

# MODEL: BA388V4 SMT PICK & PLACE MACHINE



## SUMMARY

- Suitable for 252 intelligent Auto Tape Feeder
- Max. PCB-size: 1200 x 390 mm (with conveyor), 1100 x 470mm (without conveyor)
- High Accuracy and high Flexibility for 01005, 0201, 0402, 0603, LED, 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 extra large PCB Production
- COGNEX<sup>®</sup> 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
- Dual conveyor system (option)
- Vision Inspection before and after production
- Windows XP Software
- Universal CAD Conversion
- Placement rate: up to 8,400 CPH

AUTOTRONIK BA388V4 is specially designed for long PCB board production with wide range of different feeders. With its extraordinary feeder capacity, fully loaded with as many as 252 Smart 8 mm Tape Feeders, BA388V4 is ideal for a wide variety of high-component mix product that will still fit within its massive 1200mm X 390mm placement area with conveyor, or 1100mm X 470mm placement area without conveyor.

For surface mount assembly contractors who build single component by utilizing multiple feeders, AUTOTRONIK BA388V4 which feature COGNEX<sup>®</sup> vision processing and headmounted for non-contact "Vision on the Fly" alignment, equipped with dual conveyORIZED system and intelligent operation software, ensures the high effectiveness in pick and place production run.

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SMT PICK & PLACE MACHINE



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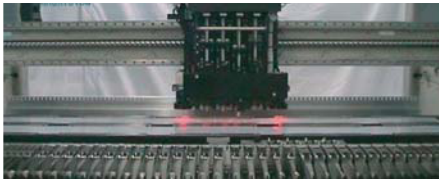
## DETAILS

### Strong and rigid mechanical design

BA388V4 using welded steel frame and also heavy duty high precision Linear Ball Rail system to provide strong, rigid and long life time mechanism.

### Enormous 1100 mm x 470 mm Placement Area with 252 Smart Tape Feeders; 1200 mm x 390 mm Placement Area with 188 Feeders and Conveyor

48-Port Smart Feeder Bases can be mounted on both the front and rear of the BA388V4 and 32-Port Smart Feeder Bases can be mounted on the left and right sides of the machine for a maximum capacity of 252 feeders. In this stand-alone configuration, a huge 1100 mm x 470 mm can be shared by PCBs and waffle trays. Placement area increases to 1200 mm x 390 mm with feeder bases mounted on only the front and rear of the system and an in-line conveyor installed.



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

The BA388V4 features COGNEX® vision processing and head-mounted for non-contact "Vision on the Fly" alignment. The machine BA388V4 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.

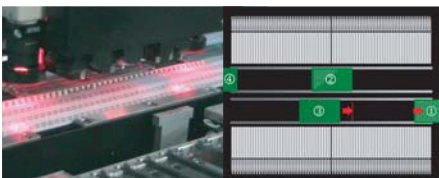


### Smart Fiducial System

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

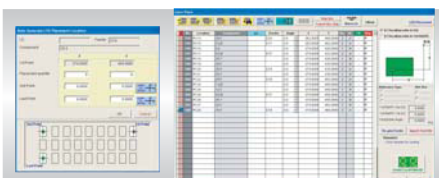
### Dual-conveyor system available as option

Dual conveyor in action will shorten the machine idle time in PCB board loading / unloading. The overall placement speed will hence be increased effectively.



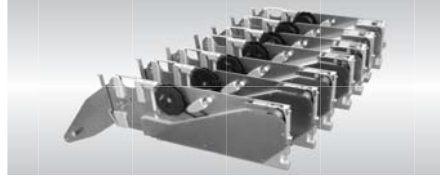
### Powerful Windows®-Based Control Software

Intelligent software allows the easy set up for the complex and repeatable LED programming.



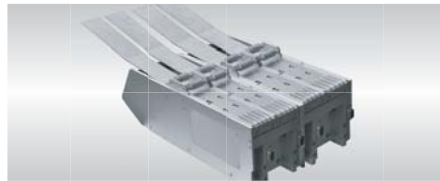
### Auto Tape Feeder (KFTA)

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 Waffle Tray Holder occupies approximately 330mm X 140mm of work area and is designed to hold a standard 316mm X 136mm JEDEC Matrix Tray. This provides adjustability for wide variety of smaller matrix tray and waffle pack combinations and can easily be modified for custom tray configurations. Up to 6 waffle trays or more can be installed.

### TEFLON LED Nozzle

TEFLON made LED nozzle in Autotronic BA388V4 machine, together with the positive air outputting pressure, is specialized design for LED application. The innovative design of Nozzle ensures the effective landing of sticky LED components.

### 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): 4
- Placement rate:
  - 8400 CPH (under the optimum condition)
  - 7000 CPH (IPC9850 Chip 1608)
- Feeder capacity (8 mm)
  - without conveyor: up to 252 Tape Feeders
- Feeder capacity (8 mm)
  - with conveyor: up to 188 Tape Feeders
- IC Tray capacity:
  - up to 9 Waffle Trays
- 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:
    - 320 x 330mm (standard support base)
    - Max. 1100 x 470mm (with option fixture)
  - with conveyor:
    - 650 x 390mm (standard conveyor)
    - Max. 1200 x 390mm (with option fixture)
- Programming:
  - Direct input
  - Vision teach-in
  - CAD Access (Option)
- Component Sense: Vision detection
- Main Control: Industrial PC
- Machine Size
  - Main body: 1780 x 1370 x 1470 mm (L x W x H)
- Weight: 1300 kg
- Power: 230 V / AC, 2800W
- Pressure: 75 psi (5.5 bar)

We reserve the right to make changes without notice.

