Automated Adhesive Dispensing Improves Quality, Reduces Cost in Appliance Applications

The appliance industry bonds glass directly to oven doors with either very high bond double-sided adhesive tape or an adhesive such as two-component silicone or methacrylate polymer for high strength and long-term adhesion and temperature resistance.

A major appliance manufacturer was using very high bond double-sided adhesive tape to bond glass to metal oven doors. To ensure correct placement, workers used slotted templates to locate up to 15 pieces of tape on the floor. Wearing protective gloves and arm socks, the workers cut tape manually. Issues included tape sticking to the gloves, the time needed to position tape, tape ending up in the wrong locations, quality control and the inability to increase production rate.

After a performance study, the manufacturer determined that a better process was needed to replace tape and place adhesive correctly, ensuring product quality. The appliance engineers worked with adhesive and process equipment suppliers to determine the best adhesive and equipment for optimal cost and quality.

Nordson Sealant Equipment worked closely with the engineers to develop a unique and low-cost robotic dispensing system that would apply a two-part, high-temperature silicone or acrylic adhesive to the metal door. We manufactured and integrated a two-station and six-station robot with our Servo-Flo 505 Meter-Mix Dispense System. Production rates, cost and quality now exceed customer requirements.