

AT3-300A Automated Programming System

A professional pick & place auto programmer for ICs on / in Tray, Tube and Tape

AT3-300A is a professional pick & place auto programmer for ICs on / in tray, tube and tape. System provides intelligent operation for IC programming/testing, marking/labeling and packing conversion with powerful software control. The resident Programming Module offers efficient and reliable multi-site IC programming. Optional mark-on-tray / mark-on-tape or label-on-tray is available after programming. A variety of I/O devices can be mounted and changed easily providing flexibility of input / output options basing on IC packing form.



Key features

■ Excellent performance

The system can operate a variety of input and output options with tray, tube and tape I/O devices thus provides programming/testing, marking/labeling and packing conversion for most of IC products on / in tray, tube and tape.

■ Intelligent operation

Automatic pick & place operation in sequence of IC loading / pickup / positioning / insertion / programming / sorting / optional marking or labeling / unloading with powerful software control.

■ Accurate positioning

System is equipped with two precise CCD. One fixed, upward CCD for IC positioning while the other carried, downward CCD for sockets / pick & place spots positioning.

■ Reliable programming

The built-in programmers, ALL-100AX / FLASH-100 series, are designed with high speed CPU, resided FPGA, high capacity pin drivers and USB interface, thus providing a high speed, low noise, stable and reliable programming platform.

■ Multi-site programming

Programming Module may have 1, 2, 4, 6 or 8 sockets on board considering programming time. Up to 8 sites x 4 sets = 32 sites can be programmed simultaneously, thus eliminating / minimizing handler idle time when programming high density memory devices.

■ High throughput

900 UPH, 4.0 sec / unit handler index time. System offers 900 units / hour consistent throughput for IC programming / testing operation. (without optional marking / labeling)

■ Optional marking / labeling

System provides optional dot / alphanumeric mark-on-tray / mark-on-tape or label-on-tray after programming.

■ Easy change-over & maintenance

Easy and fast change-over of socket modules and I/O devices when switching IC products among tray, tube and tape. Power-on self diagnostics, I/O Mode utility and module design allow system easy for maintenance, repair and replacement.

■ Powerful operation software

Both setup data and test results are automatically saved for next power-on operation as well as for quality / yield traceability. Graphical user interface makes it easy to access.

Specification

■ Motion

- Throughput : 900UPH, 4.0sec/unit handler index time
- X-Y drive : High performance servo drive system
- Transmission : Ball screw & linear guide mechanism
- Resolution : X axis: $\pm 0.02\text{mm}$, Y axis: $\pm 0.02\text{mm}$, Z axis: $\pm 0.02\text{mm}$
- Max. stroke : X axis: 830mm, Y axis: 450mm, Z axis: 30mm
- Theta axis resolution : 0.15°
- Pick & Place head placement accuracy : $\pm 0.03\text{mm}$



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■ Vision

- Camera : Fixed CCD: 640 x 480 pixels.
Carried CCD: 640 x 480 pixels
- Field of view : 25mm x 25mm
- Vision alignment : IC corner leads
- Vision accuracy : ± 0.01 mm
- Vision process time : ~ 0.1 sec / unit

■ Programming

- Resident programmer : ALL-100AX / FLASH-100 series universal programmer
- Programming site : 8 sites x 4 sets = 32 sites
- Pin driver : 68 universal pin drivers per set
- Applicable products : PROM, EPROM, EEPROM, FLASH, MCU, PLD, PAL, FPGA... etc.
- Applicable packages : SOP, SSOP, PLCC, MLF, TSOP, QFP, TQFP, BGA, μ BGA...etc.

■ Marking & Labeling

- Marking : Either mark-on-tray or mark-on-tape with dot (1.5mm ~ 2.0mm) or alphanumeric (2mm x 3mm)
- Labeling : Label-on-tray with label size > 5mm x 5mm

■ I/O devices

- Auto Tray : Auto tray move in, move out and replacement. Stack up to 20~25 JEDEC trays for fresh / pass units
- Manual Tray : Two JEDEC trays for manual input / output, spares / rejects binning or marking / labeling bedplate
- Semi-auto Tray : Auto tray move in, move out but manual replacement for fresh / pass units
- NG Plate : One small plate for prog. & other rejects
- Tube Input : 150mil, 208mil, 300mil... packages available
Load capacity : 6~12 tubes depends on tube size
- Tube Output : 150mil, 208mil, 300mil... packages available
Load capacity : 4 / 8 tubes
- Tape Input : Available for tape with 12 ~ 32mm tape width
- Tape Output : Press-sealing mode. Accept tape with 12 ~ 32mm tape width

■ Control

- Built-in Controller : PC-based control with Windows XP
- Data entry / Display : 17" LCD touch panel

■ Power & Air

- Power : AC voltage : 200 ~ 245V / 50-60Hz.
Power consumption : 1.3 KVA
- Air : Air pressure : 0.6 MPa (~6.0 kg/cm²)
Air consumption : 32 liter/min.

■ Dimension

- Base Unit W x D x H : 1300mm x 800mm x 1510mm
(H: 1775mm with tower light installed)
- Base + Tray I/O W x D x H : 1300mm x 1440mm x 1510mm
- Base + Tube I/O W x D x H : 1300mm x 1100mm x 1510mm
- Base + Tape I/O W x D x H : 1300mm x 1605mm x 1510mm

■ Weight

Base Unit : ~ 600 kg



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