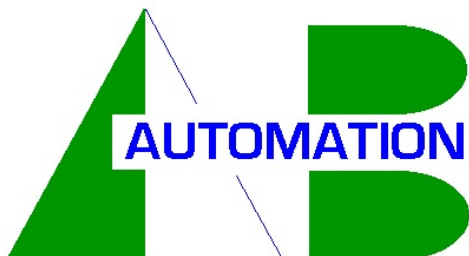


# Project Profiles

## Baldor Motion Products



**Able-Baker Automation™, Inc.**

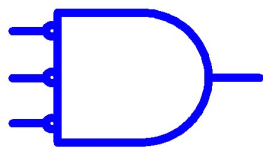
P.O. Box 6368  
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**Home Page:** [www.able-baker.com](http://www.able-baker.com)

# Copper Sheet Cutting Machine

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Description:	This machine automatically unrolls copper sheets, then cuts and stacks them on to a pallet for further processing. The antiquated Control Techniques servo system was replaced with a Baldor servo system.
Hardware:	A Baldor Nextmove ESB motion controller controlling 2 servo axes was programmed using the MINT programming language. The existing servos were replaced with custom Baldor servo motors to fit onto the existing gear boxes. The I/O uses a CANbus field bus design with WAGO components. The new control panel wiring was connected to plugs and connectors allowing a quick weekend change over.
Operator Interface:	The operator interface is a Baldor KPD-KG420-30 keypad unit. This was programmed to match the original operator interface in order to make the system easier for the operators to use
Engineering Activities:	Control System Design, Control System Wiring Diagrams, Control Panel fabrication and wiring, Programming, Documentation, and Start-Up.
System Documentation:	Control Description, Drawings, MINT Program, I/O Listing, Cross Reference. A complete Maintenance Manual was also prepared.



# Lemon Oil Vacuum Filter

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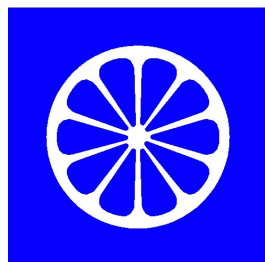
Description: This machine was supplied by the OEM partially programmed. We revised the program and started up the system.

Hardware: Baldor Nextmove ESB motion controller controlling two servo axes and a VFD is used. The servo drives are Baldor FlexDrive IIs. The VFD receives a 4-20 mA speed signal from the controller. All of the I/O is wired into the Nextmove ESB.

Operator Interface: The operator interface is a Baldor KPD-KG420-30 keypad unit. We also revised this program to make the unit easier to use.

Engineering Activities: Revised Control System Wiring Diagrams, Programming, Documentation, and Start-Up.

System Documentation: Drawings, MINT Program, I/O Listing, and Cross Reference.



# Water Jet Cutter

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Description:	This machine uses an X-Y table to cut flooring pieces. One of the original servos failed and a direct replacement was no longer available. We replaced the failed components with new components in less than 10 days.
Hardware:	The Galil Motion controller was retained but the servo amplifiers and motors were replaced with Blador Flex II drives and servo motors.
Operator Interface:	The operator interface is a custom computer program supplied by the manufacturer.
Engineering Activities:	Revised Control System Wiring Diagrams, Tuning, Documentation, and Start-Up.
System Documentation:	Drawings, Servo parameter listing.



# Flying Shear Circular Saws

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Description:	This machine uses twin circular saws to cut sheets of extruded foam insulation panels. The saws are mounted on a carriage assembly that matches the speed of the material during the cut cycle.
Hardware:	The cut cycle was triggered by a high speed counter card in a SLC-5/05 PLC. The carriage was controlled by a Reliance GV-3000 VFD with a QUIK positioning module. The braking was assisted using a Bonitron Regen control module, and a mechanical brake.
Operator Interface:	The operator interface is a PanelView which allows the trigger distance to be altered.
Engineering Activities:	Revised Control System Wiring Diagrams, Programming, Documentation, and Start-Up.
System Documentation:	Drawings, QUIK Parameters, PLC Ladder Listing, I/O Listing, and Cross Reference.

