handling of smaller products or substrates, elimination indexing time and maximization of throughput (with indexers as well as manual loading)
- Universal software interface for indexer control
- Enables intelligent automation of extra large products

Quality

- Continuous real time monitoring of wire deformation, transducer current, frequency and impedance within programmable control limits
- BDE, traceability – integrated CSV-Logger or customized implementation
- SECS/GEM – integrated standardized server connection for automation and communication
- MES – interface to Manufacturing Execution Systems, integrated or customized implementation

Bondhead

- BW01 Ball-Wedge Bondhead
- Wear-free and low maintenance components
- Deep access capability: 12 mm (depending on capillary length)
- Maintenance-free flexure hinges
- Free programmable tail length, tear stroke and opening gap of wire clamp
- Low maintenance costs
- Precise bondforce control, 10 cN - 300 cN programmable



Technical data at a glance

Working area

- X: 305 mm (12"); Y: 410 mm (16"); Z: 31 mm (1.22")
- P-rotation: 180° in the ball-wedge mode

Mechatronic bondhead

- BW01 Ball-Wedge Bondhead
- Frequency: 120 kHz or 60 kHz
- Option: Dual frequency 120/60 kHz

Wire

- 17.5 µm – 50 µm (0.7 mil - 2.0 mil)
- Spool size (diameter): 50.8 mm (2"), double-flanged spool

NEFO spark generator

- Max. sparking current: 100 mA (adjustable in time and level)
 - Programmable pre-sparking voltage: 2500 V - 5000 V
 - Max. main sparking voltage: 1000 V
- Detection of missing spark, short circuit and spark breakaway

Process advantages

- Thermosonic ball-wedge bonding
- Loop generator for customized loops
- Various loop form functions
 - Constant wire length
 - Constant loop height
 - Individual loop shapes

Small footprint – high performance

- 740 mm x 1484 mm x 1912 mm (29.1" x 58.4" x 75.3") (W x D x H)
- Weight: approx. 1350 kg

Media connectivity

- Gigabit-Ethernet (TCP/IP)
- Compressed air (high-purity)
- Vacuum
- 16A AC
- Digital IOs
- USB-Port
- SMEMA

Manual and fully automated operation

- Standard components or individually adapted solutions
 - Manual bonding station (with heating)
 - Indexer / transport system
 - Bonding station
 - Magazine lifts
 - Visualization
 - MES-Interface
- Integrated PLC controller
- Standard SMEMA input & output ports
- Profibus support

Options

- E-Box: graphical ball inspection
- Automated bondforce calibration
- BDE, traceability – integrated CSV-Logger or customized implementation
- SECS/GEM – integrated standardized server connection
- MES – interface to Manufacturing Execution Systems (customized)

HESSE

MECHATRONICS

Hesse GmbH - Your partner for ultrasonic and thermosonic wire bonders for all common wire dimensions as well as ultrasonic flipchip bonders in combination with standardized or customized automation solutions.

Hesse GmbH, founded in 1986 and based in Paderborn, Germany, develops and manufactures fully automatic ultrasonic and thermosonic wire bonders as well as ultrasonic flipchip bonders together with standard or customer-specific automation solutions for the semiconductor industry backend. Hesse GmbH is one of the world's leading producers of wire bonders using the ultrasonic wedge-wedge and the thermosonic ball-wedge technology and develops customer-specific production processes.

All relevant semiconductor manufacturers are among the worldwide clientele of Hesse GmbH. Distribution and service are performed from the headquarters or by subsidiaries in Hong Kong, the USA and Japan and together with partners in over 30 other countries.

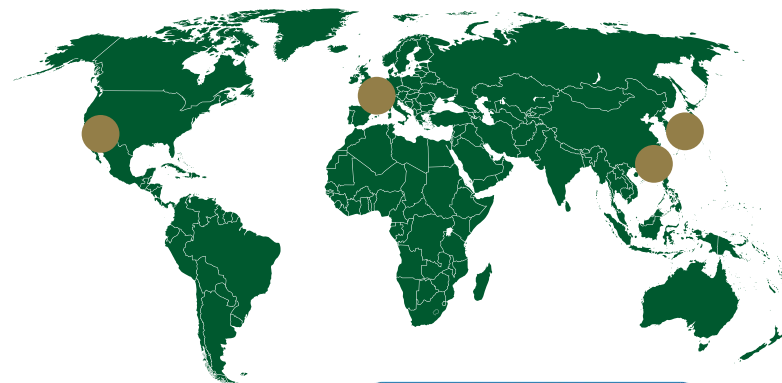
The core competencies of the company are mechatronic systems, ultrasonic technology, control engineering and the detailed understanding and knowledge of the processes and physical effects relevant in ultrasonic joining technology. In order to maintain and expand technological leadership, we conduct intensive research and development in all aforementioned areas.

Process support, development and consulting:

We support you in developing and implementing your individual process requirements. Our range of services includes:

- Sample-bonding
- Pre-production prototype
- Design validation builds
- Small series production
- Module production
- Process optimization

Worldwide. Near you.



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The Bonding Experts.

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