

# PROCESS PLATFORM: MILLENNIUM® M-620 SERIES

## MILLENNIUM M-620 SERIES:

### HIGH-VOLUME INLINE ENCAPSULATION SYSTEM

The Millennium® M-620 Series system is a fully automatic, closed-loop controlled fluid dispensing system configured for high-volume inline semiconductor encapsulation. It is suitable for contract manufacturers underfilling CSPs in cell phones and PDAs, and provides tight control over part handling, thermal management, and fluid delivery processes. The system ensures high-production yields for your specific application requirements including underfill of flip chips, chip-on-board assembly, glob top, dam & fill, and cavity fill operations.

Asymtek's exclusive Fluidmove® for Windows NT® software controls all machine parameters and events to achieve high-level system performance within a familiar Windows® environment. Online documentation is provided, including context-sensitive help functions, software-prompted setup, and system shutdown processes.

The system features a flexible material handling system that can be configured for a variety of substrate types and sizes. Process carriers, lead frames, and multiple substrate carriers are all supported through flexible Millennium architecture. Multi-zone substrate heating with dedicated contact or impingement heating ensures a reliable thermal environment. Asymtek's patented Mass Flow Calibration system offers Millennium closed-loop process control of fluid delivery and temperature regulation, automatically compensating for changes in fluid viscosity that occur during the production cycle.



### FEATURES

- Supports a full range of inline, advanced IC encapsulation applications with field-proven, closed-loop control of fluid delivery and thermal management
- Patented Mass Flow Calibration ensures accurate, repeatable fluid dispensing volumes
- Pattern Recognition System reliably locates dispensing sites in both wirebonded die and flip chip formats
- Flexible material handling system supports process and multiple substrate carriers and lead frames
- Compact footprint conserves valuable production floor space

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# M-620 SYSTEM SPECIFICATIONS:

## MOTION SYSTEM:

Type:	Brushless DC stepper motor
X-Y Velocity:	381 mm/s (15 in./s)
X-Y Repeatability:	±0.025 mm (0.001 in.), 3 sigma
Z-Axis Repeatability:	±0.025 mm (0.001 in.), 3 sigma
Positional Accuracy:	±0.13 mm (0.005 in.), 3 sigma
Z Travel (Maximum):	89 mm (3.5 in.), typical configuration with NER lighting and without needle installed; actual Z travel is application-dependent

## DISPENSE AREA:

DP-3000 Pump (Single Action):	355.5 x 269.1 mm (14 x 10.6 in.)
DP-3000 and DV-6000 Pumps (with optional dual-action dispensing head):	269.1 x 269.1 mm (10.6 x 10.6 in.)

## VISION AND LIGHTING:

Vision:	ITI vision system with Pattern Recognition System
Lighting:	NER DOAL® (Diffuse On-Axis Light™)

## CONVEYOR:

Type:	SMEMA-compatible, programmable o-ring style conveyor with pre-dispense, dispense-heat, and post-dispense stations Motorized width adjustment from 50.8 mm (2.0 in.) minimum to 317.5 mm (12.5 in.) maximum Conveyor speed programmable to 254 mm/s (10 in./s) maximum
Flow Direction:	Configurable for left-to-right (standard) or right-to-left flow
Carrier Width:	266.7 mm (10.5 in.) maximum 38.1 mm (1.5 in.) minimum

Note: Removal of factory-standard, one-inch conveyor spacer block results in maximum width of 292.1 mm (11.5 in.)

## COMPUTER:

Computer:	Pentium®-based PC, monitor, mouse
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## SOFTWARE:

User Environment:	Fluidmove® for Windows NT®
Operating System:	Windows NT
Software Option:	SECS/GEM Interface
Networking Option:	Network interface card (Twisted pair Ethernet support)

## FLUID DELIVERY METHOD:

DP-3000 Linear Pump
DV-6000 Pump
DV-7000 Heli-flow™ Pump

## CUSTOM TOOLING (OPTIONAL):

Impingement:	Non-contact forced-air heating
Contact:	Vacuum pull-down with contact heating

Note: Tooling design dependent on application

## FACILITIES REQUIREMENTS:

System Footprint:	See illustration
Power, Main:	110/120/220/240 VAC, 50/60 Hz, 10A single phase
Power, Tooling:	220/240 VAC, 50/60 Hz, 30A single phase
Air Supply:	552 kPa (80 psi, 5.5 Bar), up to 85 l/min (3 SCFM) maximum depending on configuration
System Weight:	431 kg (950 lbs.)
Noise:	<70 dBA
Standards Compliance:	SMEMA CE

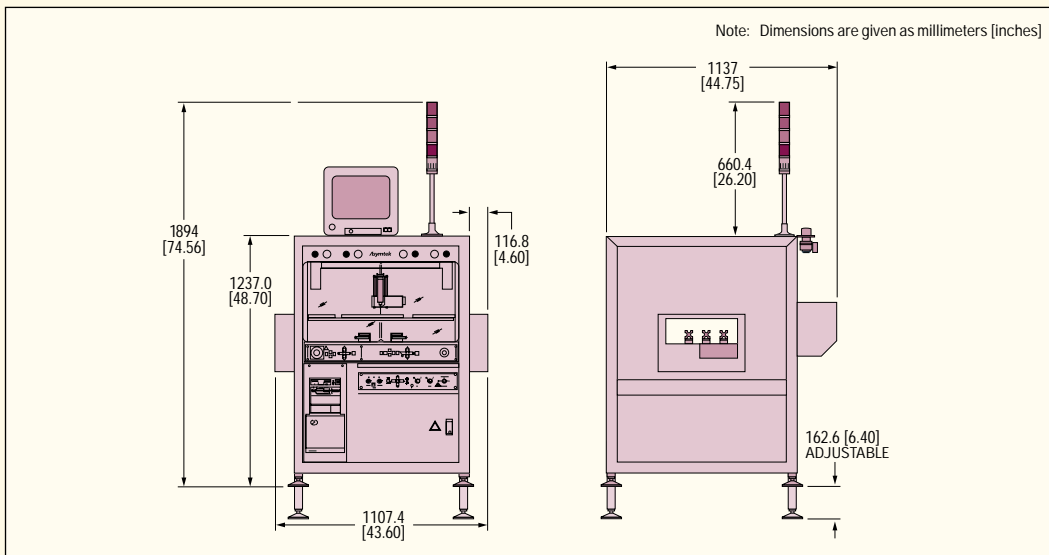
## OTHER STANDARD FEATURES:

Plumbed for contact or impingement three-station substrate heating  
Needle sensor  
Needle heater  
Vacuum purge station

## OPTIONAL FEATURES:

Dual Moritex lighting  
Free-standing loaders  
Custom tooling  
Dual-action dispensing head  
Height sensor  
Low fluid sensor  
Low pressure alarm

Additional options are available. Contact us for further information.



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Asymtek reserves the right to make design changes to products to improve their function. These changes may occur between printings. Contact Asymtek for your specific application requirements.

Please contact these locations for the name of your local representative:

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