

# FB-i28

KAIJO

超声波兼用热压合（热超声键合）方式高精度焊线机  
Highly Accurate Thermosonic Wire Bonder

实现高品质焊线的面向高端产品的全自动焊线机  
Sophisticated bonder applicable to high-end products with higher performance



新识别算法  $\alpha$  eyes  
高速·高精度识别提高生产率  
New recognition algorithm

## 特性 / FEATURES

- 通过高刚性，超轻型焊头，达到高精度，高密度，以及超低冲击压力的焊接  
Rigit and lightweight head satisfies high accurate performance and low impact bonding
- 提高可追溯功能和自我诊断功能，有助于品质管理和设备维护  
Enhanced traceability and Self-diagnosis function - Contribute to quality control and maintenance
- 采用新识别算法 $\alpha$ eyes，提高易受工件影响的识别精度和识别率  
Kaijo's latest optimized recognition which is able to minimize adverse effects from work condition
- 搭载分步焊接功能，通过使接合过程可视化，可实现精准控制  
Step Bond Sequence which realizes fine control by visualizing the bonding process
- 满足不断提升的连接性和工业 4.0 的需求  
SECS/GEM 作为标准配置，亦可使用 KAIJO 自有主机管理系统 KISS  
Ready for the growing demand of connectivity and Industry 4.0 - SECS/GEM or "KISS" (selectable)

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## 主要规格

| 焊线性能      |   |
|-----------|---|
| 焊接方式      | 超声波热压焊接(热超声)方式  |
| 超声波振荡系统   | 由 PLL 输出频率自动跟踪振荡系统, 单频率   |
| 线的种类      | Au<br>Cu, Ag alloy 是选项  |
| 焊线范围      | 56mm×88mm   |
| 重复位置精度    | 3σ ≤ 2.0μm*   |
| 焊线速度      | 45msec / wire(2mm 线)**  |
| 图像识别功能    |   |
| 识别方式      | 可从形状识别方式 (aeyes) 和多值化相关处理方式中选择  |
| 检测速度      | 约 100msec / 2 点 (5mm 角芯片时)<br>约 200msec / 4 点 (5mm 角芯片时)                                  |
| 检测率       | 99.9% 以上**  |
| 支架定位检测    | 最快 11msec/1lead   |
| 对应工件      |   |
| 封装 / 支架尺寸 | 宽度 : 30mm ~ 100mm<br>长度 : 90mm ~ 300mm<br>高度 : 0.1mm ~ 0.5mm                              |
| 料盒尺寸      | 宽度 : 30mm ~ 115mm<br>长度 : 100mm ~ 305mm<br>高度 : 100mm ~ 175mm<br>堆叠数量 : 2~3 个料盒           |
| 外部通讯      |   |
|           | SECS/GEM 搭载<br>KISS 搭载<br>(各主机软件另售或另行咨询)  |
| 电气要求      |   |
| 电源        | 单相 AC200V ±5%, 50Hz / 60Hz, 8A<br>※可选择 210V, 220V, 230V, 240V, 100V<br>最大消费电力 : 约 1.5kW   |
| 干燥压缩空气    | 压力 : 0.3 ~ 0.970MPa (3 ~ 9.9Kgf / cm <sup>2</sup> ), ISO 5 级以上<br>消费量 : 40Liters / min 以下 |
| 真空        | 压力 : -53.32MPa 以下 (400mm / Hg 以上)   |
| 尺寸·重量等规格  |   |
| 尺寸        | 宽度 : 1,065mm<br>深度 : 1,175mm<br>高度 : 1,725mm (包括信号灯: 2,025mm)                             |
| 重量        | 重量 : 约 550kg  |

\*不包括自校准精度

\*\*KAJJO 规定条件下的计算值

\*\*\*Kaijo Interconnecting Service System 的略称

## SPECIFICATIONS

| Bonding                  |   |
|--------------------------|---|
| Process                  | Ultrasonic with thermocompression bonding   |
| Oscillation              | Frequency automatic tracking by PLL. Single frequency.  |
| Applicable wire          | Au<br>Cu, Ag alloy (Available separately)   |
| Bonding area             | 56mm×88mm   |
| Bonding Accuracy         | 3σ ≤ 2.0μm*   |
| Bonding speed            | 45msec/wire (2mm length Looping)**  |
| Recognition              |   |
| Method                   | Shape recognition (α eyes)<br>or Multi-valued correlation processing (selectable)   |
| Time                     | Approx. 100msec / 2 points (5mm square chip)<br>Approx. 200msec / 4 points (5mm square chip)  |
| Detection rate           | 99.9% or more**   |
| Lead auto-locating (VLL) | 11msec / lead**   |
| Applicable work size     |   |
| Lead frame / Substrate   | Width : 30mm ~ 100mm<br>Length : 90mm ~ 300mm<br>Thickness : 0.1mm ~ 0.5 mm   |
| Magazine                 | Width : 30mm ~ 115mm<br>Length : 100mm ~ 305mm<br>Height : 100mm ~ 175mm<br>Stockable : 2 ~ 3 Magazine                                |
| External interface       |   |
|                          | SECS / GEM available as standard<br>KISS *** available as standard<br>(Each host software is sold separately or consulted separately) |
| Utility                  |   |
| Power                    | Single phase AC200V ±5%, 50Hz / 60Hz, 8A<br>(210V, 220V, 230V, 240V, 100V option)<br>Maximum power consumption : Approximately 1.5kW  |
| Dry air                  | Pressure : 0.3 ~ 0.970MPa (3 ~ 9.9Kgf/cm <sup>2</sup> )<br>ISO class 5 or more<br>Consumption : 40Liters / min or less                |
| Vacuum                   | Pressure : -53.32MPa or less (400mm / Hg or more)   |
| Dimensions               |   |
| Width                    | 1,065mm   |
| Depth                    | 1,175mm   |
| Height                   | 1,725mm (To top of signal lamp : 2,025mm)   |
| Weight                   | Approximately 550kg   |

\* Excluding self-teach accuracy.

\*\*Calculated value under the conditions specified by KAJJO.

\*\*\* Kaijo Interconnecting Service System



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