

Metal Fabrication — Motion Control

Metal Door Frame Line

- ✓ Motion Control
- ✓ MES (Manufacturing Execution System)

Challenge Door
Ligonier, IN

The work Bachelor Controls is doing in motion control is as advanced as anything being done in this region.

John Wenzler

Area Manager for Motion Control
Rockwell Automation/Allen-Bradley

Project Summary

Bachelor Controls, Inc. (BCI) was called in to develop the integrated controls for a Flexible Manufacturing System designed and manufactured by The Bradbury Company of Moundridge, Kansas, for Challenge Door of Indiana. The fully automated line can produce metal door frames at a rate of four per minute from steel coil and has the flexibility to produce door frames of varying dimensions with holes for 2-4 hinges and openings for 0-3 locksets.



Objectives / Requirements

BCI's control system was designed to integrate the following production operations:

- Feed strip-off coil
- Pre-punch hinge holes, notch corners, and cut to length
- Roll form to shape
- Transfer material via conveyor
- Punch lockset openings
- Form tabs
- Bend to finish shape

The manufacturing system utilized eight servo drives, four to automatically re-position punching dies, and four to position material prior to punching operations.

Results / Benefits

Bachelor Controls developed an integrated control system that met all the objectives of the project, as well as some added-value services.

Leveraging its Manufacturing Execution Systems (MES) expertise, BCI also built in the capability to interface with the plant's Production Scheduling System to provide inventory and order-tracking information.

At the customer's request, Bachelor Controls also created unique control logic to significantly reduce scrap material and downtime during changeover from one door frame configuration to another.

Bachelor Controls did an excellent job of analyzing the production process and developing an integrated control system that was not only effective, but also easy for the user to understand and operate.

Al Strecker
Senior Manager - Sales
The Bradbury Company



Bachelor Controls, Inc.

Systems Integration for Manufacturing

Sabetha • Kansas City • Memphis • 785.284.3482 • sales@bachelorcontrols.com • www.bachelorcontrols.com