

Exceptional capability for
precision, speed, and
remarkable overall
performance make
Prodigy a dispense
system ahead of its time.



Camalot® Prodigy™

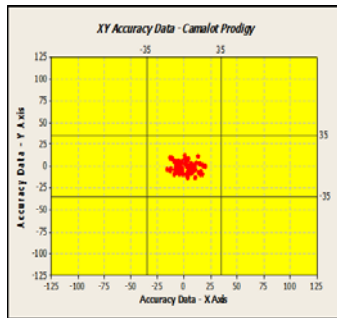
Dispensing System

Higher Performance, Lowest Cost of Ownership

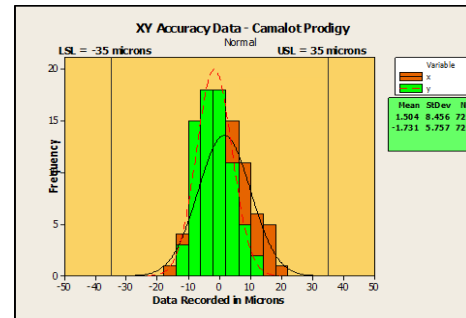
Camalot Prodigy

BRILLIANT PERFORMANCE

Prodigy is designed and built to deliver high-speed, extremely accurate dispensing. To enable 1.5g's of acceleration, Camalot engineers resourced more than two decades of experience with linear motors and advanced motion control systems. A state-of-the-art XY gantry system is the heart of this next generation dispenser. A new, innovative and rigid frame design combined with advanced linear drive architecture enables fast point to point moves, high accuracy and long term repeatable performance.



XY dot placement accuracy
+/-35 microns @ 3 sigma
At full system speed
1.5g of peak acceleration



ADVANCED PUMP TECHNOLOGY

Superior pump technology is the key to accurate and repeatable precision dispensing, Camalot owns and designs all of the pumps offered on our systems. These proprietary pump technologies are fully integrated within the motion control system and driven by innovative software controls to create a robust dispense process. Closed-loop control provided by a weight scale and vision inspection techniques facilitates a “hands off” setup and allows a continuous means to monitor and maintain the tightest of process requirements.

PUMP OPTIONS AND FEATURES



NanoShot™

- Ideally suited for underfill and UV coating
- Next generation of “jetting” technology
- High speed - Up to 600 Hz
- Auto-tune feature for automatic calibration
- Fine resolution - Dot sizes < 300 microns
- Capable of 50,000 DPH
- Patent pending technology
- Minimal maintenance and quick changeover



635 SD

- Ideally suited for dot type application of most materials
- Configurable with footed or un-footed needles
- Precise material delivery and a controllable dispense speed
- Removable cartridge for easy cleaning
- Fine pitch auger screw available for MicroDot applications



SmartStream®

- Non-contact dispense pump is well-suited for underfill applications
- Patented design uses a positive displacement technique to create a stream of material
- Auto-tune feature allows for automatic calibration of dot size during setup and production
- Closed-loop servo drive ensures fast, repeatable performance
- Narrow stream width for access into densely packed areas
- “Hot Swap” changeover concept allows cleaning in <2 minutes



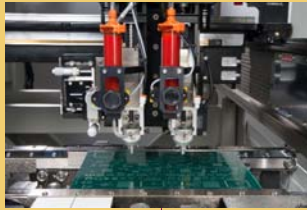
680 SD

- Ideally suited for line type applications with viscous materials
- Incorporates a patented positive shutoff/no drip design
- Carbide parts are standard to minimize wear from abrasive materials
- High material flow rates
- Optional needle heater

Camalot Prodigy

Dual Head Modes

Dual head configurability allows dispensing of two different materials within one process. Both Z-axes are independently controlled, facilitating both high positional accuracy and fast axis movement.



With identical pumps and materials configured to both heads, the platform allows for two patented modes of operation. Synchronous mode operates both pumps simultaneously and reduces dispense time by approximately 50%.



Gantry System

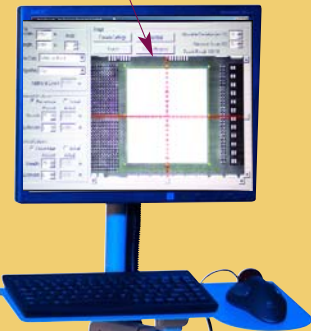
Rigid frame design utilizes a powerful and highly accurate linear drive system that's proven to deliver 35 micron accuracy at full system speed.

Part Handling

Configurable transport system allows for up to 3 conveyor zones. The system also offers an innovative board staging option that can double the dispense area in the X direction, allowing product of >900mm to be processed.

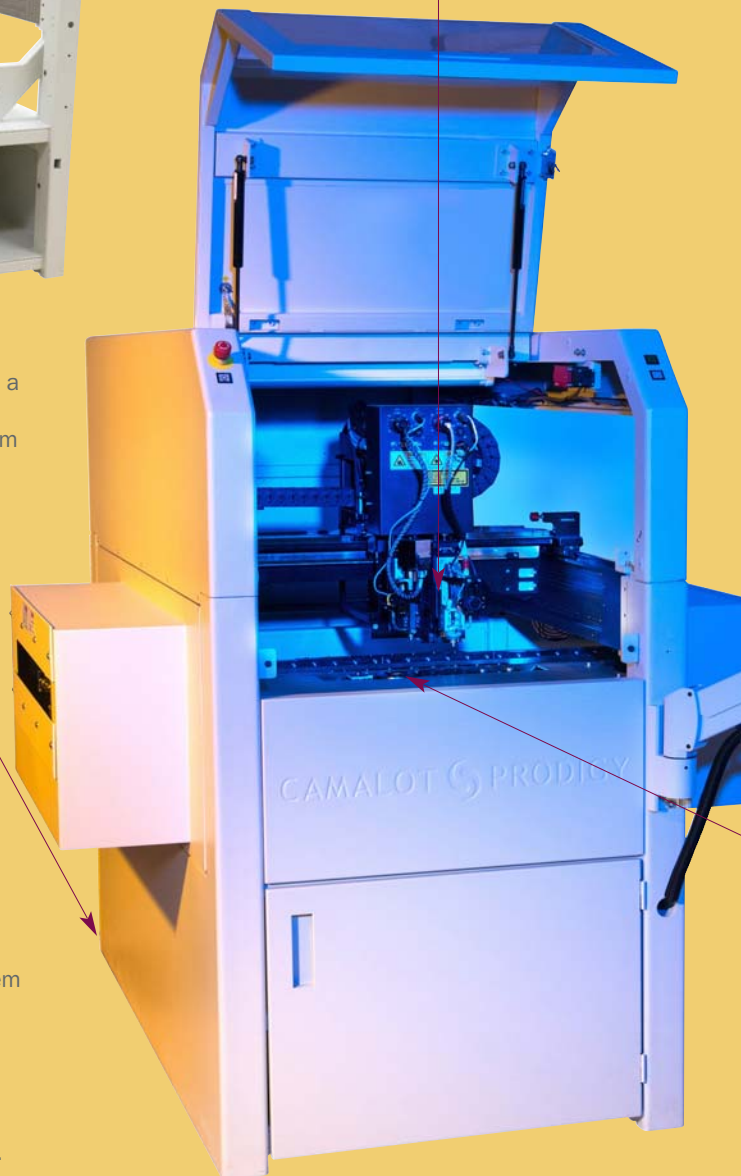
Digital Auto Vision

Powerful optics and processing algorithms allow for sub-pixel definition maximizing the capability for locating fiducials, and components/pad edges. Inspection is also a vision option that allows the system to automatically monitor materials deposition on actual product.



Dual Mode Weight Scale

Patented closed-loop weighing process allows measurement of dispense patterns for maximum accuracy. In addition, a unique auto tune feature enables control of individual droplet sizes from our pump systems.



WORLD HEADQUARTERS

16 Forge Park, Franklin, MA 02038
Tel: +1 (508) 520-0083
Fax: +1 (508) 520-2288
info@speedlinetech.com

www.speedlinetech.com

MANUFACTURING AND CUSTOMER SUPPORT FACILITIES

ACCEL/ELECTROVERT

1629 Old South 5, Camdenton, MO 65020
Tel: +1 (573) 346-3341
Fax: +1 (573) 346-5554

CAMALOT/MPM

16 Forge Park, Franklin, MA 02038
Tel: +1 (508) 520-0083
Fax: +1 (508) 520-2288

ITW Speedline Equipment (Suzhou) Co., Ltd.

Blk F, Export Processing Zone
200 Su Hong Middle Road
Suzhou Industrial Park
Jiangsu, P.R. China 215021
Tel: +86 512 6258 8850

SALES AND CUSTOMER SUPPORT OFFICES

MEXICO

Carretera Base Aerea #5850
Km. 5 Edificio 21
Zapopan, Jalisco, Mexico
Tel: +52 (33)33-65-6511
Fax: +52 (33) 38-18-9019

EUROPEAN OFFICE

Im Gefierth 14
D-63303 Dreieich, Germany
Tel: +49 (0) 6103-8320
Fax: +49 (0) 6103-832-299

ASIA/PACIFIC

500 Chai Chee Lane
Singapore 469024
Tel: +65-6286 6635
Fax: +65-6593 0175

© 2013 Speedline Technologies

Speedline, Camalot and SmartStream are trademarks of Speedline Technologies or its subsidiaries and affiliated companies. Windows is a registered trademark of Microsoft Corporation. All other brands may be trademarks of their respective holders.

12/13

CAMALOT PRODIGY SPECIFICATIONS

| | |
|-------------------------|---|
| SMT Applications | SMA, solder paste, conductive adhesives |
| Semiconductor Packaging | Underfill, encapsulant, thermal grease, lid seal, die attach, spacer bead epoxies |

XY AXIS

| | |
|------------------------|-----------------------------------|
| XY Placement Accuracy* | +/-35 microns (0.0014") @ 3 sigma |
|------------------------|-----------------------------------|

| | |
|----------------|-------------------------|
| Repeatability* | +/-10 microns @ 3 sigma |
|----------------|-------------------------|

| | |
|-------|-------------------------|
| Speed | 1000 mm/sec (39.4"/sec) |
|-------|-------------------------|

| | |
|--------------|-----------|
| Acceleration | 1.5g peak |
|--------------|-----------|

| | |
|--------------------|-------------|
| Encoder Resolution | 0.5 microns |
|--------------------|-------------|

| | |
|---------------------|------------------------|
| Gantry Drive System | Linear motors/encoders |
|---------------------|------------------------|

Z AXIS

| | |
|------------------|----------------------------------|
| Z Axis Accuracy* | +/-25 microns (0.001") @ 3 sigma |
|------------------|----------------------------------|

| | |
|----------------|-------------------------|
| Repeatability* | +/-10 microns @ 3 sigma |
|----------------|-------------------------|

| | |
|-------|-------------------------|
| Speed | 187.5 mm/sec (7.4"/sec) |
|-------|-------------------------|

| | |
|--------------------|-------------|
| Encoder Resolution | 0.6 microns |
|--------------------|-------------|

| | |
|-------------|---------------------------------------|
| Z-Axis Type | Closed-loop DC servo, Ballscrew drive |
|-------------|---------------------------------------|

| | |
|--------------|-----------|
| Z-Sense Type | CCD laser |
|--------------|-----------|

DOT PLACEMENT PERFORMANCE

3.00mm pitch**

| | |
|--------|------------|
| Needle | 40,000 DPH |
|--------|------------|

| | |
|--------------|------------|
| SST/NanoShot | 50,000 DPH |
|--------------|------------|

TRAVEL

| | |
|---------------------------|-----------------------------|
| Max Dispense Area (XY)*** | 457 mm x 558 mm (18" x 22") |
|---------------------------|-----------------------------|

BOARD HANDLING

| | |
|---------------|----------------------------------|
| Conveyor Type | Flat belt with auto width adjust |
|---------------|----------------------------------|

| | |
|--------------------|----------------|
| Min Conveyor Width | 25.4 mm (1.0") |
|--------------------|----------------|

| | |
|-----------------------|----------------|
| Above Board Clearance | 25.4 mm (1.0") |
|-----------------------|----------------|

| | |
|----------------------|----------------|
| Underboard Clearance | 30.5 mm (1.2") |
|----------------------|----------------|

| | |
|------------------|---------------------------------|
| Transport Height | 895 mm to 965 mm (35.2" to 38") |
|------------------|---------------------------------|

| | |
|----------------------|--|
| Conveyor Options SMT | SMT edge clamps w/vacuum support, 3 or 5 mm rail inserts |
|----------------------|--|

| | |
|----------------------|---|
| Conveyor Lift Chucks | 13" x 10" or 10" x 10" area - Contact with vacuum or non-contact convection heating |
|----------------------|---|

| | |
|-------------------------|------------------|
| Chuck Temperature Range | Ambient to 130°C |
|-------------------------|------------------|

*At Full Speed

**0.5mm dot diameter 2.5mm needle lift

***Consult factory for specifics.

Electronic data sheet available on request.

Specifications are subject to change without notice.

STANDARD FEATURES

| | |
|---------------------------|-------------------------|
| Auto-Width Conveyor | XYZ calibration station |
| Pre-dispense Station | Purge station |
| Flip Chip Calculator | Auto-vision alignment |
| Material low level sensor | Digital Camera System |

ADDITIONAL OPTIONS

| | |
|-------------------------|---------------------------------------|
| Dual Mode Weight Scale | Die edge detection algorithms |
| Needle Cleaner/Detector | 2nd Dispenser head upgrade |
| Laser height sensor | Bulk material feed options |
| Vision System | Dual on axis lighting with CCD camera |

| | |
|-----------------------------|-------------------------------------|
| Computer & Operating System | Desktop PC with Microsoft Windows 7 |
|-----------------------------|-------------------------------------|

| | |
|-----------------|--|
| Program Storage | Local hard drive, DVD-RW, Ethernet and USB ports |
|-----------------|--|

| | |
|----------------|---|
| Program Method | Teach camera, off-line programming, or text file download |
|----------------|---|

FACILITIES

| | |
|--------------------|------------------------------|
| Power Requirements | 200 to 250 VAC, 50/60 Hz 20A |
|--------------------|------------------------------|

| | |
|-------------------------|---|
| Air Supply Requirements | 10 CFM (4.7l/s) at >80 PSI (5.5 bar) filtered @ 5 microns |
|-------------------------|---|

| | |
|-------------------------------|--|
| Machine Footprint (W x D x H) | 830 mm x 1735 mm x 1530 mm (32.7" x 68.3" x 60.2") |
|-------------------------------|--|

| | |
|----------------|--------------------|
| Machine Weight | 992 kg (2187 lbs.) |
|----------------|--------------------|

Crated Weight

| | |
|----------|--------------------|
| Domestic | 1213 kg (2674 lbs) |
|----------|--------------------|

| | |
|---------------|--------------------|
| International | 1339 kg (2952 lbs) |
|---------------|--------------------|

| | |
|-------------------------------|--|
| Crated Dimensions (W x D x H) | 2134mmx1753mmx2032mm (84" x 69" x 80") |
|-------------------------------|--|

| | |
|--------------------|-------------------------|
| Industry Standards | SMEMA, CE, SEMI S2 & S8 |
|--------------------|-------------------------|

ABOUT SPEEDLINE TECHNOLOGIES

Speedline Technologies is the global leader in process knowledge and expertise for the PCB assembly and semiconductor industries. Based in Franklin, Massachusetts, U.S.A., the company markets five best-in-class brands — Accel microelectronics cleaning equipment; Camalot dispensing systems; Electrovert wave soldering, reflow soldering, and cleaning equipment; and MPM stencil and screen printing systems. For more information, visit us at www.speedlinetech.com.

Speedline Technologies maintains an ongoing program of product improvement that may affect design and/or price. We reserve the right to make these changes without prior notice or liability.



Knowledge in process
An ITW Company