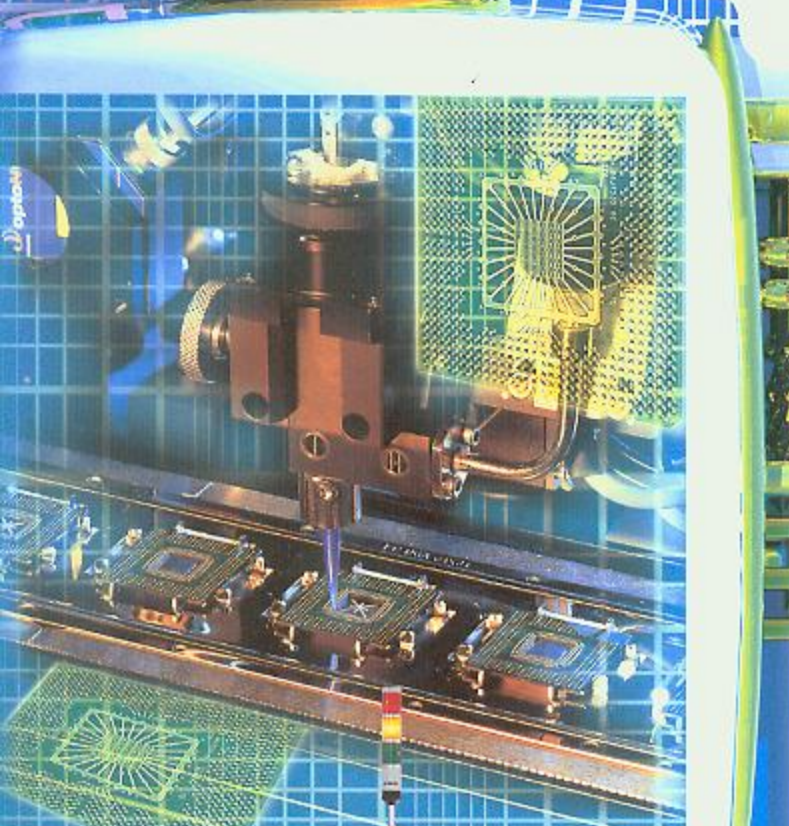


FDS-1500D

Future Dispenser System



Features

- Fully automatic for unassisted in-line IC encapsulation and underfill production.
- High quality guarantee $\pm 1\%$ 3sigma in constant pressure viscosity
- 1.5% 3sigma in various pressure viscosity by WMS (Weight Measuring System)
- Vision system options to reliably locate dispensing sites in both wirebonded die and flip-chip orientations.
- The 3 dimensions position embodiment by checking X-Y-Z-R
- Syringe air:1-80psi electrical control. (parameters setting)
- Automated, integrated needle prime, purge and clean station simplifies needle maintenance.
- Industry - standard windows based software environment minimizes operator training.
- Increment (Absolute) Encoder servo system for self-position
- Mechanical and laser non-contact Z-axis height detection to compensate for substrate variations.
- Automation options including low fluid alarm and low pressure sensor support high yield production environments.

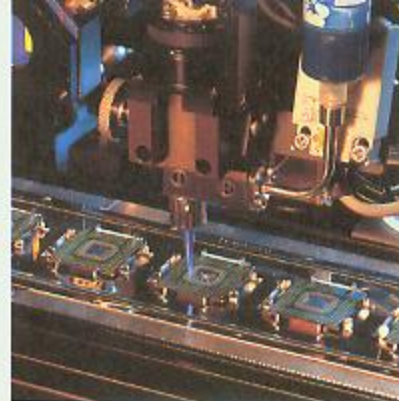


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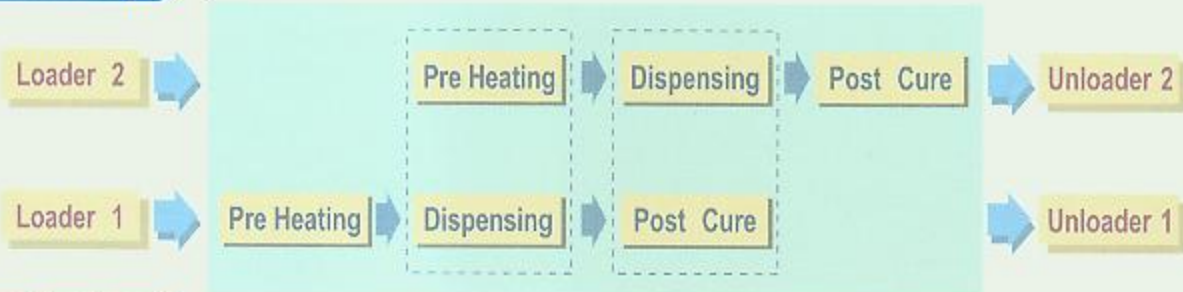
FDS-1500D

Future Dispenser System

The FDS Series technology to high volume IC packaging applications. Specifically designed to provide closed-loop control of key process parameters for IN-LINE IC encapsulation, the FDS-1500D platform assures reliable dispensing performance for glob top, dam and fill, cavity fill, underfill and other critical dispensing application in IC package assembly.



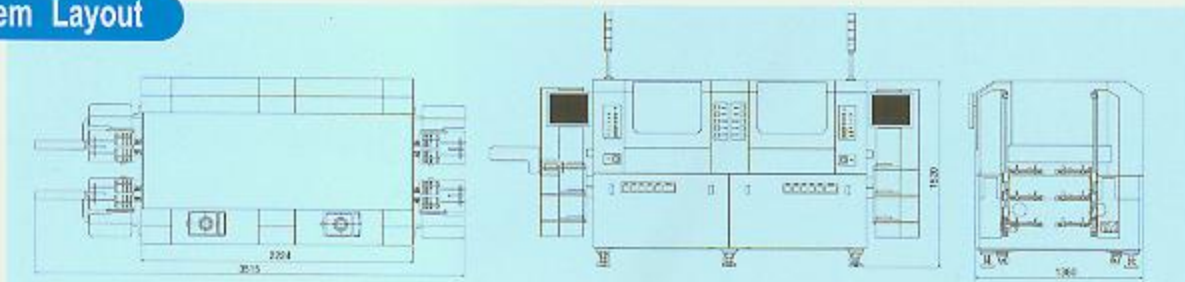
Process Step



Specification

Apply package	μ BGA (Underfill), EBGA (Dam), Flip-Chip (Underfill)
Dispense material specification	Material-Epoxy, silicon, Phenol Viscosity-5,000 to 1,500,000cps @ 25°C Catridge-5cc, 10cc, 30cc, 50cc option 150cc
Magazine dimension	50 x 150 x 144~170 x 350 x 160 (width x length x height)mm
Carrier Type	AUER boats, lead frames or customer's option
Carrier Size	50 x 150 x 0.2t~170 x 350 x 2t (width x length x height)mm
Machine	
Machine dimension	3,515 x 1,360 x 1,520 (W x D x H)mm
Power Requirements	AC220V, 50/60Hz, 6kW 552kPa (80psi, 5.5Bar),
Air supply	up to 224 l/min (8 SCFM) maximum depending on configuration
Weight	2,800 kg
Loader & unloader	No. of Magazine 12ea/set Up/down: AC servo motor
Conveyor	Speed-Maximum 600mm/s (23.6 in./s) Manual handing adjustment. Repeatability: ± 0.15 mm
Dispensing	Pattern writing. New patten program: maximum less than 30min
Head unit	2 head unit (4 Pump)
Dispensing pump	Rotary positive displacement pump & Linear pump
Dispensing accuracy	± 0.1 mm
Height sensor type & accuracy	Laser sensor type, ± 0.01 mm (0.001mm Resolution)
X-Y-Z Position accuracy (Substrate / Units type all)	± 0.025 mm (± 0.001 In)
X-Y-Z Position Repeatability (Substrate / Units type all)	± 0.02 mm (± 0.001 In)
Vision accuracy	± 0.013 mm (± 0.0005 In)
Vision recognition time (sec/unit)	0.3(sec)
Temperature Management	Needle Heater Ambient to 50°C with $\pm 2^\circ\text{C}$ Resolution : 0.1°C
Temperature Control	Closed-loop PID controllers
Operating System	Windows NT Environment

System Layout



* Specifications are subject to change without notice for improvement.

PROTEC

10BL-10LOT, 623-9, Namchon-Dong, Namdong-Gu, Incheon, Korea 405-846
Tel:+82-32-822-9171~9190 Fax:+82-32-822-9188 E-mail:whlee@protec21.co.kr