Universal Instruments

flexbond™

Hot Bar for volume productivity.

Advanced flex circuits are a key technology driving the next generation of wearables, mobile devices and other leading-edge products. The Flexbond™ hot bar bonding platform enables the first fully automated volume solution for these and other hot bar interconnect applications.

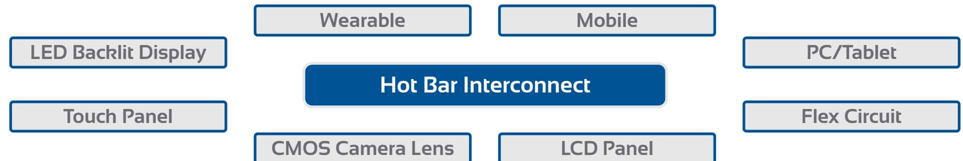
Flexbond leverages a highly parallel bond head architecture and complete process automation to set a higher standard for volume productivity and accelerate bottom line growth.

Innovation

- Full process solutions including flux transfer, high-accuracy placement and hot bar soldering
- Highest-accuracy, flexible placement platform
- The first high-throughput automated hot bar bonding platform, featuring dual-zone processing and up to 12 bond heads (4X alternative solutions)
- Advanced hot bar technologies including programmable heat and pressure control

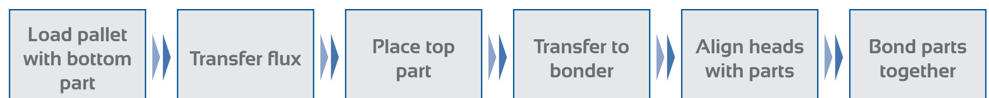
Performance and Value

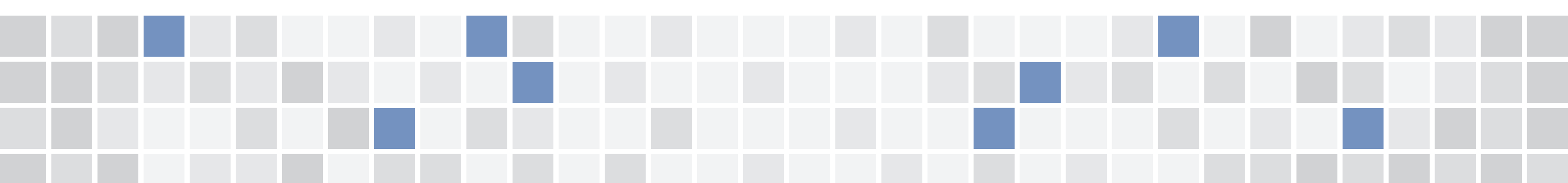
- Configurable modules support full range of hot bar applications
- 6X to 12X the throughput of traditional semi-automated assembly stations
- Twice the throughput of alternative automated hot bar solutions, 80% less floor space
- Fewer machines required, 30% lower CAPEX
- Lowest OPEX and $/cph/m^2



Fully automated, fully integrated, full-process

Flexbond combines with Universal Instruments' Fuzion® Platform for full-process integration, including flux transfer, high-accuracy placement and hot bar soldering.





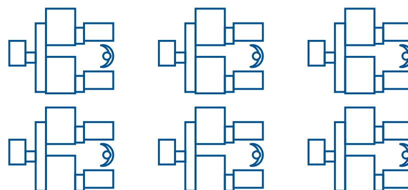
A modern solution for today's volume demands

Alternative hot bar solutions are no match for the growing market demand for high-end flex circuit products. Flexbond solutions empower a high-performance volume production model to meet these demands.

Flexbond: 4 lines, 2 operators, ~32 m^2

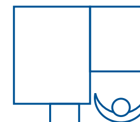
80% < floor space, 67% < operators

Alternative automated solution:
12 lines, 6 operators, ~160 m^2

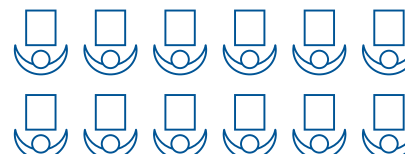


Flexbond: 1800 UPH, 1 operator

12X output, 92% < operators

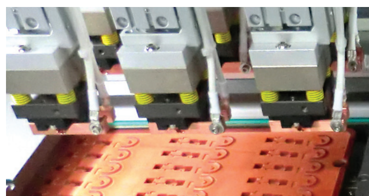


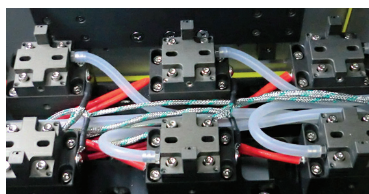
Semi-automated: 150 UPH, 12 operators



Leading-edge technologies

Flexbond incorporates advanced technologies to put you in complete control of your processes.





Heating Control

- Programmable temperature settings to align with required soldering thermal profiles
- Hot bar head with high-fidelity pulse heat for solder or constant heat for ACF applications
- Controlled under-board constant heat to balance thermal load for flex-to-flex applications
- Closed-loop temperature control to maintain precise, consistent performance

Pressure Control

- Programmable pressure settings for improved bonding control
- High-accuracy pressure control to prevent solder shorts and maintain solder shape

Other

- Conveyor architecture, adjustable width
- Adjustable head positions and planarity

FLEXBOND SPECIFICATIONS	
Max Bonding Rate	1800 UPH
Carrier Size	100 x 100mm (Min) to 500 x 350mm (Max)
Bond Head Configuration	Dual-zone: 3 or 6 heads per zone
Hot Bar Head Heating	High-fidelity pulse heat up to 600°C or constant heat up to 200°C
Under-Board Heating	Constant heat up to 200°C
Temperature Control Accuracy	±2°C, Cpk>1.33
Pressure Range	0.5 to 12kg
Pressure Control Accuracy	±70g per 1kg
Machine Dimensions (W x D x H)	1350 x 1500 x 2000mm

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MC-6419 04/16

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