

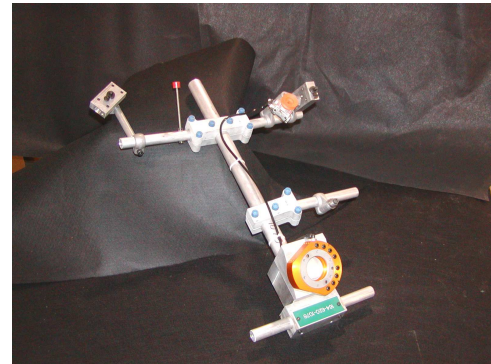
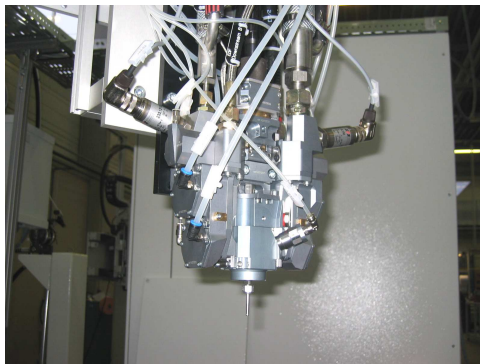
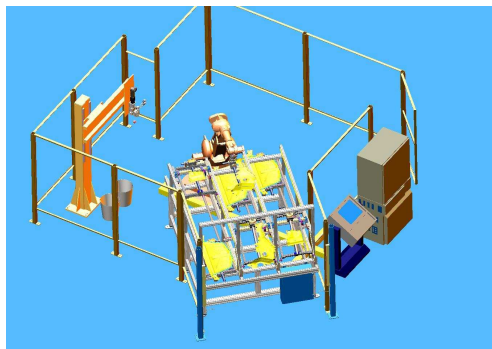
## Case Study – Two Component Dispensing

### Why robotic automation for the dispensing process?

- Repeatable – the robot and fixtures provide a platform for consistent product output
- Accurate – the bead placement is programmable and right where you want it to be
- Flexible – the robot and certain other features of the cells are configurable through software for ease of part changeovers and process development
- Rapidly deployed – the cells are pre-engineered leaving the customization to the part-or process-specific details
- Rapid changes in product design and subsequent dispensing process changes are possible
- Both small and large batches are possible
- The cell is a small footprint with a lot of output
- The cell is re-deployable
- The output of the cell is consistent; 24 hours per day, 7 days per week
- Average cost to operate the automation is \$0.12 per hour

### System Requirements

- Direct labor savings
- Dispense the gaskets and seals onto 26 part types in any order as designated by the operator
- Run small batches effectively with no manual part-to-part change over or system set up changes
- Run all parts, the single plane and the 3 dimension parts in the system
- Provide a one-piece flow system
- Coordinate with the dispensing system manufacturer to accomplish the gasket positioning and path requirements and to run off in a timely manner
- Supply a rugged and industrial system





## **Description of the Solution**

TEC designed and built two systems, each accomplishing the same goals. The infeed device design is universal and versatile for the range of parts. Two were supplied, each with six incoming lanes. These are two-position rodless air cylinder driven shuttles. Each of the shuttles was supplied with a universal fixture receiver.

The part-specific fixture, with a to be processed part, is placed into this receiver by the operator. These fixtures are marked with a binary code scheme. Once the robot picks the fixture, the scheme is used to determine the part presented and this calls up the robot program and the dispensing system set up.

ABB floor mounted robots – the IRB2400 and IRB4400 units with the S4C+ controller, ATI tool changers, EDF Sonderhoff DM202 mixing and dosing plant (customer supplied) Allen-Bradley PLCs with 10" color PanelViews and ISI Norgren tool components were used in the two systems.

## **Customer Benefits**

- The financial reward included a reduction in scrap
- In the end, there is no other way to utilize the foam-in-place gasket scheme offered with the very successful mixing and dosing plant
- The material usage is highly controlled
- The system uptime is 99%
- The whole package is a depreciable and re-deployable asset
- Additional parts may be run, there is additional memory and in fact no limit to the part types that can be run in the system
- The cycle time for each part is consistent and dependable
- No human intervention is needed for the dispensing routine



**TEC Automation, Inc.**

**30 Hickory Springs Industrial Drive  
Canton, GA 30115**

**Phone 770-720-3333  
[www.tec-automation.com](http://www.tec-automation.com)**