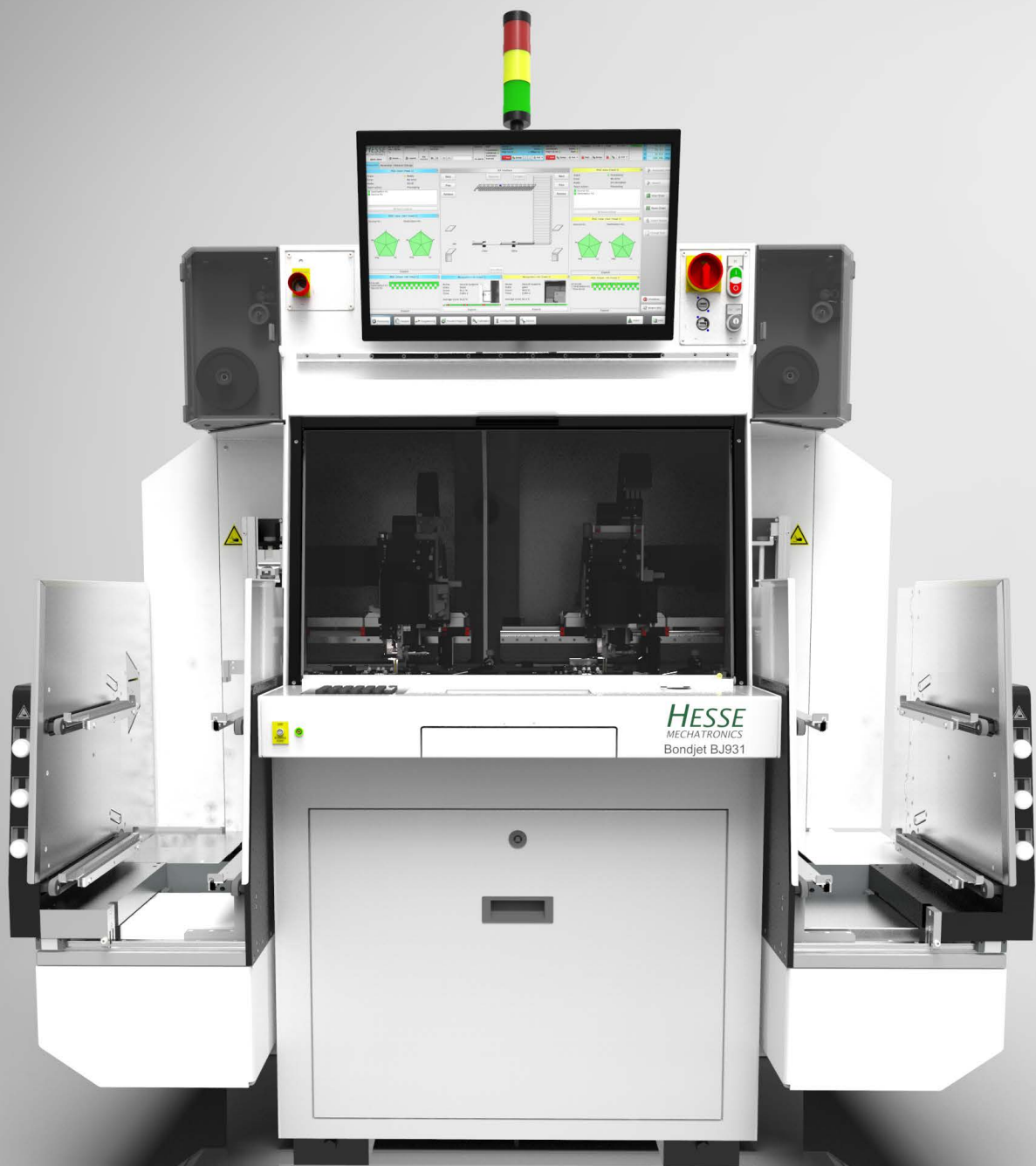


Bondjet BJ931

Dual-Head Leadframe Wedge Bonder



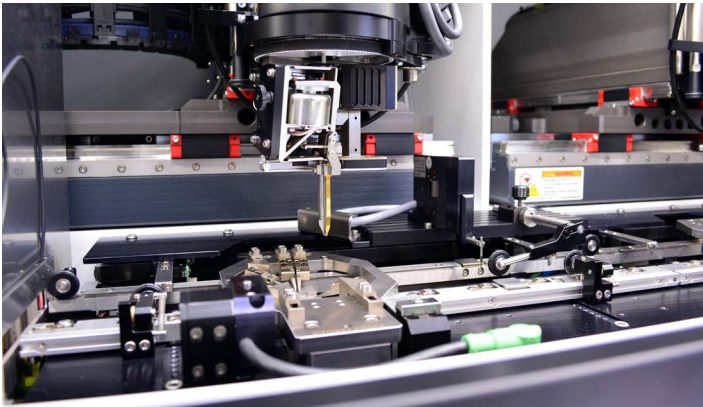
Bondjet BJ931

Dual-Head Leadframe Wedge Bonder

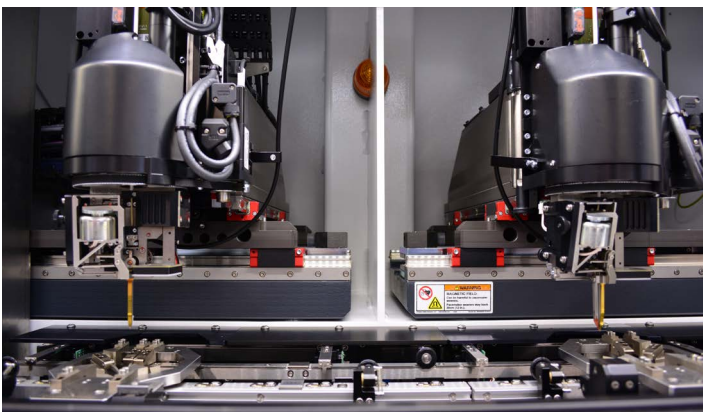
The Bondjet BJ931 is an ultrasonic wedge bonder developed especially for maxtrix leadframe applications. The application of two bondheads enables to bond two different wire sizes as well as a combination of wire and ribbon.

The fully automatic dual-head leadframe wedge bonder Bondjet BJ931 meets the latest technology and flexibility demands for automotive and power electronics applications; handling heavy aluminum, copper wire and ribbon on two specialized bondheads that can be exchanged. Your benefits:

- Robust, clean design
- Low maintenance requirements
- User-friendly software
- Service support functions
- Industry-leading PiQC™ process monitoring system



Heavy wire bondhead with bondforce calibration and pull module



Heavy wire bondheads (possible combination of wire and ribbon)

Heavy Wire Dual-Head Wedge Bonder

Your benefits in the spotlight

Advanced features and process advantages

- Precisely programmable bondforce actuator
- Wear-free components with Piezo technology
- Maintenance-free solid state joints
- Integrated, non destructive pulltest for wire and ribbon
- Automated bondforce calibration
- Pattern recognition time: 6 ms – 8 ms (search region: 512 × 512 pixels, pattern: 64 × 64 pixels)
- Rapid image capture with new digital image processing and flash light illumination
- E-Box: patented solution for optimized tool change and programmable alignment marks for cutter, wire guide and bond wedge

Central wedge bonder control system

- A central 23" touch panel is used to monitor and control the bonder and indexing system
- Metal keypad and robust trackball for industrial use
- User-friendly calibration wizard and automatic update of calibration data at bondhead change on all available bondheads

Speed

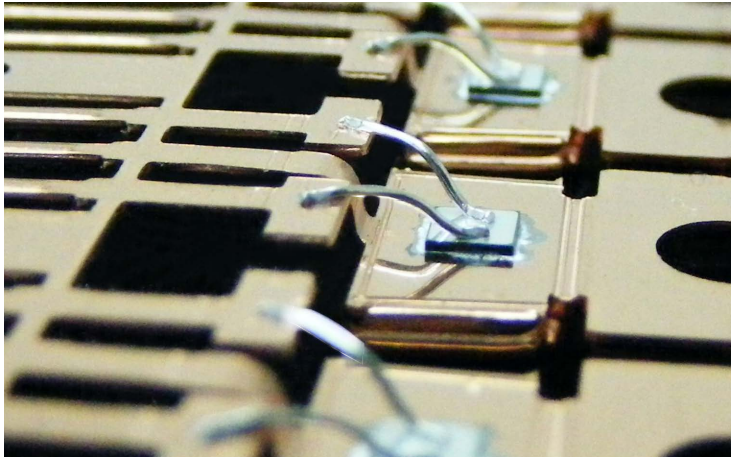
- Highest UPH due to linear motors for bonder and indexer

Quality

- Continuous real time monitoring of wire deformation, transducer current and frequency within programmable control limits
- Process integrated Quality Control PiQC: detection of further parameters, e.g. friction behavior, by additional sensor system for 100 % quality monitoring in real time (patented); as option
- Remote pull function on PiQC threshold value for optimized cycle time; up to 30 % save on equipment
- Inline pull modules for non-destructive pulltest with no influence on process time

Interchangeable bondheads

- The Bondjet BJ931 supports heavy wire and ribbon bondheads for aluminum, copper and AlCu
- An intelligent bondhead connecting system with integrated memory stores all calibration data and enables bondhead replacement in a few minutes
- Wire clamp for loop shape control is standard on all heavy wire bondheads, optionally equipped with non-destructive pulltest



Technical data at a glance

Working area

- X: 100 mm, Y: 90 mm, Z: 42 mm
- P: 440°

Mechatronic bondhead

- HBK (Frontcut, Backcut)
- RBK Ribbon (Frontcut)
- RBK Copper (Frontcut, Backcut)

Frequency: 60 kHz*; alternative frequencies on request

Cutting methods

- active, passive, air cut (for frontcut)

Wire

- Al, Cu, AlCu: 50 µm – 600 µm** (2 mil – 24 mil)

Ribbon

- Al, Cu, AlCu: 250 µm x 25 µm up to 2000 µm x 400 µm** (Cu: 200 µm)
(10 mil x 1 mil up to 80 mil x 16 mil)

Ultrasonic

- Digital ultrasonic generator with PLL (Phase Locked Loop), internal frequency resolution <1 Hz
- Programmable ultrasonic power output

Footprint and weight

- 1550 - 1725 mm x 1273 mm x 1885 mm (W x D x H, excl. light tower)
- Weight: approx. 1400 kg

Media connectivity

- Compressed air (high purity)
- Vacuum
- 16A/230V AC
- Digital IOs
- USB Ports
- SMEMA connection
- Gigabit Ethernet (TCP/IP)
- Profibus support

High speed leadframe indexer

- Strip dimensions :
100 mm - 280 mm length, 15 mm - 90 mm width,
max. 3.0 mm down-set
- Substrate types: SOIC, SO8, SOL8, SOT, SOT23, SC70, TO220, power-QFN, QFN, DPAK, DFN, DSO, COB, multi-lead SOP, matrix L/F, flat-boat, programmable pitch etc.
- Index time: 100 ms for typical TO 220 device (includes clamping)
- Magazine size: 115 mm - 285 mm length, 20 mm - 100 mm width, 50 mm - 200 mm height

Options

- Process integrated Quality Control PiQC: detection of further parameters by additional sensor system (e.g. friction) for 100 % quality monitoring in real time (patented)
- Inline pull modules: up to 4 modules per bondhead for a non-destructive pulltest (up to a total of 8 per system)
- Bondhead integrated pulltest
- Automated bondforce calibration
- BDE, traceability: integrated CSV-Logger or customized implementation
- SECS/GEM: integrated standardized server connection for automation and communication, handling via Workbench
- MES: interface to Manufacturing Execution Systems, integrated or customized implementation

You want more?
Contact us - we will provide a solution!

* exact range of frequencies on request

**depending on application and wire

HESSE

MECHATRONICS

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

Hesse GmbH, founded in 1995 and based in Paderborn, Germany, develops and manufactures fully automatic ultrasonic and thermosonic wire 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 technology and develops customer-specific production processes.

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

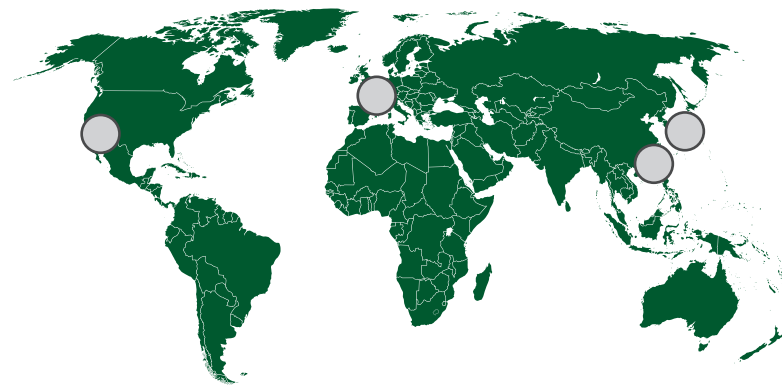
The core competencies of the company are mechatronic systems, ultrasonic technology, control engineering and the detailed understanding and knowledge of the processes and physical effects relevant in ultrasonic joining technology. In order to maintain and expand technological leadership, we conduct intensive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

www.Hesse-Customersolutions.com

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

- Pre-production prototype
- Small series production
- (Online) Services:
 - Training
 - Production support
 - Process optimization

Worldwide. Near you.



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The Bonding Experts.

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