



# MAX II Dispense System

## Heated, High Precision Dispenser

- **Work Area:** up to 14.1" x 12"
- **Pump Capability:** Up to Two Pumps
- **Heat Capability:** Yes

### MAX II dispense system

is a compact, high accuracy system designed for today's advanced heated dispensing applications such as underfill, dam & fill, and COB encapsulation. This inline system can use up to three heated zones, each capable of handling substrate sizes up to 36 cm x 31 cm (14.1" x 12") and temperatures up to 150° C. Heat can be conducted via contact or forced air.

**The rock-solid unibody Zanite frame** ensures all systems meet our stringent accuracy specifications of  $\pm 0.001"$  ( $\pm 0.025$  mm). All systems are calibrated with our Contour Mapping™ process. This process maps gantry motion to a known glass plate, compensating for slight positional changes over the entire work area. This calibration process can easily be done in the field.

**GPD Global's universal tool mounting design** uses our tool-less Taper Lock™ system, so pump removal and mounting is fast and easy.

**MAX II is available with up to two dispense pumps** as required by process requirements. This system can address any heated application when paired with one or more GPD Global dispense pump families.

For small die and COB encapsulation, the Jetting Pump (NCM5000) offers repeatability and high-speed processing. For high volume applications like large BGA underfill, the Volumetric Pump (PCD) offers high accuracy / high speed dispensing. When thick or abrasive fluids are required, the versatile and wear-resistant Precision Auger Pump dispenses using carbide parts. For underfill or other applications with multiple timed passes, the exclusive and powerful FLOWare® software incorporates smart path analysis (UltiPath™) that selects an optimized dispense path for minimum delays between multiple pass components.

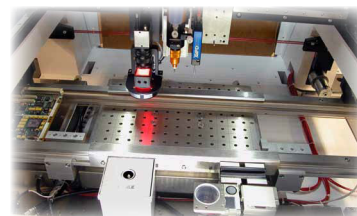
**Real Time Process Control System (FPC).** Coupling our real time FPC accessory with a Precision Auger Pump further enhances dispense performance.

### Common Applications

Dispense Material	Application
Underfill	Low viscosity for bottom-side die encapsulation.
Dam & Fill	Two pump application dispensing high viscosity fluids.
COB Encapsulation	Encapsulate small wire bonds.
* Contact GPD Global about additional applications.	

### Standard Features

- Heat & Vacuum Control Module for Work Area
- Tool-less Mounting for Single Pump
- Computer-controlled Syringe Pressure
- Automatic Backlit XYZ Nozzle Calibration
- Contact Surface Sensing
- Automatic Nozzle Cleaning
- Automatic Digital Vision Alignment
- Red/Blue Illuminator for Camera
- FLOWare® Operating Software with Smart Path Optimization (UltiPath™)



### Add-On Options

Common Options*	Description
Pre-heat	Save time by heating product before it arrives in the work area.
Post-heat	After flow; after underfill or encapsulation.
Thermal Imaging Temperature Monitor	Measure temperature of product before processing.
2nd Dispense Station	Enables a second dispense pump to be mounted.
Process View Camera	1 or 2 stations. View the dispense process at dispense tip on external monitor.
ClearVu™ Vision	Programmable zoom and focus camera.
Laser	Non-contact surface sensing.
Weight Scale	Process/Pump calibration.
FPC	Real time process control for pump(s).
UPS	Uninterrupted power. Safely shuts down system in case of power loss.
* Contact GPD Global about additional options and features.	



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# MAX II Dispense System

## Pump Compatibility

Application	Pumps / Accessories
Dam & Fill or abrasive fluids.	Precision Auger Pump
Low viscosity, high speed underfill.	Jetting Pump (NCM5000)
Large volume underfill application or encapsulation.	Volumetric Pump (PCD)
Real time process control.	Fluid Pressure Control (FPC)

## Specifications

### Capacity

Dispense pumps ..... Up to 2 pumps  
Heat limits ..... Ambient to 150° C ± 3° C (302° F ± 5° F)

### Performance

Accuracy\* ..... ±0.0254 mm (±0.001")  
Repeatability (per axis) ..... ±0.0152 mm (±0.0006")  
Speed ..... Up to 45,000+ DPH w/NCM5000 Jetting Pump  
Linear Speed ..... 69 cm/sec (27"/sec)  
\*With system mapping over standard work area.

### Dimensions & Weight

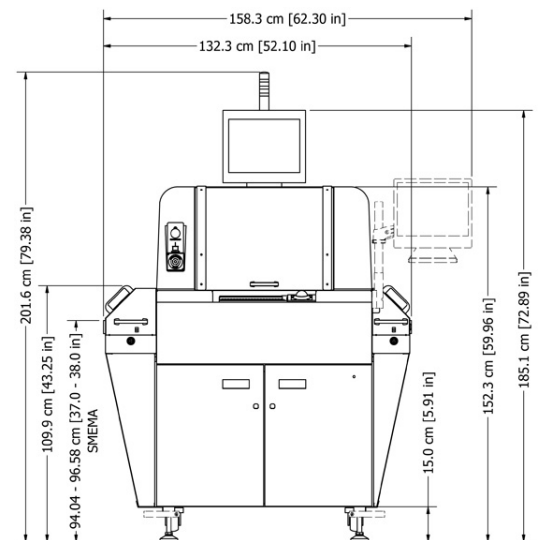
Work Area (X, Y, height):  
2 pump stations ..... 31 x 31 x 8 cm (12" x 12" x 3.25")  
1 pump station ..... 36 x 31 x 8 cm (14.1" x 12" x 3.25")  
Footprint (W x D x H) ..... 135 x 119 x 199 cm (53" x 47" x 78.5")  
Crated Weight (approximate) ..... 1089 kg (2,400 lbs)  
Crated Dimensions (W x D x H) ..... 178 x 160 x 183 cm (70" x 63" x 72")

### Power

Voltage ..... 230 Volts AC  
Frequency ..... 50/60 Hz  
Amperage (maximum) ..... 20 amps @ 230 Volts  
Use dedicated external circuit breaker/fusing or properly rated branch fusing.

### Air & Ventilation

Pressure, clean dry air ..... 552 kPa (80 psi)  
Flow rate (maximum) = sum of flow for each system present:  
Machine ..... 113 l/min @ 600 kPa (4 CFM @ 87 psi)  
Optional Pre-Heat Vacuum ..... 113 l/min @ 600 kPa (4 CFM @ 87 psi)  
Optional Post-Heat Vacuum ..... 113 l/min @ 600 kPa (4 CFM @ 87 psi)  
Air Fitting Thread† ..... 1/4" NPT  
Exhaust ports‡ ..... up to 3 ports, each 101.6 mm (4") diameter  
Ventilation flow rate per port ..... 7,079 l/min (250 CFM)  
†Customer supplies connection hardware.  
‡Customer supplies ducting to exhaust port. Port count is configuration dependent (pre-heat, nest, post-heat)

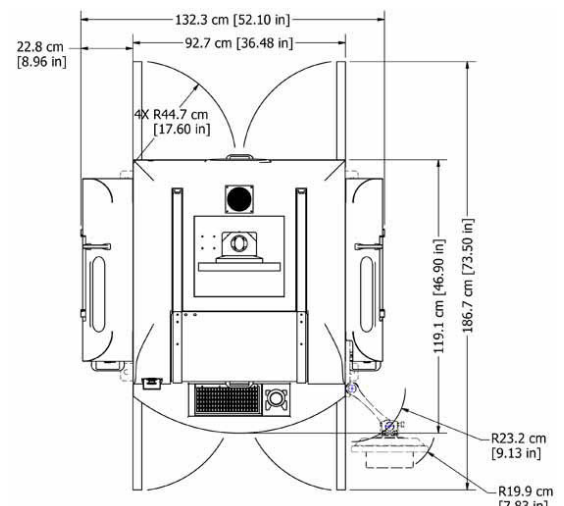
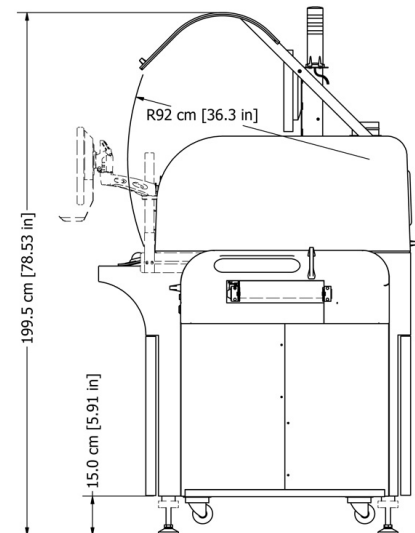


Vertical dimensions are adjustable ±1.00" (±2.54 cm).

A - Optional Pre-heat

B - Optional Post-Heat

C - Optional swivel arm-style monitor



Left-to-Right direction of flow is standard; however  
Right-to-Left is configurable at time of order.

**GPD Global**  
Precision Dispensing Systems

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