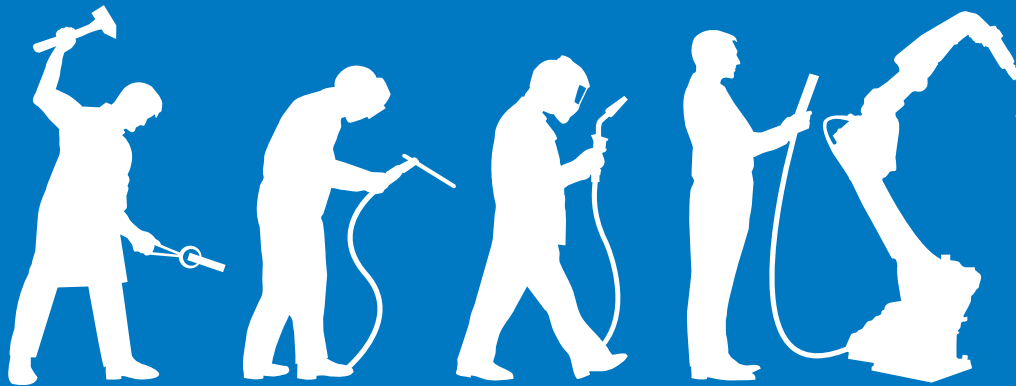


# Miller Welding Automation

Evolve Your Welding™



# Evolve Your Welding™



**Sure, you know robotics can increase your welding productivity three, four, maybe five fold!**  
But did you consider this...

**What do these words  
have in common?**  
**Control Dexterity Repeatability**

**Answer:**  
**Top considerations in  
achieving welding quality!**

Good quality managers always ask if the process is in **Control?** Next, they ask if the manual welder has the **Dexterity** and **Repeatability** to maintain control. Our customers enjoy dramatic quality improvements, reduction in rework, and increased throughput by automating applications that are difficult to repeat and hard to control manually.

**What do these numbers  
have in common?**  
**1 billion 6 to 1 3 to 1**

**Answer:**  
**Workplace safety and  
productivity improvements!**

**\$1 billion** per week is spent due to lost time in the US<sup>1</sup>. Bureau of Labor Statistics shows robotic welding has significantly fewer lost-time incidents than manual welding<sup>2</sup>. OSHA says for every dollar spent on safety you get a **6 to 1** one-year payback<sup>3</sup>. And you already know robotic welding can typically gain you a **3 to 1** productivity improvement.

**So, switching to robotic welding gains major payback from both safety and productivity!**

...so how many investment options does your company have that can improve your productivity three to four times, improve your first-time throughput, reduce inspection costs, remedy skilled labor shortage issues, and reduce lost time incidents?





## Simple Solutions with Pre-Engineered Performance

**PerformArc robotic welding cells** are pre-engineered standard designs providing alternatives for manipulating the workpiece and managing material flow in your operations. Complexity is eliminated, which simplifies training, programming, operation, maintenance and troubleshooting. Designs provide for ease of installation and start up, and should you need to rearrange your floor layout, repositioning is simple. Many robotic cells look similar, but you will find these advantages unique to PerformArc.

**PERFORMARC™**  
ROBOTIC WELDING SYSTEM



PerformArc PA250  
Robotic Welding Cell

**Jetline automated welding cells** deliver productivity solutions when your workpiece presents particular form factor challenges — sheet, tubing, coil — that require welding consistency over larger distances. A variety of cell designs deliver solutions for welding challenges that present tolerance, and gauge repeatability and reliability (R&R) problems if you were to design fixtures in-house. Again, our cells are designed for ease of installation, quick start up, and are convenient to rearrange in your floor layout.

**Jetline®**



Jetline Weld  
Head Locator

Evolve Your Welding™

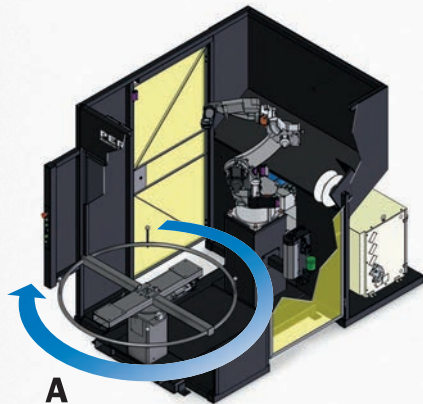




# PerformArc™ Welding Cells, Robots, and Positioners

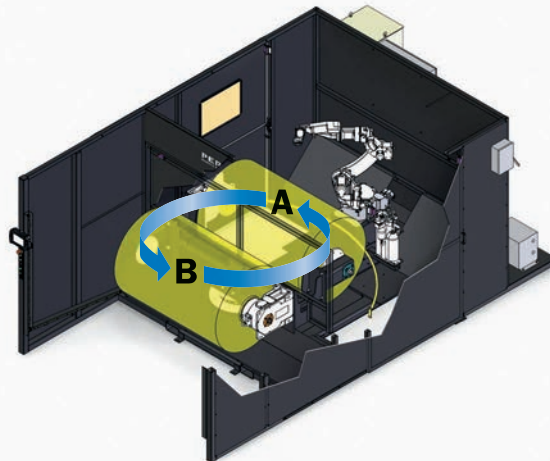
## Horizontal turntable

Rotating table indexes about a vertical axis presenting the workpiece to the robot or the operator.



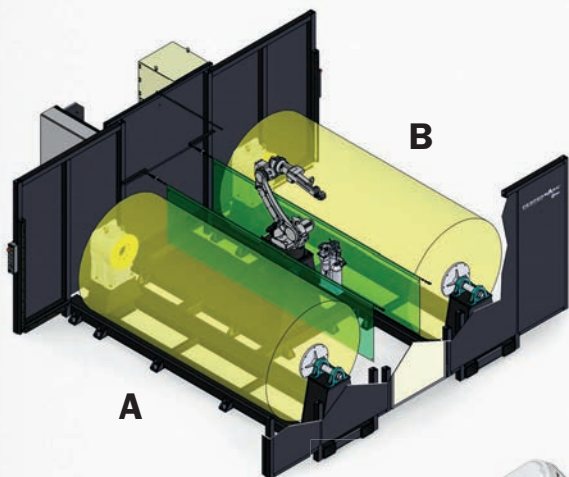
## Horizontal H-frame

Revolving H-frame indexes about a vertical axis presenting the workpiece to the robot or the operator.



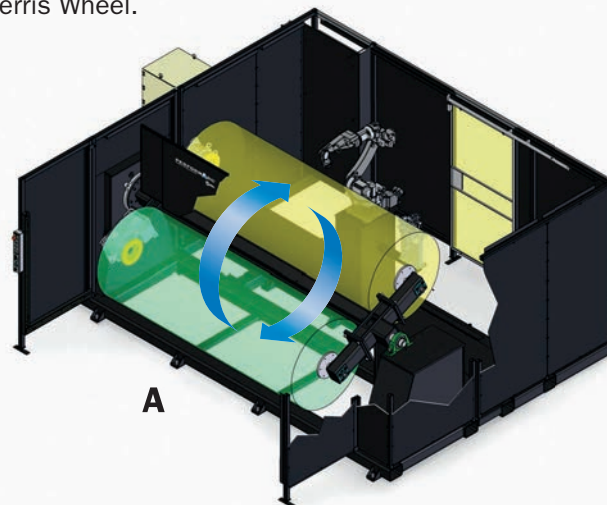
## Side-by-side

Robot is positioned in between two work stations that are arranged side-by-side. Allows workpiece loading at one station, while the robot welds at the other.



## Ferris wheel

Two carriages rotate about a horizontal axis to index the workpiece in and out of the robot workspace, like a Ferris Wheel.



## Robots

Provide a range of envelopes and reach capability to solve load and access issues.

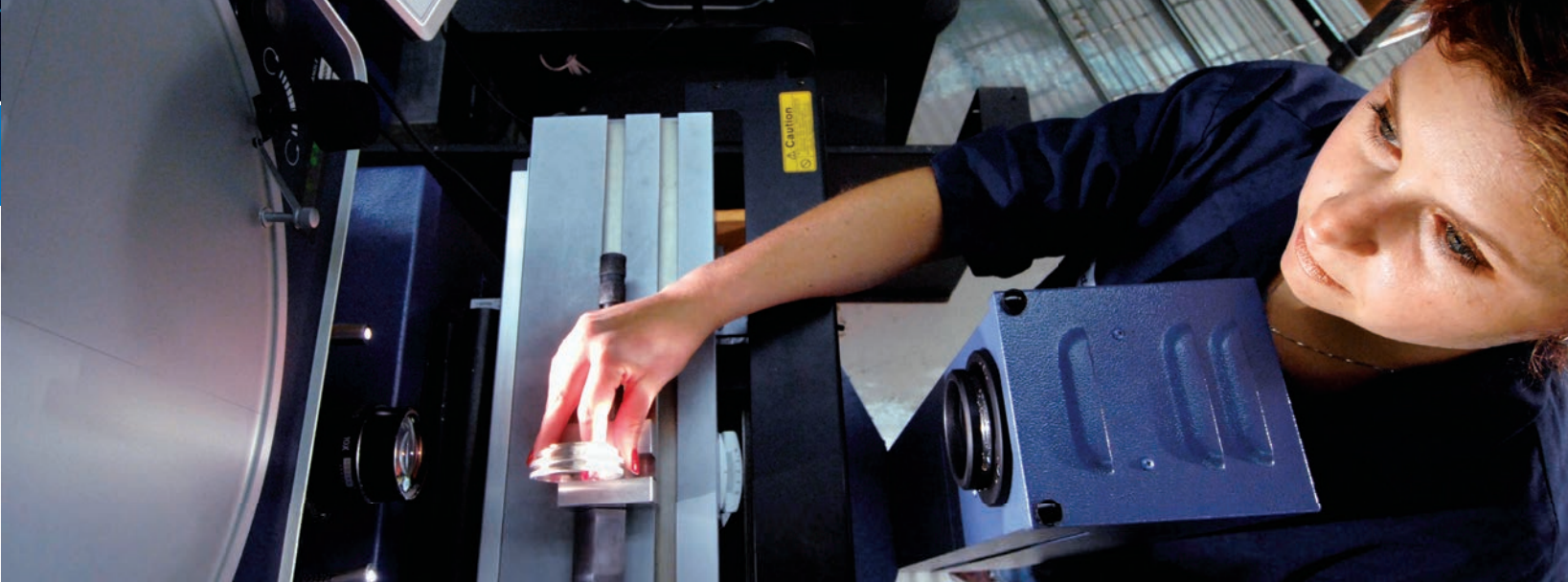


## Positioners

Provide additional capability to manipulate by tilting or rotating, while securing the workpiece. Positioner motion can be harmonized with the robot to solve a variety of issues, in particular when a weld path goes out of position.







## Jetline® Welding Solutions — When Precision Counts!

### Longitudinal seam welders



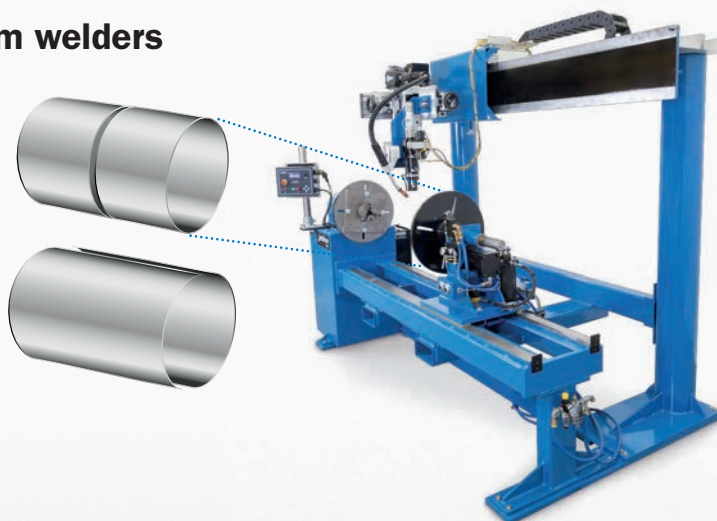
Longitudinal seam welders can weld two separate sheets, inserted from each side of the fixture bed.



Alternatively, they can join edges of one sheet coiled under the bed.

### Circumferential seam welders

Circumferential seam welders can weld two separate cylinders about their mating edges. Other shapes might be an end cap to a cylinder or welds that run the length of the cylinder.



### Other solutions

- Seam tracking
- Torch positioners
- Multi-axis

Evolve Your Welding™





# Miller® and Panasonic®



## Miller Welding Automation incorporates Panasonic technology in many of our solutions.

We recognized that working with Panasonic expands our ability to bring pioneering, state-of-the-art welding solutions to our customers. Including TAWERS, which remains the only welding robot that uses the same CPU for welding control and robot motion control, providing unparalleled coordination of the welding arc with robot motion.



Our welding automation solutions complement one another and provide solutions to fit a variety of welding challenges. That is why Miller chose Panasonic as a partner.



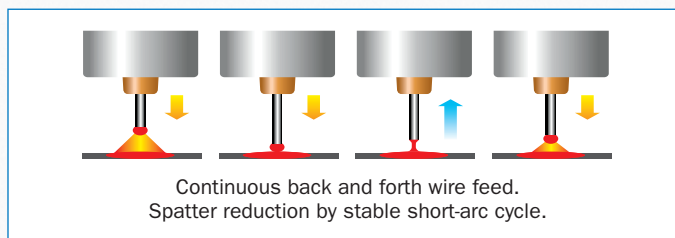
**Welding challenges come in all forms. Sometimes it is simply a productivity consideration, other times it might be meeting a code, achieving certain aesthetics, or maybe a difficult weld joint geometry. This weld bead might look like it is aluminum with a pulse waveform, or perhaps TIG. However, this is MIG with carbon steel and a weave pattern that achieves that “stack of dimes” appearance. Whatever your challenge, Miller Welding Automation is ready to help find a solution.**

## Advanced Capabilities and Solutions

**With a suite of advanced capabilities from Miller and Panasonic, the Miller Welding Automation team can help you with a variety of solutions for your welding challenges.**

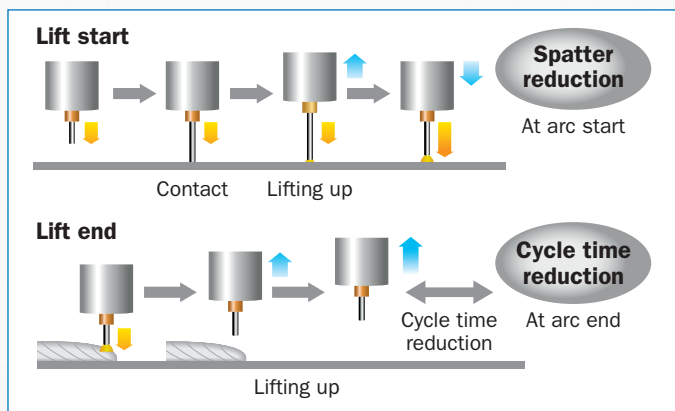
### Active wire solutions

We pioneered active wire solutions utilizing a precision reciprocating movement of wire feed to enhance our ability to control droplet size, coordinated with a variety of waveforms.



### Lift start and lift end

Coordinates robot motion for consistent penetration, minimizing spatter and filling craters.



### Adaptive arc control

Monitors arc feedback to make real-time adjustments that maintain bead formation when subtle changes in workpiece geometry are encountered in the weld joint.

### GMAW, GTAW and laser

- Time-tested knowledge and expertise in GMAW processes — spray, pulse, pulse on pulse
- Advanced waveform development and application
- GTAW solutions enabled by robot precision
- Laser welding solutions to solve welding challenges presented by workpiece geometry conditions, particularly with thin materials

### OptiDrive™

A torch-mounted drive system that provides more precise control of wire motion in critical applications. OptiDrive is also flexible and capable of solving challenges requiring precision in steel, aluminum and stainless steel.

**Work with the Miller Welding Automation team to identify the capabilities you need to solve your welding challenges!**

**Evolve Your Welding™**





# Working with Miller Welding Automation

What do these words  
have in common?  
**Crawl Walk Run**

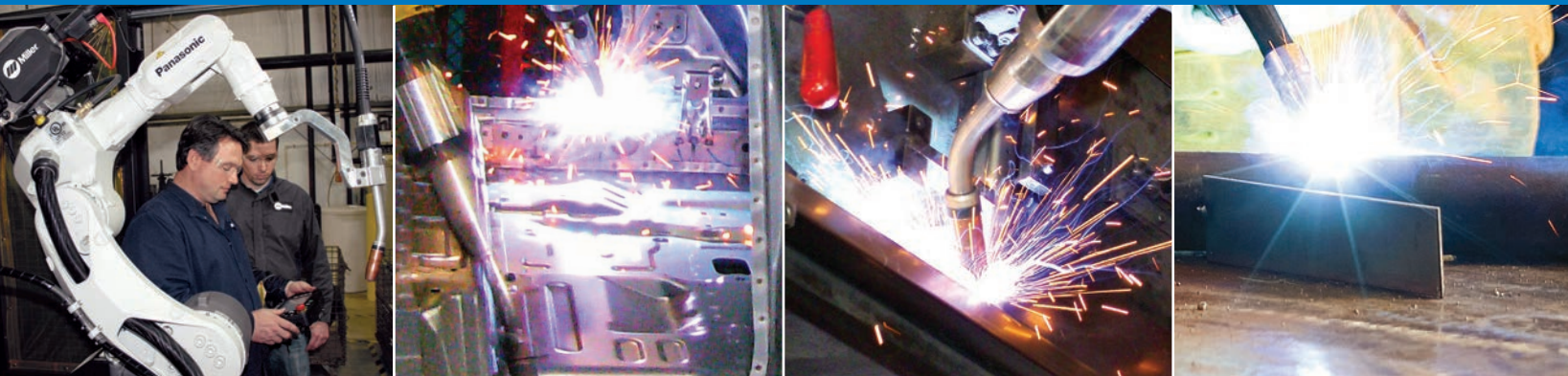
**Answer:  
Building confidence  
and success**

Over the years the Miller Welding Automation team has learned that helping our customers **Crawl** first, then **Walk**, and then **Run** is critical in building the confidence to make the move to welding automation. Our goal is your success.

Whether it is,

- Identifying your needs with our specialists
- Exploring solutions with our engineers
- Validating your applications in our lab
- Training your talent
- Programming your robots off-line
- Installing your equipment
- Starting up your new investment

Our time-tested approach is to help our customers **Crawl** first, then **Walk**, and then **Run**.  
**Our goal is your success.**



**MillerWelds.com/automation**

