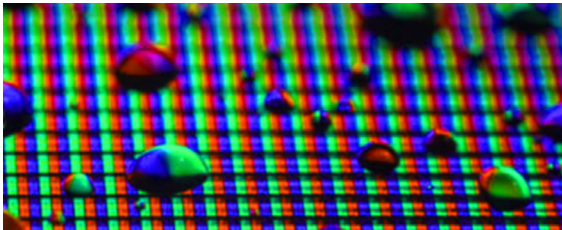


XLS Series

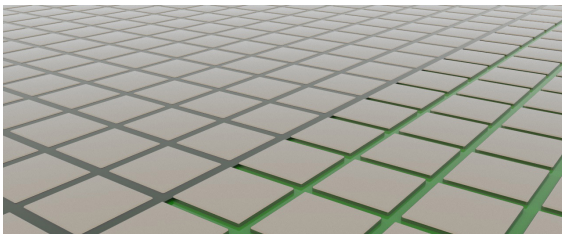
Micro Fluid and Advanced Packaging Technology

MINI/MICRO LED PACKAGING APPLICATIONS



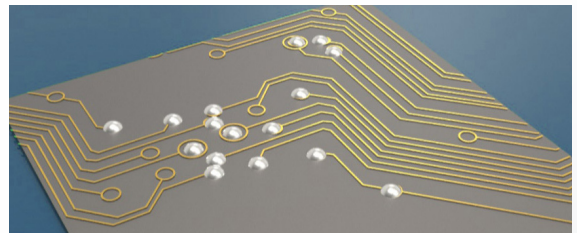
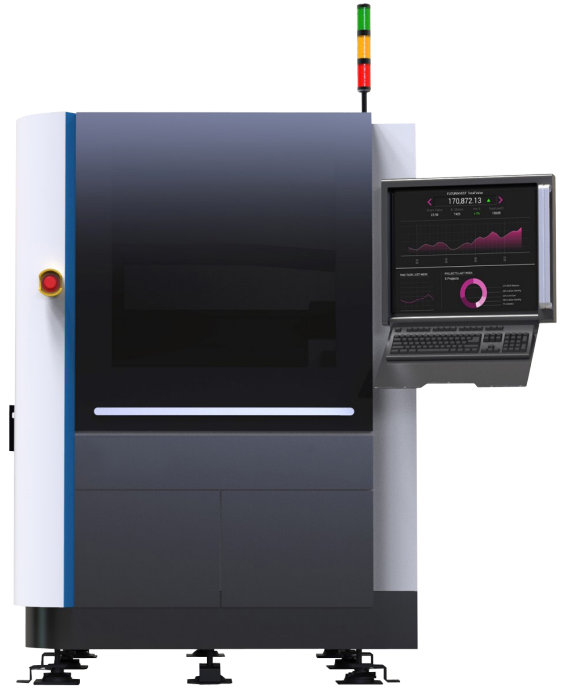
DISPENSING AND MOTION SYNCHRONIZATION TECHNOLOGY

The packaging process of mini LED includes the use of high viscosity optical glue to separate the RGB chips and filling the space (dam) separating the chips with glue. In order to achieve the light emitting effect, the glue that separates the chips must maintain the same glue height at the intersection. Our solution which utilizes piezoelectric dispensing technology is capable of dispensing at high speed with precision to deliver the uniform height requirement.



LARGE PANEL SPLICING SEAM FILLING

Large mini LED panel splice needs to be filled accurately. Laser is used to detect the glue height at high speed and automatic filling is done when insufficient amount of glue is detected. Our solution uses self-developed image alignment technology to intercept the seam coordinates, and accurately complete the function of automatic filling.



HIGH SPEED SOLDER DISPENSING

High-speed spraying of versatile glue on glass or other substrates can reach a dispensing speed of 720,000 dots/hr or higher with minimum dot of 150µm.

HIGHEST ACCURACY IN THE MARKET

XLS is developed for micro fluid packaging process where dispensing applications require extreme precision in repeatability and position accuracy. XLS is designed to deliver up to $\pm 3\mu\text{m}$ repeatability, $\pm 6\mu\text{m}$ position accuracy and $\pm 10\mu\text{m}$ jet dispensing accuracy from a robust machine body with compact dimensions and light weight. XLS' Z-axis payload is as high as 15kg, making it capable of carrying different dispensing tools, cameras, laser height sensors, curing device and etc for different process requirements.

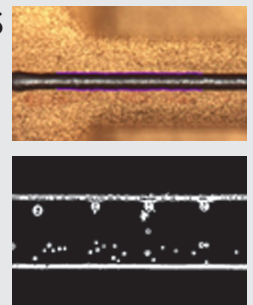
MOST ADVANCED DISPENSING SOFTWARE V2K

V2K is a unique software developed over a decade by K&S software team, and is capable of controlling the motion integrating intuitive vision teaching and alignment to achieve the desired dispensing pattern at very high speed. Some of the features include :

- Alignment on fly
- Dots on demand : synchronized motion and jetting speed, eliminating snake head phenomenon
- Jetting on fly
- Height detection on fly
- 3D dispensing
- Auto refill
- Dispensing volume auto adjustment according to the dispensing gap dimensions

VERSATILE DISPENSING APPLICATORS FOR ALL PRECISION APPLICATIONS

- Piezo jet valve for high speed jetting
- Progressive Cavity Pump (PCP) for precision high viscosity contact dispensing
- Deposition pump for < 150µm dispensing
- Solder paste jetting valve
- Ultrasonic spray valve
- High precision air spray valve



DISPENSING WITH AOI CAPABILITY

Post dispensing AOI is becoming mandatory as miniaturization of components requires dispensing patterns to shrink regardless of dots, line, bead or curve with some applications requiring less than 100µm dot size. XLS machines have the option to use the on-board camera or link to a standalone AOI machine to do post dispensing inspection. K&S dispensing AOI is capable of inspecting line width, dispensing height, air bubble, overflow and satellite.

Robot Specifications :

- X-Y-Z Max Travel : 580mm x 620mm x 50mm
- X-Y Dispensing Area : 470mm x 360mm x 50mm
- Dimensions: 1200mm(W) x 1550mm(D) x 2364mm(H)
- Robot Weight: 1650 kg
- XYZ Speed(mm/sec): 1000, 1000, 250mm/sec
- XYZ Acceleration(mm/sec²): 0.5G, 0.5G, 0.25G
- Repeatability(XYZ ±µm @3Sigma): 1.5, 1.5, 3
- Position Accuracy(XYZ ±µm @3Sigma): 3, 3, 6
- Resolution(XYZ µm): 0.5, 0.5, 0.5

