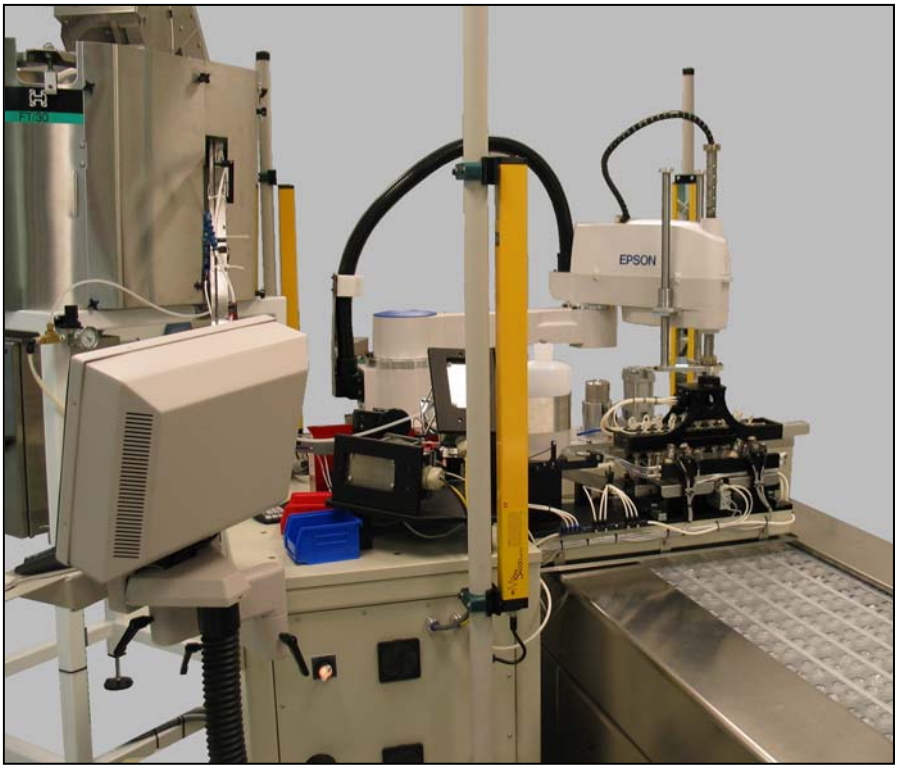
KELLER SWARTWOOD ENGINEERING, INC.

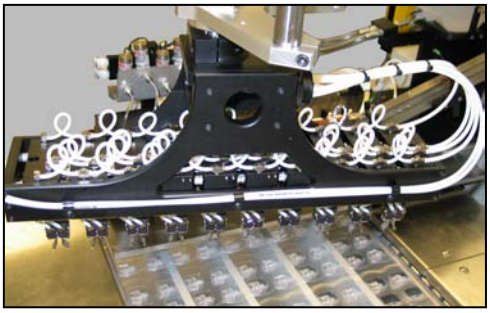
Automation ▪ Custom Machines ▪ Tooling & Fixtures ▪ Product Development

Project Highlight: Biomedical Automation



High-Speed Automated Machine, 250ppm, clean room. Integrates a centrifugal feeder, SCARA robot, inspection via machine vision, liquid applicator, a 6-DOF gripper head, and a form fill machine.

Custom software and a touch-screen GUI (graphic user interface) simplifies machine operation.



6-DOF Gripper Head presents parts in proper orientation to the blister pack.

This machine performs multiple high-speed operations on a device used in a biomedical application. All functions occur in a clean room. The machine throughput is a minimum of 250 parts per minute, or 120,000 parts in one 8-hour shift.

The machine operator loads a hopper with the parts, and the machine does the rest. A centrifugal bowl feeder orients the parts and feeds them into a track. The parts are inspected with machine vision utilizing multiple cameras. If a part does not pass inspection, it is ejected to an isolated bin. The acceptable parts move on to a station that applies a liquid substance onto the parts required for the device's functionality. The parts are then ready to be picked up from the dead nest by a SCARA robot with a 6 degree of freedom gripper head. The gripper picks up ten parts at a time and orients them properly for insertion into the blister pack that has just been created in the form fill machine. The last step in the process is another machine vision station that inspects the blister pack to ensure the parts are oriented properly and are ready for packaging.

KSE

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