europlacer
HIGH MIX PRODUCTIVITY

ii-N1

Best In Class For Prototyping

integrated INTELLIGENCE

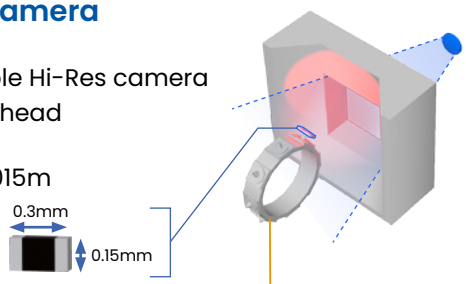
iineo range

ii-RC Software

- A simple and easy-to-use interface
- Ergonomic and intuitive operation

Embedded Camera

- IA compatible Hi-Res camera on Tornado head
- Down to 03015m



Intelligent Conveyor

- Increase productivity without mechanical stops
- Automatically optimizes board stop position for maximum productivity

Short Tape Tray

- 8, 12, 16 and 24mm trays available
- Fiducially aligned for accurate pick up across the whole length of tape

Best In Class For Prototyping

The ii-N1 is the flagship pick and place machine in the Europlacer iineo range, offering a flexible platform with no restrictions and no compromises. A unique, high-performance machine designed to produce the most complex PCBs on the market. The ii-N1 enables you to achieve a placement speed of up to 15,390 CPH*, placing 03015m size components up to 99 x 99 x 34 mm**. Introducing the ii-N1 into your production line will enable you to increase productivity and achieve high-performance results for all types of applications.

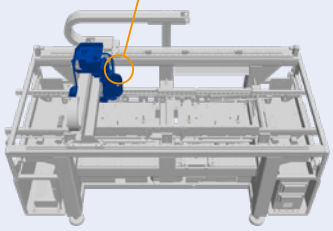
Flexibility	▶ ▶ ▶ ▶ ▶
Feeder capacity	▶ ▶ ▶ ▶ ▶
Speed	▶ ▶

IPC CFX™

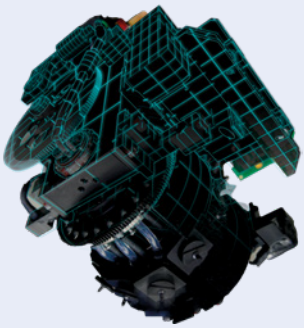
Smart Nozzles

- Reduced set-up time
- Nozzle type identifier
- Nozzles can be placed anywhere

1 Tornado Head



- 8 or 12 nozzles
- Speed 15,390 CPH*
- Components up to 99 x 99 x 34mm**

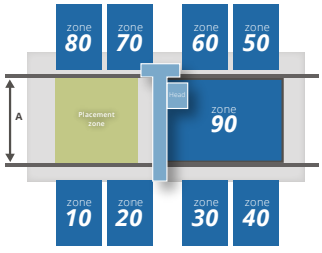


ii-Tab

- Mobility Solution
- 10 Software applications
- Support for Setup, Stock Management and Production

Loading Capacity

- Configurable zones - ii-Feed trolleys (ii-Cart), tape feeder or special feeder
- Central Jedec tray support for large components



ii-Cart Intelligent Trolley

- Up to x33 8mm ii-Feed elements
- Accepts any mix of 8, 12, 16 or 24mm tapes

NT Feeder

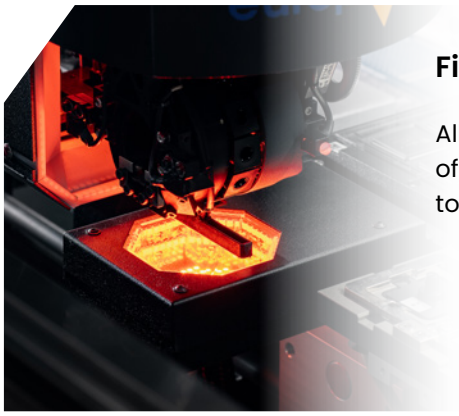
- From 4mm to 104mm width
- Component height up to 26.5mm

Machine compatible with all feeders in the Europlacer range, see Feeders brochure

* With 12 nozzle position - Optimum test conditions in factory

** With 8-nozzle Tornado head, matrix tray distributor with fewer shims, or auto tray loader with specific tray support

Options



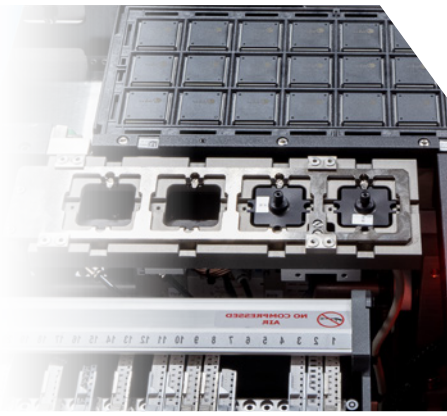
Fixed Camera

Allowing the placement of large components up to 99 x 99 x 34mm **

Special Nozzles Magazines

Can hold 4 special nozzles:

- Vacuum or gripper nozzles
- Heavy and large components

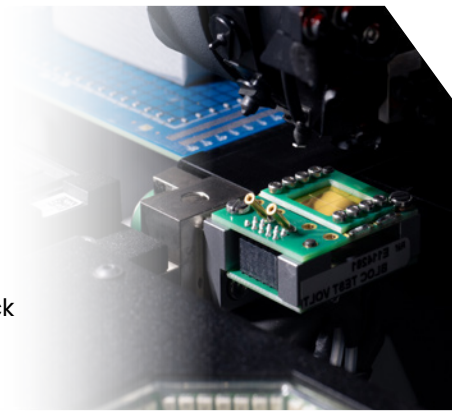


Dispensing System

- Glue or paste dispensing
- 2 different systems: air or auger valve

Electrical Test

- Passive RLC and Zener diode testing
- HAMEG tester from Rhode & Schwarz
- Diode polarity check



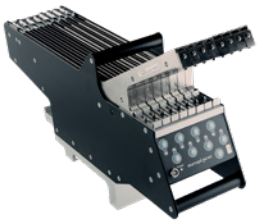
Recommended Accessories

Freeform Feeder

- Tray for unpackaged, bulk components
- Identify components regardless of their position

Matrix Tray Distributor

- Stores up to 30 trays vertically



Belt Feeder

- Solution for components supplied in stick format
- SO, SO medium, SO large and TSSOP type components

Traceability Option With Label Feeder

- Dispensing 1D and 2D labels
- Sticker size from 4 x 8mm to 55 x 55mm
- Add serial number data to traceability option

Benefits

Flexibility

- **Component range:**
  From 03015m
  up to 99 x 99 x 34mm**
- **Feeder capacity:**
  264 x 8mm feeders
  10 Jedec central tray

Connectivity

- **ii-Tab:**
  Connect your Pick and Place machine to our mobile solution to help you prepare and monitor your production line.
- **CFX 1.7 compatible:**
  Easily connect the ii-N1 with all CFX compatible equipment in your production line.

Versatility

- **PCB range:**
  From 60 x 45mm
  to 1610 x 600mm*** and 10kg

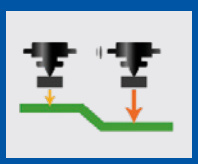
All-In-One Solution

- **Standalone:**
  Complete Pick and Place installation with only one machine.

Features

integrated INTELLIGENCE

3DPS

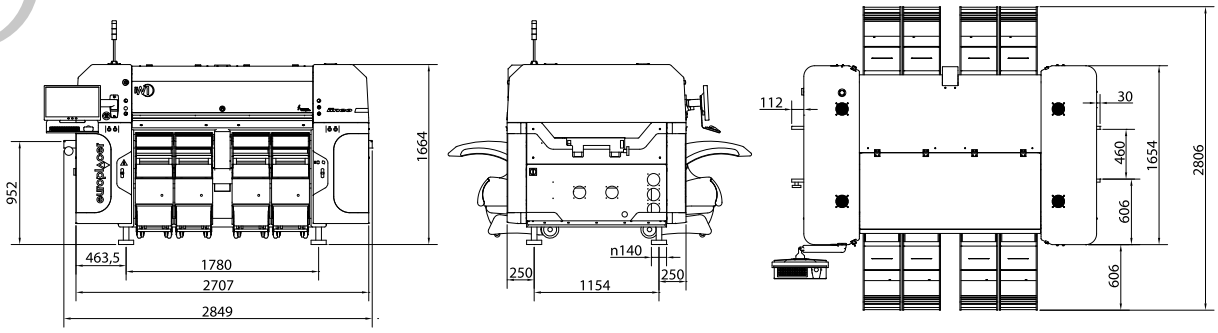


Real-time Z axis adjustment to compensate for any board warpage. No PCB support tooling pin needed.

AAS

Auto Adaptive Sequencing defines placement priorities and rules to avoid collision. It takes into account component and nozzle shapes, characteristics of the PCB and the trajectory of the heads.

** With 8-nozzle Tornado head, matrix tray distributor with fewer shims, or auto tray loader with specific tray support
*** Option available only with special conveyor for very long and wide board, standard conveyor is 700x460mm



Technical Specification

General	
Electrical	400V/210V three phases 50Hz/60Hz, 5kVA
Air	7 bar, 30l/min
Noise	<70dB (A)
Working temperature	18°C to 30°C
Humidity	20% to 80% RH non-condensing
Weight	2000kg (without feeders)

Component Range	
Types	Chips, MELFs, electrolytic capacitors, SO, PLCC, QFP, TSOP, QFN, BGA, µBGA, LGA, CSP, connectors, Flip chip, through hole and odd-form devices
Minimum size	0.3mm x 0.15mm (03015m)
Maximum size	50mm x 50mm as standard; 99mm x 99mm with fixed camera option (more on demand)
Maximum height	Full revolution of turret 12mm ii-N1 - 1 component mode 34mm** ii-N1 - 1 component mode 31mm*
Minimum lead pitch	0.2mm (QFP), 0.3mm (µBGA) 0.1mm (QFP), 0.15mm (µBGA) with optional fixed camera
Minimum lead/ball size	0.1mm (QFP), 0.15mm (µBGA) 0.05mm (QFP), 0.075mm (µBGA) with optional fixed camera

ii-N1 Capability	
Tact time	ii-N1 – 0.257 sec – 13,650cph ii-N1* – 0.234 sec – 15,390cph
Placement accuracy	22µm (QFPs) to 46µm (chips) @ 3 sigma
Placement head	1 rotary turret head on X/Y linear motor gantry ii-N1 with 8 nozzle positions ii-N1 with 12 nozzle positions
Nozzles	1 x 60 position 'smart' nozzle tool bank (20 & 40 positions as an option) (Special 4 position tool banks as an option)
Component analysis	'On-the-fly' high resolution digital camera (fixed camera as an option)
Feeder range	Full range of intelligent feeders for 4mm to 104mm tapes, components in plastic sticks and matrix trays
Feeder capacity	264 x 8mm tape feeder positions Maximum 10 Jedec matrix trays

Board Handling	
Minimum PCB size	60mm x 45mm
Maximum PCB size	Length: 700mm/1070mm/ 1610mm*** Width: 460mm (600mm with option)
Thickness	0.5mm to 10.0mm
Weight	3kg max. (10kg max. as an option - Please consult us for higher valued weight)
Under board clearance	25mm
Board location	Full edge clamping with fiducial correction
Board edge clearance	3mm above, 5mm below
Transport criteria	Left to right (right to left optional), Fixed front rail, height-adjustable 890mm to 975mm, SMEMA interface

* With 12 nozzle position - Optimum test conditions in factory
** With 8-nozzle Tornado head, matrix tray distributor with fewer shims, or auto tray loader with specific tray support
*** Option available only with special conveyor for very long and wide board, standard conveyor is 700x460mm

Options

- Fixed upward looking camera for larger and very fine pitch components
- Feeder trolley options for bulk change of individual feeders and 'mass' tape feeder ranges
- 30-position automatic tray loader (sequencer)
- Electrical component testing
- Glue dispenser
- Additional nozzle magazines
- Rear operating station
- Internal fixed tray holder zone 1000mm x 490mm – 10 Jedec tray equivalent (550mm x 490mm – 7 Jedec tray equivalent with PCB length of 1000mm)

As part of our policy of continuous development, specifications are subject to change without notice.

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