XYZ Robot Dispenses Small, Precision Shots in Electronics Applications

The manufacturer of a small electronic module for a power conditioner selected a 1-to-1 ratio, two-component Dow Corning dielectric silicone to act as a shock absorber. The silicone prevented the wires from being damaged under the stress and strain applied during accelerations up to 3,000 G-force. A number of small beads of mixed silicone material (0.04 CC) are applied in each module to create the shock-absorbing condition.

To produce five to 10 parts-per-minute, the manufacturer loads eight parts on to a nesting fixture. Based on the total volume used per shift, 20-ounce pressurized cartridges feed the metering system. For precise silicone volume control and on-ratio dispensing, the customer selected a Nordson Sealant Equipment Servo-Flo 801 Positive Rod Displacement Meter with the servo-drive motor accurately metering the flow rate and ratio.

For the precision dispensing of silicone material, our No-Drip Two-Part Mix-Dispense Valve was mounted at the outlets of the Servo-Flo 801 Meter. For high-speed dispensing cycle time and accurate placement of each bead of silicone, we mounted the meter and valve assembly on the final axis of a robot. A Heavy-Duty XYZ Robot was needed to handle the weight of the Servo-Flo 801 Meter, mix-dispense valve and the additional force created by its motion. While most XYZ bench-top robots are lightweight, the Nordson Sealant Equipment model handles heavy loads and has servo-drive position accuracy, helping long-term task performance.