



JR AUTOMATION TECHNOLOGIES, LLC

FLEXIBLE WELDING CELL CASE STUDY

INTELLIGENT DESIGNS

FAST FACTS:

- In business since 1980
- 120,000 sq. foot facility
- 210 employees
- North of Holland, MI

JR Automation Technologies, LLC staffs ingenious, qualified professionals who design and build solutions for efficiency and speed, customized for your specific needs. Whether that means machines or process development, the JR team has a smart, lean solution to your challenging project.



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CHALLENGE:

Design a weld machine for low volume production runs of more than 100 different part types.

Additional Requirements:

- Automated rapid changeover (less than one minute)
- 3 seconds per weld cycle time
- Eliminate the need for operators to move heavy weld fixtures with cranes and carts
- Focus on quality control for different part materials and thicknesses
- Improve weld consistency

SOLUTION:

Working with our customer during ongoing process development during the design and build of the machine, JR created a solution to meet all requirements.

The JR solution uses a material handling robot to pick a fixture from a rack and present it to an operator for part loading. The robot then presents it to the weld gun.

This method reduces part changeover from hours to seconds, while ensuring future product lines will only require additional fixtures.



The robot does the heavy lifting—this full automation solution needs only one operator.

Additionally, this flexible JR process reduces the overall number of fixtures, weld points per part type, and number of weld tips from 20 to 1.

Finally, full automation increases consistency, and our carefully researched weld power supply improves quality across various metals.

OUTCOMES & BENEFITS:

- Process development beyond the quoting stage
- Fewer fixtures & weld tips
- Consistent weld quality for wider range of part materials and thicknesses
- Fewer welds per part
- Ergonomic design and optimized workflow
- Cost savings justified the purchase of a 2nd cell within the first year