

# MODEL: BA392V2 SMT PICK & PLACE MACHINE



## SUMMARY

- Large 600 mm x 350 mm placement area
- Suitable for 160 intelligent Auto Tape Feeder
- High Accuracy and high Flexibility for 01005, 0201, 0402, 0603, SOIC, PLCC, BGA,  $\mu$ BGA, CSP, QFP, up to fine-pitch 0.3mm
- Smart Feeder System provides Automatic feeder position checking,
- Automatic component counting, Production data Traceability
- Perfect for small & medium volume production
- COGNEX® Alignment System "Vision on the Fly"
- Bottom Vision Alignment System for fine pitch QFP & BGA
- Built in Camera System with Auto Smart Fiducial Mark Learning
- Dispenser system
- Vision Inspection before and after production
- Windows XP Software
- Universal CAD Conversion
- Placement rate: 6,400 cph
- Tray Handler access up to 10 Waffle Trays

AUTOTRONIK BA392 features high-precision, direct-drive ball screw and linear encoder technology in the X and Y axes, contributing to its 30  $\mu$ m, 3 Sigma placement accuracy. With high-power AC servo motors allowing placement rates approaching 6400 cph.

With feeder bases on all four sides, BA392 has maximum 8mm smart type feeder capacity of 160, and 600 mm x 350 mm of payload area can be shared by PCBs and waffle trays. Placement area increases to 630 mm x 350 mm with feeder bases mounted on only the front and rear of the system and an in-line conveyor installed. BA392 with stand-alone or In/Out conveyor configurations is suitable for any In-Line or "Work Cell" manufacturing environment.

The head-mounted, upward-aimed cameras with Cognex® vision processing and programmable illumination of BA392 allow easy set-up for a wide range of SMDs, including odd form components and BGAs. Base mounted cameras with a wider optical range and diagonal split-vision image processing can even be used for alignment of large components up to 150 mm x 100 mm.

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SMT PICK & PLACE MACHINE



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## DETAILS

### Strong and rigid mechanical design

BA392 using welded steel frame and also heavy duty high precision Linear Ball Rail system to provide strong, rigid and long life time mechanism.

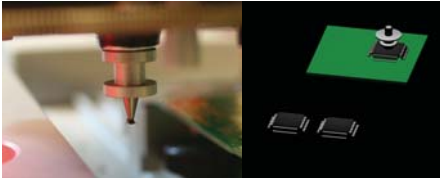
### High-Precision, Direct-Drive, Ballscrew and Linear Encoder Technology

BA392 base system features high-precision, direct-drive ballscrew and linear encoder technology in the X and Y axes, contributing to its 30 µm, 3 Sigma placement accuracy.



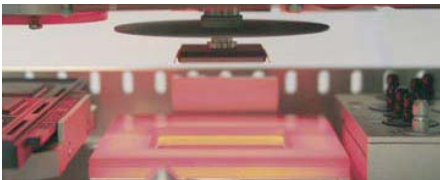
### COGNEX® Alignment System "Vision on the Fly"

The BA392 features COGNEX® vision processing and head-mounted for non-contact "Vision on the Fly" alignment. The machine BA392 assures high-precision placement of the full range of SMDs, from the smallest 0201 devices through CSPs, µBGAs, flip-chips, ultra-fine-pitch QFPs (0.3mm fine pitch), even odd-form components.



### Bottom Vision Alignment System

A Bottom Vision Camera is used for large components up to 150 x 100 mm and devices with alignment features on their bottom side.



### Extensive Placement Area

BA392 with stand-alone configurations has maximum 600 mm x 350 mm of payload area can be shared by PCBs and waffle trays. Placement area increases to 650 mm x 350 mm for in-line setting.



### Feeder Rack

Included in delivery are 2 x FR-48K, each is suitable for 48 x 8mm KFTA Feeders or 40 x 8mm IC-Sticks. 2 x FR32K can also be mounted on the left and right sides of the machine for a total capacity of 160 8 mm tape feeders.

### LED application

In respond to the increased use and variety of surface mount LEDs application, BA392 has the upgrade capacity for LED application.

### Conveyor System

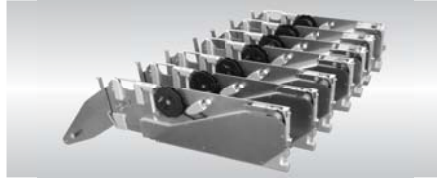
The optional conveyor system with SMEMA Interface and motor-driven-width-control speeds up the handling of PCB and in-line production.

### Smart Fiducial System

Besides the standard fiducial mark, either square SMD PCB pad or plate-through hole also can be trained as fiducial mark.

### Auto Tape Feeder (KFTA)

The innovative design of KFTA feeder bases and mounting hardware allows almost limitless flexibility in feeder combinations and arrangement schemes, as almost every feeder can be ordered, loaded, programmed and mounted independently. KFTAs are available from 8 mm up to 72 mm tape width.



### Universal IC Tube Feeder

KFTB universal tube feeder are using vibration driven technique. It is able to handle IC-Sticks with max.50 mm width.



### Cut Strip Tape Holders

Cut Strip Tape Holders is a handy accessory for presenting components that are supplied in short lengths of tape due to their low quantity of usage. It can also prevent the waste of components in sections of tape that are too short to be loaded into tape feeders.

### Bulk Pack Component Tray

Designed for bulk pack component, Bulk Pack Component Tray (TSD18) can handle any bulk pack component under the semi-auto production mode. A single tray contains 18 individual slots for maximum 18 types of components.

### IC Tray Holder

The standard TS-1 Tray Holder occupies approximately 330mm X 140mm of work area and is designed to hold a standard 316mm X 136mm JEDEC Matrix Tray. The TS-1 provides adjustability for wide variety of smaller matrix tray and waffle pack combinations and can easily be modified for custom tray configurations.

### Tray Handler System

Optional IC tray handler system can access up to 10 sets of waffle Trays automatically.

### Dispenser System

Optional stand alone dispenser head for adhesive & solder paste dispensing. Perfect for quick, small volume production without making stencil.



### Vision Inspection

With the built-in software, the camera can automatically move and display the image in the computer screen, user can manually check the printing accuracy of solder paste, quality of the soldering, accuracy of component placement, etc.

### Remote Service Kit

Optional Remote Service Kit allows a remote access to machine by Internet, so that programming, calibration and service can be done by our worldwide remote service center.

### Universal CAD Conversion

Beside the direct input of data by teach-in camera, an optional CAD conversion program for directly transfer of CAD generated pick and place data is available.

## SPECIFICATION

- Number of Heads (Vision on the Fly): 2
- Placement rate:
  - 6400 CPH (under the optimum condition)
  - 5500 CPH (IPC9850 Chip 1608)
- Feeder capacity (8 mm)
  - without conveyor: up to 160 Tape Feeders
  - with conveyor: up to 96 Tape Feeders
- IC Tray capacity:
  - up to 4 Waffle Trays
  - up to 10 Waffle Trays with TH-10 Tray (option)
- Component Size (mm)
  - Handled by head camera:
    - Smallest: 0.6 x 0.3 mm
    - Largest: 16 x 14 mm
  - Handled by fixed Bottom Vision Camera:
    - Smallest: 0.4 x 0.2 mm (option)
    - Largest: 150 x 100 mm (option)
- Resolution:
  - X / Y axis 0.005 mm Servo Motor
  - Z axis 0.02 mm Servo Motor
- Rotation:
  - 0 to 360° (0,045°/step) Servo Motor
- Placement Accuracy: +/- 0.03 mm
- X-Y Repeatability: +/- 0.01 mm
- Placement area without conveyor:
  - Max. 600 x 350 mm without Waffle Trays
  - Max. 600 x 330 mm with 1 Waffle Tray
  - Max. 600 x 190 mm with 2 Waffle Trays
- Placement area with conveyor:
  - Max. 650 x 315 mm without Waffle Trays
  - Max. 650 x 300 mm with 1 Waffle Tray
  - Max. 650 x 160 mm with 2 Waffle Trays
- Programming:
  - Direct input
  - Vision teach-in
  - CAD Access (Option)
- Component Sense: Vision detection
- Main Control: Industrial PC
- Machine Size
  - Main body: 1150 x 1100 x 1350 mm (L x W x H)
- Weight: 550 kg
- Power: 230 V / AC, 2100W
- Pressure: 75 psi (5.5 bar)

We reserve the right to make changes without notice.