



CHAMPION 8300

Digital Dispensing System

45,000 dph High-Throughput Servo Motor Drive

The CHAMPION 8300 is a servo driven, high-throughput, automatic dispensing system designed for in-line conveyorized processes. The system can be configured to match exacting application requirements from dots to underfill with a broad array of options. Creative Automation Company's **Digital Dispensing** process achieves new levels of accuracy, speed and repeatability. A single Creative Automation **True Volume™ Pump** is capable of firing up to 90,000 precision deposits per hour to form high definition dots, lines, fills and builds - precisely shaped by true piston positive displacement. Volumetric accuracy is ensured regardless of deposit size, viscosity or temperature.

Features

Powerful, easy-to-use proprietary software. The color graphics user interface allows intuitive programming and control. Keyboard or trackball operated. The system includes a large, bright, high-contrast color TFT flat display.

Speed and Precision. For positive displacement dispensing of dots, beads or fills with speed and precision, nothing compares to the CHAMPION 8300. A precision conveyor, with antistatic belts and height compliant clamps, assures accurate and secure positioning of the board.

Versatility. From dots to lines, underfill, and encapsulation, Digital Dispensing and the CHAMPION 8300 deliver the accuracy and repeatability demanded by today's exacting applications.

Options

Camera and vision. A closed circuit camera with picture-in-picture display on the monitor, for easy programming and inspection. The Automatic Vision Correction System establishes the X, Y, and Ø orientation of the part and compensates for stretch, skew and misalignment.

Proprietary Programmable Lighting. Programmable On-Axis/Off-Axis lighting system.

Height Sensing. Both contact probe and non-contact laser are available for height sensing and height mapping.

Heating. Pre, post and work area heating in addition to needle and material heating.

Standard Features

- 3-axis brushless servo motor drive
- Precision anti-backlash ball screw drive on all axis
- High speed conveyor
- Powerful, easy-to-use Windows-style software
- LCD display
- Rugged construction and quiet operation
- Small footprint
- SMEMA compatibility and CE certification
- Full 1-year warranty

Optional Features

- Vision system with camera image on the LCD display
- Auto vision alignment and dot verification
- Programmable lighting
- Auto height mapping
- CAD download with path optimization
- True Volume™ pump dots to 1 nanoliter (0.001 µl)
- Large choice of pumps and valves
- Independently controlled multiple dispense heads
- Contact or non-contact (Laser) height sensors
- Leveling support plates, mechanical and vacuum
- Substrate, needle, and material heaters

See Reverse Side For Specifications and Options

Creative Automation Company

11641 Pendleton Street • Sun Valley, CA 91352 • Tel.: 818-767-6220 • Fax: 818-767-0123
E-mail: sales@createdispensing.com • Web Site: www.createdispensing.com

800-688-6220

CHAMPION 8300

Digital Dispensing In-line System

System Specifications

Performance

Placement Rate:	Up to 45,000 dots/hour at .1" pitch
Travel Range:	X-axis 24" (60.9 cm) Y-axis 18" (45.7 cm) Z-axis 2.5" (6.4 cm)
Board Size:	1"x3" to 18" x 20" (2.54 x 7.6 cm to 45.7 x 50.8 cm)
Lead Frames:	Down to 1" wide (2.54 cm)
Resolution:	+/- 0.0005" (+/- 12.5 µm) Z Axes +/- 0.0010" (+/- 25 µm) X & Y Axes
Repeatability:	+/- 0.0005" (+/- 12.5 µm) Z Axes +/- 0.0010" (+/- 25 µm) X & Y Axes
Positioning Accuracy:	+/- .0015" (+/- 37.5 µm)
Linear Speed:	Up to 27"/sec. (68 cm/s)
Conveyor:	Width: Adjustable to 18" (45.7 cm) Height: 36.5" to 39" (93 to 99 cm) Speed: 15"/sec. (38 cm/s)
Underboard Clearance:	1" (2.54 cm)
Standard:	SMEMA compatibility
Safety:	CE certified

Operational

Operation Mode:	Automatic Pass-Through with or without Dispensing
Control:	Industry Standard Computer with Super VGA Color LCD Display
Programming:	PowerPath™ Software with <ul style="list-style-type: none">- Teach Mode- Off-line programming- CAD Download- Unlimited Subroutine Nesting- Direct Subroutine Access- 5-level Password Protection- Operator and Supervisory Screen- Global and Local Pattern Libraries- Execute-as-you-Edit Mode
User Interface:	Windows-style with Keyboard and Trackball Operation
Data/Program:	Hard Disk/ 3.5" Diskette Drive
Power:	120 VAC, 60 Hz / 230 VAC, 50 Hz 800 Watts
Pneumatic:	75 psi, 1 cfm (5 bar, 4 l/min)

Physical

Dimensions:	44"W x 54"D x 60"H (112 cm x 137 cm x 152 cm)
Weight:	1500 lb. (680 kg)

Specifications subject to change without notice

Options

Configuration

Independently Controlled Multiple Dispense Heads
Leveling Support Plates, Mechanical and Vacuum
Multi-station Substrate Heating
(pre, post and work area)
Needle, and Material Heaters
Complete Selection of Standard and Special Tips
Automatic Needle Calibrator
Syringe Low Level Sensor

Automatic Alignment

Fiducial Alignment
Height Mapping
Programmable Lighting
Skew Correction
Stretch Correction
High Magnification Vision System
Dot Verification
Non-contact High-speed Laser Height Sensor
Contact 1 gram Mechanical Height Sensor

Pumps and Valves

Piston Positive Displacement Pump
Low Viscosity Positive Displacement Pump
Diaphragm Valve
Very High Viscosity Spool Valve
Rotary Screw Valve
Syringe Dispenser

Innovative Solutions Since 1968

For over 30 years, Creative Automation Company has provided customers with automated manufacturing solutions. The company has set the industry standard in dispensing with over 19 patents, developing innovative concepts based on proven, leading edge technologies.

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