

## Standard Features

### ADVANCED TECHNOLOGY WITH FLEXIBILITY TO HANDLE ANY APPLICATION



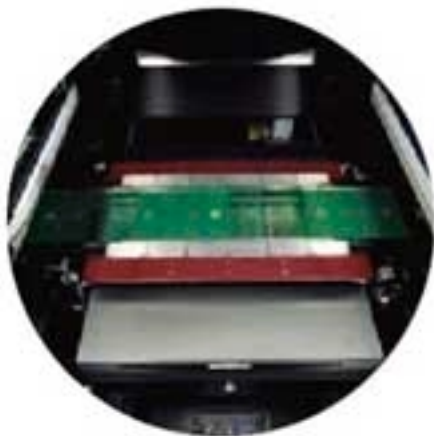
- Large board capacity  
22" x 20" (optional 27" x 20")
- Variable print direction (0, 45 or 90 degree print angle).
- High throughput - Sub - 6 second minimum cycle time with print.
- Advanced board/stencil release capability for repeatability.

### NEW PRINT ENGINE

- Solid casting design for stiffness.
- Servomotor control in Theta and Z-axis motion for increased reliability and resolution.
- Dynamically tuned to frame for accuracy during movement.
- Snap-off soft control for the best print results regardless of application.



*UP3000 Ultraflex Print Engine*



*New Centernest Design*

### NEW CENTERNEST DESIGN

- Triple track conveyer system.
- Automatic track width for hands free changeover.
- New advanced snugging system for below board surface clamping.
- New flipper design that handles the most difficult warped boards.

## VISION SYSTEM

- Patented Look-up/Look-down vision alignment.
- Closed-loop feedback.
- Alignment Repeatability  $\pm 0.001"$  @ 6 Sigma, Cp > 2.00
- Unlimited fiducial type recognition.



Advanced Vision System

## BALANCED CONTROL PRINT HEAD

- True closed-loop feedback control.
- Adjusts and maintains pressure 5 times per second.
- Left to right pressures, Down-stop and programmable print speeds can be independently programmed for front and rear blades.
- Tactile Sensor calculates stencil position for accurate Down-stop and Snap-off distances.



Snap-off User Interface

## ADVANCED SOFTWARE CONTROLS

- Statistical Process Control (SPC) screens.
- SPC trend analysis in Auto Print Mode.
- Easy to use Teach menu's.
- Setup screens for parameters that can handle any process application.
- New Snap-off menu's - Normal, Fast, Fine Pitch and Custom screen to deliver the best print results for today's and tomorrow's technology.

## Options

## AUTOMATIC PIN PLACEMENT

- Infinite pin configurations.
- Accuracy of placement of 0.030".
- Programming can be done via a software grid vision system or utilizing off-line software tools.
- Eliminates the need for dedicated tooling plates for flexible manufacturing for double sided applications.



UP3000 Ultraflex Auto Pin Placement

## AUTOMATIC INSPECTION TOOLS

- Auto board thickness measures warpage and variations in board thickness - compensating the Z-axis or giving a warning before substrate is used.
- 2D inspection determines paste coverage within 5%.
- Custom BGA adapts to any configuration.
- Mask feature and array mode insures accuracy and cycle time.
- 3D inspection determines paste height within 0.0005" and can be graded on height of individual pads or standard deviation of the entire component.
- Low contrast 2D and vision handles difficult applications such as ceramic substrates.

## VACUUM STENCIL WIPER

- Paper over plenum design for optimum wiping and vacuuming performance.
- Captivated solvent system accurately dispenses solvent for difficult applications.
- Software control for a different profile with each wipe.
- Paper can be indexed for performance or stationary during wipe for paper savings.



Rheometric Pump

## RHEOMETRIC PUMP

- Quick change tooling allows changeover from Blades/Pump - Pump/Blades in under two minutes.
- Closed-loop pressure control checks pressure 40 times per second throughout stroke.
- Standard sizes 8, 10, 12, 14, 16 to match a variety of board sizes.
- Consistent paste delivery system for optimum print results over time.

## STENCIL EXCHANGER

- Holds up to 6 - low profile (0.375") stencils or 1 (standard) or 2 (optional) 29" x 29" stencils.
- Software assigns address to stencil for location.
- Allows UP3000 Ultraflex to be used in a true "lights out" application.

## PASTE DISPENSER

- Six or 12 ounce cartridge sizes.
- Software control profiles paste amount on stencil.
- Automatically applies paste for proper stencil paste levels.

## ENVIRONMENTAL CONTROL SYSTEM

- Properly maintains temperature and humidity.
- 10,000 BTU air conditioner - 1,400 watt heater.
- Temperature tolerance  $\pm 2^{\circ}\text{F}$  - Humidity  $\pm 10\%$ .

UltraFlex 3000	
BOARDHANDLING	
Maximum board size (X x Y)	22" x 20" (558.8mm x 508mm) (27" x 20" optional)
Minimum board size (X x Y)	2" x 1.5" (50.8mm x 37.2mm)
Board thickness	0.01" - 0.5" (0.254mm - 12.70mm)
Board edge clearance top	0" (0mm)
Board edge clearance bottom	0.157" (4.0mm)
Under board clearance	1.0"
Transport speed	0 - 40 IPS
Track parallelism	0.015" (0.38mm)
PRINT PARAMETERS	
Maximum print area	21.76" x 19.76" (552.7mm x 501.9mm)
Squeegee down-stop	+0.10" to -0.25"
Squeegee speed	0.25" - 8.0" IPS
Print pressure	1 - 50, ?0.1 psi (14.7 - 735, ?14.7 bar)
Print stroke	30.5"
Frame size	29" x 29" (adapters to handle any style stencil)
VISION	
Viewing area	24" x 22" (609.6mm x 558.8mm)
Field of view	0.4" x 0.3" (10.16mm x 7.62mm)
Gantry speed	50"/sec (1270mm/sec) minimum
Camera system	Single camera - Look up/down vision
PERFORMANCE	
Alignment repeatability	$\pm 0.0001$ " at 6 Sigma, Cp+ 2.0
Cycle time	Sub - 10 seconds (including print)
OPERATING REQUIREMENTS	
External power	208 - 240 VAC @ 60/50 Hz (5%) 30 Amps
Pneumatic	100 psi @ 25 CFM (6.8 bar @ 707.9 liters/min) to 125 psi @ 10 CFM (8.6 bar @ 283.2 liters/min)
Temperature	50 - 90F (10 - 35C)

### MACHINE DIMENSIONS

Conveyor length	63.0" (1600.2mm)
Printer width	63.0" (1600.2mm)
Printer depth	89.0" (2260.6mm)
Printer height	60.0" (10" adjustment) (1524mm plus 254mm)
Printer weight	3400 lbs. (1542.24 kg)