oerlikon
assembly equipment

Specifications of Esec Wire Bonder 3100*optima*

TY technology bond head

- Bond placement accuracy: ± 2.5µm (3 sigma)
- Wire Cycle Time: 56msec (standard loop) based on 2mm wire length, 0.25mm(0.01”) loop height
- Fine Pitch : 35µm in line @ 3 sigma
- Max bonding area: 52 x 70mm / 2 x 2.75”

Pattern recognition / vision

- Auto focus capability
- Cognex base

Programmable indexer

- Capability to handle narrow lead frame edge down to 0mm.

Looping capability (with 25.4µm wire diameter)

- Minimum loop height: 50µm to 70µm
- Maximum wire length: 9mm / 360mils
- Wire sway:
  Wire length <2.54mm (0.100”), +/–2.5µm @ 3 sigma
  Wire length >2.54µm(0.100”), +/–1% wire length @ 3 sigma

Magazine handling

- Magazine gripper with self-adjusting clamps
- Tunnel Buffer system

Buffer capacity magazine platform

- Typically 4 magazines for QFP 84 L/F
- Loading/unloading platform dimensions:
  Width (adjustable): accepts magazines with a length ranging from 125mm/4.92" up to 275mm/10.82"

Standards/Safety

- EC conformity (CE Mark), includes safety regulations
- SEMI S2, S8 compliant
- Clean room class 10’000

Miscellaneous

- Size (w x d x h): 850 x 960 x 2'010mm/ 33.5 x 37.8 x 79.1"
- Max. width: (if largest possible magazine used) 1100mm/43.3"
- Weight: approx. 590kg
- Electrical: 204/230V, 100–120V (on request)
  +10% –10%, 50 to 60Hz.
  max. 2'900W/typical 1200W
- Compressed air: 5–8bar/73–116psi
- Air consumption: Normal: max. 65nl/min* (at p = 5bar)
  Venturi: max. 230nl/min**
  *with separate vacuum supply or optional electrical vacuum generator
  **with optional venturi valve
- Air quality: max. 1.4g/m^3 (SPT) water contamination
  max. 0.1mg/m^3 (SPT) oil cont.
  max. 5mg/m^3 (SPT) particles
  max. particle size 5µm
- Vacuum min: –0.8bar ±0.05bar/ –24" Hg ± 1.5" Hg
- Vacuum max: –0.9bar/ –27" Hg
  Typ. 15nl/min
- Vacuum tank: 1.5L volume
- DVD drive: reads all types of CD and DVD
- Ambient conditions according IEC 721-3-3, class IEC32 with deviations during operation:
  max. temperature drift: ±2.5 °C
  max. temperature: +30 °C
  min. temperature: +15 °C
- Noise level: <75dB

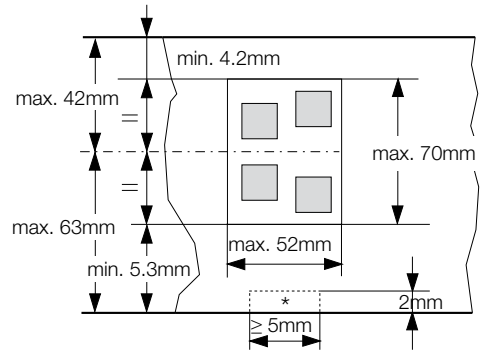
Materials

Wire
- Gold wire diameter: 15 to 75µm/0.6 to 3.0mils

Capillary
- Length: 11.1mm/0.437"
- Diameter 1.58mm/1/16"

Leadframes
- Length: 100 to 270mm/4.0 to 10.63"
- Width: 15 to 84mm/0.6 to 3.3"
  84 to 115mm on request
- Thickness: 0.1 to 0.8mm/4 to 32mils standard
  0.8 to 1.6mm/31 to 63mils
  (on request)
- Pad downset: 0 to 2.3mm/0 to 90mils
- Max. pitch: 90mm/3.5"

Magazines
- Length: 125 to 275mm/4.92 to 10.82"
- Width: 20 to 120mm/0.78 to 4.7"
- Height: 50 to 180mm/1.97 to 7.08"
- Weight: max. 4kg/8.8lbs
- Magazine type: open on both sides



* Full material area needed for gripper (at each bond area)

Note:
- The magazine must not be more than 12.5mm (0.5") longer than the leadframe

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