



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 ± 0.001 " (± 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.

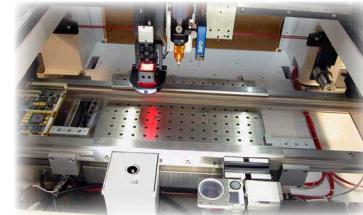
Common Applications

| 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.

GPD **Global**
Precision Dispensing Systems

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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.

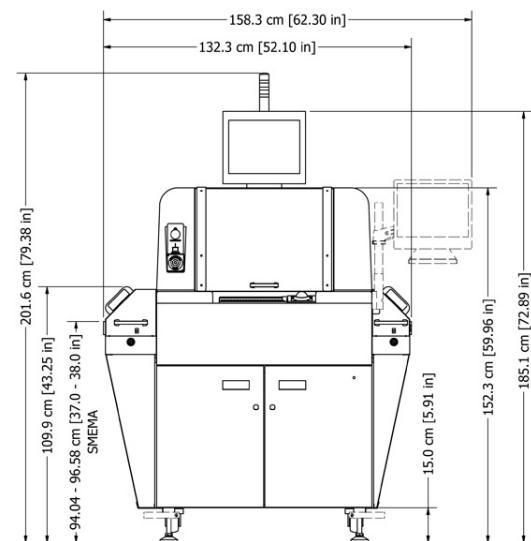
Air & Ventilation

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)

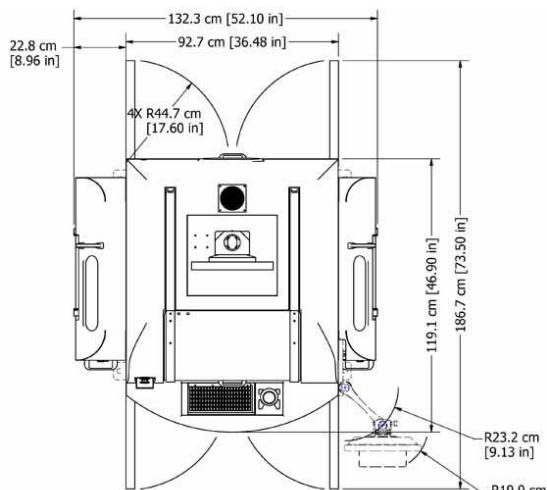
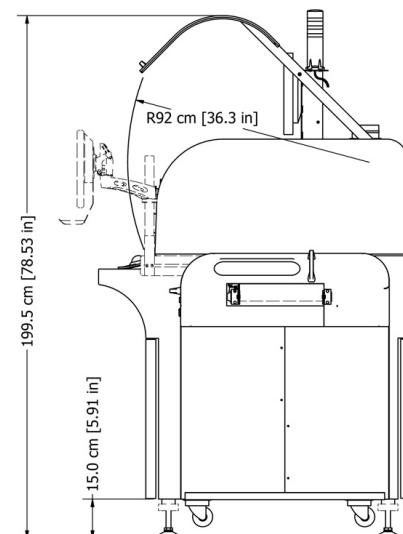
†Customer supplies connection hardware.

‡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.