MODEL: BA385V1 / BA385V2
SMT PICK & PLACE MACHINE

SUMMARY

- High Accuracy and high Flexibility for 01005, 0201, SOIC, PLCC, BGA, µBGA, CSP, QFP, up to fine-pitch 0.3mm
- Non-contact Linear Encoder System for high Repeatability and Stability
- 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
- Ball Screw Systems in X- and Y-Axes
- Suitable for 128 intelligent Auto Tape Feeder

The SMT Pick & Place Machines of AUTOTRONIK series were especially designed for small and medium volume batch sizes. Various models are provided for different applications.

BA385 is using KFTA series feeder same as the feeder used for our AUTOTRONIK BA388, BA392 and BA684 series Pick & Place Machines. By this means most reliability and easy maintenance for all models is guaranteed. Preloaded Ball Screws with Servo Motor system provides high Speed, Repeatability and Stability.

Additionally, the "Vision on the Fly" alignment heads in BA385 are using Cognex® Vision System, providing high accuracy and easy learning for all different kind of components.

DETAILS

Strong and rigid mechanical design
BA385 using welded steel frame which guaranteed a strong and rigid mechanical design. Preloaded Ball Screws with Servo Motor system provides high Speed, Repeatability and Stability.
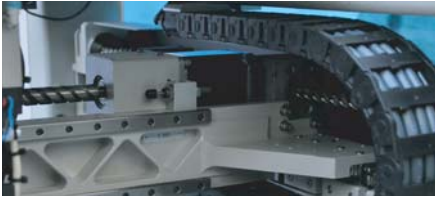
Non-contact Linear Encoder System (Option)
By using „Closed Loop" Servo Motors with non-contact Linear Encoder System, provide extremely high Repeatability and Stability.

COGNEX® Alignment System "Vision on the Fly"
The BA385 feature COGNEX® vision processing and head-mounted for non-contact „Vision on the Fly" alignment. The machine BA385 assures high-precision placement of the full range of SMDs, from the smallest 0201 devices through CSPs, µBGAs, flip-chips, ultra-fine pitch 0.3mm for QFPs, even odd-form components.
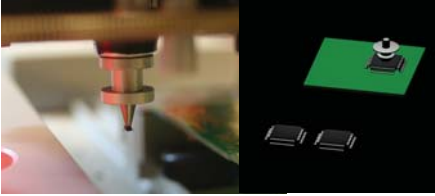
Bottom Vision Alignment System (Option)
A Bottom Vision Camera is used for large components up to 150 x 100 mm and devices with alignment features on their bottom side. Due to additional Bottom Vision Camera, the alignment of 01005 components is guaranteed.

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

Smart Fiducial System
Beside the standard fiducial mark, either square SMD PCB pad or plate-through hole also can be trained as fiducial mark. For more precise placement of fine pitch components, additional Local fiducial recognition is provided.

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

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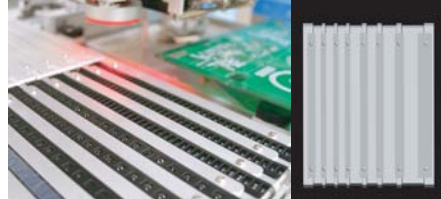
Conveyor System
The optional conveyor system with SMEMA Interface and motor-driven-width-control speeds up the handling of PCB and in-line production.

Feeder Rack (FR-32K)
FR-32K is suitable for 32 x 8 mm KFTA Feeders or for 30 x 8 mm IC-Sticks (1x KFTB-2 / 1x KFTB-4).

Buffering Nozzle
The spring buffering design of Nozzle adjust the placement pressure for different heights of components automatically.

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.

SPECIFICATION

- Number of Heads (Vision on the Fly):
  BA385V1: 1, BA385V2: 2
- Placement rate (under the optimum condition):
  BA385V1: 4500 cph, 4000 cph (IPC 9850)
  BA385V2: 6400 cph, 5500 cph (IPC 9850)
- Feeder capacity (8 mm)
  without conveyor: up to 128 Tape Feeders
  with conveyor: up to 64 Tape Feeders
- IC Tray capacity: up to 2 Waffle Trays
- Component Sense: Vision detection
- Component Sizes
  Handled by head camera:
  - Smallest: 0.6 x 0.3mm
  - 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: +/- 0.04 mm
  +/- 0.03 mm (by optional linear encoder)
- X-Y Repeatability: +/- 0.01 mm
- Placement Area
  Placement area without conveyor:
  Max. 435 x 350 mm without Waffle Trays
  Max. 435 x 210 mm with 1 Waffle Tray
  Max. 435 x 155 mm with 2 Waffle Trays
  Placement area with conveyor:
  Max. 435 x 350 mm without Waffle Trays
  Max. 435 x 160 mm with 1 Waffle Tray
- Programming:
  - Direct input
  - Vision teach-in
  - CAD Access (Option)
- Main Control: Industrial PC
- Power supply: 100V / 240V
- Power:
  BA385V1: 1510W, BA385V2: 2360W
- Pressure: 75 psi (5.5 bar)
- Machine Size: 1030 x 940 x 1250 mm (L x W x H)
- Weight: 470 kg

We reserve the right to make changes without notice.

AUTOTRONIK
Fertigungssysteme für die Elektronikindustrie