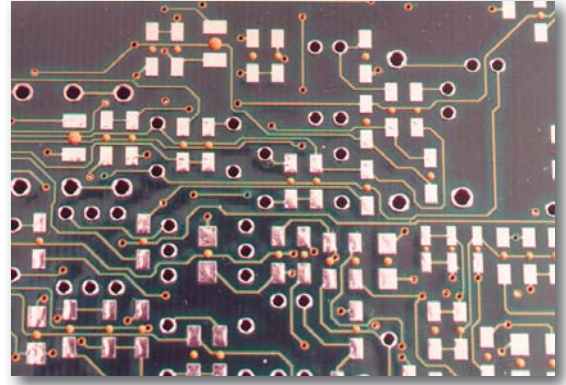


SMT Adhesive

High Speed Processing

PROCESS

SMT Adhesive is a very well defined process for dispensing systems. It can nearly be called the first real process for dispensing systems beginning in the mid 1980s. This process step is used to hold components on a substrate that require double sided processing. Additionally, it is used to add extra holding power for larger components that are exposed to high shock environments.



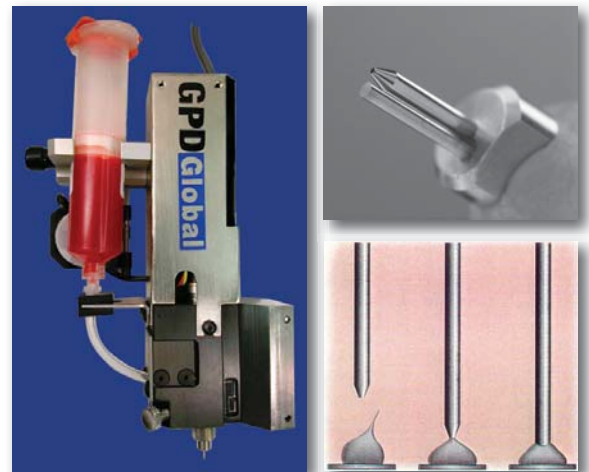
EQUIPMENT

The GPD Global® MAX Series and DS Series™ dispense systems are well suited to Adhesive or Solder Paste dispensing. Both systems are available in standalone or inline configurations.

The DS Series™ equipment is recommended for products that require a work area up to 24" x 24" (609 mm x 609 mm) and also for applications that require versatility in process; that is, multiple materials on the same substrate or high mix production. Theoretical maximum dispense rates for the DS Series™ are at 28,000 dph with actual throughputs in the range of 20,000 dph for SMT Adhesive.

The MAX Series has been designed as a true production system, from the unibody frame to the redesigned gantry. MAX Series systems are able to keep pace with the fastest of Pick and Place systems. The MAX Series, with its expanded work area of 14.1" x 12" (358 mm x 305 mm) and single dispense station configuration, is the perfect choice to handle most large production boards. Maximum throughputs for the MAX Series using Auger Valve technology are an impressive 36,000 dph with actual throughputs of more than 25,000 dph for SMT Adhesive.

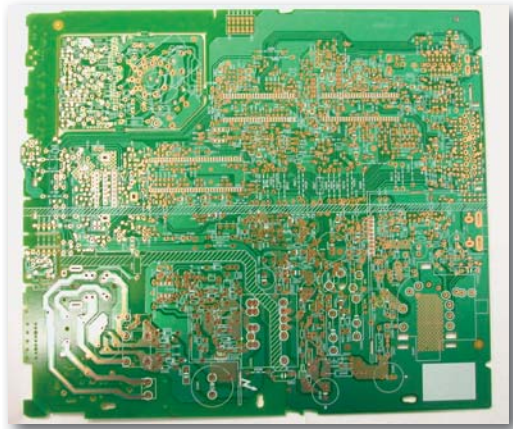
For adhesive dispensing, both systems rely on GPD Global's own LX Auger Valve that implements a unique auger design coupled with innovative needle technology yielding increased flow rates over comparable needles. To compensate for uneven substrates, it is recommended to use a footed needle. The standoff foot of the footed needle makes contact with the substrate, keeping the dispensing tip at an optimal distance from the surface for proper dot formation. If a standoff foot is not used in high speed production, then the system may need to locate the substrate surface multiple times - which affects throughput.



LX Auger Valve and standoff foot with dispense height illustration

CASE STUDY — SMT Adhesive Dispensing

TEST SUBSTRATE	
Product	TV Main Board
Dispense Area	10" x 10" (250 mm x 250 mm)
Number of Points	224 points
Adhesive	Heraeus PD961M

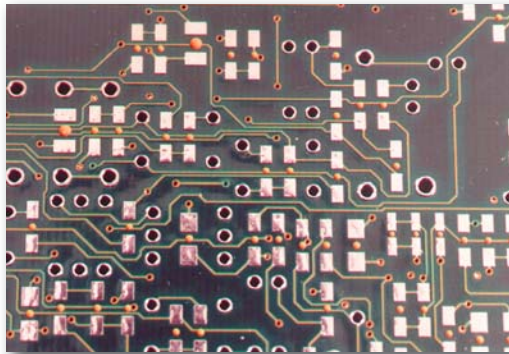


SYSTEM CONFIGURATION	
System	MAX Series or DS Series™
Valves	LX Auger 125 16 P Std-04
Needles	Precision, 25 gauge with 0.008" standoff
Surface Sensing	Contact Surface Sensor

MAX Series
High speed, compact dispense platform. Dispense rates up to 36,000 dph



DS Series™
Versatile platform with large board capability, up to 24" x 24" (609 mm x 609 mm)



CYCLE TIME ANALYSIS		
PROCESS STEPS	PROCESS TIME (SEC)	TOTAL TIME
Transport in	2.0	2.0
Fixturing	1.0	1.0
Fiducial Alignment	0.55 x 2	1.1
Surface Sense	N/A	N/A
Dispense Adhesive	-	20.00
Product Release	1.0	1.0
TOTAL TIME	-	25.5 sec/board
UPH		141 BPH



EXCLUSIVE SYSTEM FEATURES

- **Unibody Frame with MAX Series** — Extremely stable platform for precise dispensing
- **3 Valve Capability with DS Series** — Allows you to mount up to 3 different valves at one time for various process steps during production
- **Integrated Data Translator for Pick and Place Systems** — Takes data directly from a Pick and Place System and converts it to a functional program on a GPD Global® System within seconds.
- **ClearVu™ Vision** — Programmable zoom and focus
- **Illuminator Intensity Control** — Controls illuminator brightness for hard-to-find fiducials. Intensity values are stored with the fiducial pattern and are automatically adjusted when a program is executed.
- **Illuminator Color Control** — Controls illuminator color for enhanced fiducial recognition on varying substrate surfaces.
- **Taper-Lock™ Mounting Hardware** — Allows valves and tools to be removed from the system without the need for allen wrenches or other tools.
- **Toolless Valve Cleaning** — Valves have been designed to be disassembled without tools, making for easy valve maintenance.
- **Automatic Needle Calibration** — Standard system feature which automatically calibrates the position of a dispense tip. Complete X, Y, Z needle calibration takes approximately 30 seconds.
- **Auto Needle Cleaning** — For some materials that tend to drool, this is an automatic method for cleaning the tip of a needle, ensuring that the first dispense looks as good as the last.
- **FLOware® Software** — Proprietary software that makes programming substrates and converting data a snap. Additional process monitoring features allow system and operator productivity to be monitored and saved for later recall.

Rev 06/10

