# EPIQx

SMART. MODULAR. POWERFUL.

EPIQx is the next-generation high-speed SMT platform that leverages data at the device level to deliver unmatched insight and control at the machine, line and factory level. EPIQx fuses data-driven intelligence and breakthrough modularity in a compact, high-performance package to maximize uptime and productivity within your factory floor space.

**EPIQx is the perfect foundation for the lights-out factory of the future: a self-operating, adaptive, and ever-evolving manufacturing environment. Features include:**

- Captures real-time data with sensors at the hardware level to learn, adapt and drive production improvements
- Dual-beam platform delivers throughput up to 93,000 cph
- 40% smaller than previous systems with the same 128 inputs
- 25µm accuracy at full speed, no derate
- Supports wide high-speed component mix and range of board sizes
- Roadmap-ready, ultra-modular placement head technology

VIDEO

## BENEFITS & VALUE

### DATA-DRIVEN INTELLIGENCE
Leverages data to drive predictive maintenance and more; MicroModule™ monitors **50+** production attributes

### EXCEPTIONAL PERFORMANCE
Dual-beam linear motor with >2.5G acceleration delivers **93K cph** in a compact footprint

### ADAPTABLE HIGH-SPEED
Supports boards up to **508mm x 610mm** (SL) and a large high-speed component range up to **8mm** square

### HIGH PRECISION
**25µm** accuracy at full speed; IntelliDrive™ Z-axis leverages closed-loop control and image-at-placement height to maximize accuracy and yield

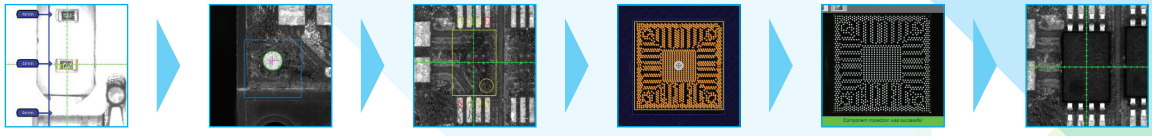
### HIGHEST FEEDER DENSITY
40% smaller than previous-generation systems with the same capacity: **128 inputs**; **20% more** inputs per floor space than alternative solutions

### ULTRA-MODULAR DESIGN
Configurable carriage holds **10 MicroModules** with 2 spindles each; Modules exchange in **< 5 minutes**; Self-calibrating, self-ID

FUZION software

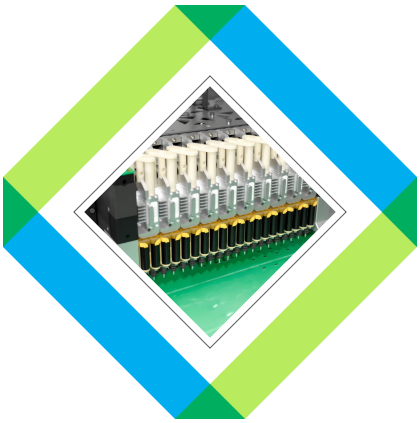
**FUZION SOFTWARE**

- Sequential process for complete board build
- Quickly generate and optimize fiducial, feeder, placement, and component information
- Full editing capability in pre-production NPI mode, and dynamic editing in full production mode eliminate machine stoppages
- Semi-automated solder paste and post-placement inspection



Feeder Inspection | Fiducial Inspection | Pre-Place Inspection | Component Teach | Component Inspection | Post-Place Inspection

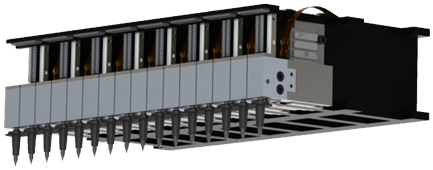
Universal Instruments
A Delta Group Company



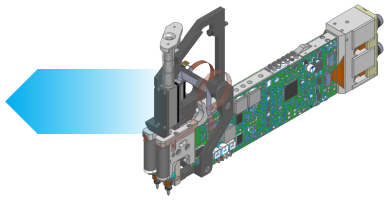
## Revolutionary placement head design

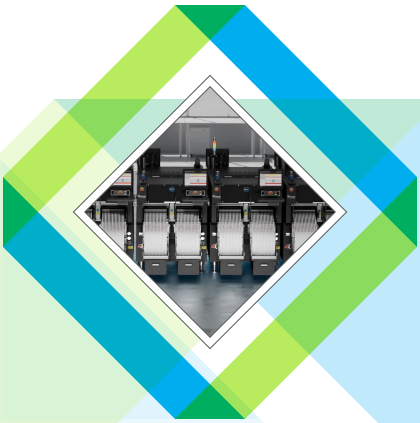
EPIQx features a MicroModule architecture that redefines adaptability. Each module is independently controlled and easily swappable, delivering simplified maintenance and quick reconfiguration.

10 MicroModules



MicroModule with two IntelliDrive spindles





## MicroModule technology

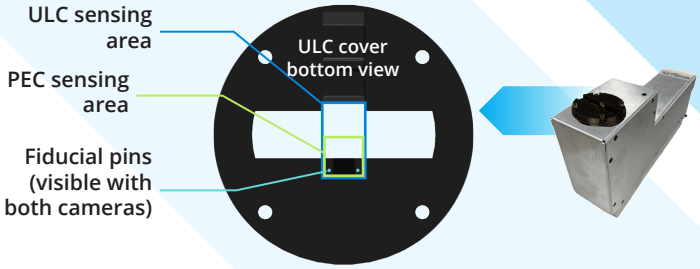
- Configurable carriage holds Up to 10 MicroModules with two IntelliDrive™ spindles each
- Each MicroModule monitors more than 50 production attributes
- Quick-swap modules can be ex-changed in less than five minutes;
- Self-calibrating, self-ID
- Two downward-looking cameras on each carriage enable fiducial capture and feeder access

## IntelliDrive spindle technology

- Two machine carriages hold 40 total spindles
- Lightweight modular design
- Active vacuum, valve, and thermal monitoring maximize performance
- Direct-drive and intelligent control algorithms deliver ultra-precise, high-speed component handling
- Independently controlled spindles enable unique adjustments for delicate components

## Automated Integrity Management (AIM)

The Automatic Inspection Maneuver (AIM) process is a quick five-second calibration initiated at configured cycle intervals or temperature thresholds to maintain peak performance.




## AIM process

- Upward-looking camera cover fitted with integrated fiducials
- PEC and upward-looking cameras capture fiducial locations
- Vision system uses fiducials to establish PEC-to-ULC offset
- Spindles are imaged by the ULC to determine position offsets
- Calculates PEC-to-spindle offsets and updates trim values

| EPIQx Specifications | |
|---|---|
| **Positioning System** | Dual-beam linear motor |
| **Placement Heads** | (2) Configurable carriages hold 10 MicroModules with 2 spindles each |
| **Cameras** | (2) Upward-looking cameras |
| **Throughput** | 93,000 cph (Max) |
| **Accuracy (@>1.00 Cpk)** | ±25µm (Chips) |
| **Max PCB Dimensions** | 508mm x 610mm (single-lane)<br>508mm x 580mm (dual-lane independent mode)<br>508mm x 310mm (dual-lane simultaneous mode) |
| **Max Feeder Inputs** | 128 |
| **Component Range (mm)** | (008004 in) .25 x .25 x .125 (Min)<br>8 square and up to 4 tall (Max) |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