

DON'T WALK, WELD: THE OVERARCHING BENEFITS OF ARCREACH TECHNOLOGY



Introduction

Every time a welding operator pauses their work on a weld joint to walk to a power source and change the settings, they lose time. Which translates to a loss of productivity. This 'stop and start' process also affects the quality of the weld as the welding operator loses focus and increases the need for revision. In addition to this there is the question of safety, particularly when it comes to multi-storied, busy job sites.

This white paper discusses the attributes and benefits of Miller's remote control welding technology through welding cable. ArcReach is a solution that minimises the non-value-added time spent walking to and from a power source to make adjustments to welding parameters. Included on welding products such as the newly released Miller XMT 350 FieldPro, ArcReach maximises arc-on time, weld quality and job safety.



Overview of ArcReach technology

ArcReach technology is an industry-exclusive Miller solution that is poised to change the way welding is managed on a job site by giving operators remote control of their power source via welding cable. By doing this, it eliminates the need for control cords and their associated problems and costs. Importantly, it reduces the clutter of cables at a job site and reduces the risks involved when operators have to travel across a job site to get to the power source – particularly when this involves varying levels, heights and other hazards.

The technology uses the existing weld cable to communicate welding control information between the feeder or remote and the power source.

It has two exclusive capabilities that have been labelled revolutionary by those in the industry. According to Joe Ryan, infrastructure segment manager with Miller Electric Mfg Co., the innovations are “game-changing” and will dramatically improve jobsite productivity and efficiency.

“ArcReach technology lets operators make adjustments at the point of the weld using the wire feeder or remote without a control cable, which can save companies hundreds or even thousands of dollars every day in downtime. These new technologies add even more capabilities that will save significant time and improve operator safety.”¹

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Compatibility with XMT 350 FieldPro and Big Blue 800X Duo Air Pak with ArcReach

The full benefits of ArcReach technology are available when paired with the Miller systems XMT 350 FieldPro and Big Blue 800X Duo Air Pak with ArcReach. Both models recently became available to the Australian market. The Auto-Line Power Management is a stand-out feature that confers additional benefit to a welding operator. The Auto-Line technology automatically calibrates the power source to operate properly when connected to any primary input voltage ranging from 208-575 volts, single or three-phase and 50 or 60 Hertz. Both the XMT 350 FieldPro and Big Blue 800X Duo Air Pak with ArcReach power sources are compatible with all ArcReach accessories, which include multiple feeder and remote options. These accessories provide remote capabilities for Stick, MIG, TIG and flux-cored welding. Moreover, their casing has been designed to withstand harsh, challenging work environments.



Case Study – Apex Steel

According to Apex Steel, a structural steel contractor based in the Pacific North-West of the United States (US), Miller's ArcReach technology allows them to increase productivity, maintain consistent arc quality and improve safety on their job sites. It also enables them to meet the stringent requirements of the American Welding Society (AWS).

"It's just night and day, the difference with this (ArcReach) system," says Apex field superintendent, Travis Slovernick. "The quicker you get jobs done – in an efficient manner, in a safe manner – you're going to get more jobs and bigger jobs."

As a company that specialises in steel erection, architectural metals, reinforcing steel and tower crane and construction hoist projects, Apex Steel has worked extensively in the Seattle region. The company's construction work runs the gamut from small to large projects, including high-rises and bridges. The demand for their expertise is high, with construction having reached a 10-year peak in the city just a year ago. Not only are the project timelines challenging, the company must deliver on quality and meet the AWS D1.8 structural welding code – a code that applies to all seismic regions in the US.

A major benefit for Apex Steel is the savings on time that welders would otherwise take to travel to the power source to adjust their weld parameters – which is an average of two hours per day.

"Those two hours a day on each welder, with 10 welders on a job, we'd be losing 20 man hours a day in going back and forth," says Jim Greene, Apex general superintendent. "The ArcReach technology has really helped us become more competitive. It has been an unbelievable savings for us in man power."³ By reducing the need for welders to traverse a job site, the ArcReach technology has significantly improved safety conditions for those working with Apex Steel. One Apex project involved constructing a sky bridge pedestrian walkway between two buildings. The welding operators used ladders laid flat to reach the spot of the weld, where they were joining two columns that were about 20 feet off the ground. Getting back to ground level required manoeuvring from the heightened spot and walking down several flights of stairs.

"The wear and tear on the guys and the fatigue – the remote technology saves everybody all the way around," Travis says.³

Unique features

ArcReach involves two unique technologies – both of which are only available with the XMT 350 FieldPro Miller system. The first is Cable Length Compensation (CLC), a technology that ensures that the setup of welding parameters is fast and seamless by automatically compensating for voltage drops on the weld cable. This means that the voltage a welding operator sets is the voltage they will get at the weld, even if the power source is hundreds of feet away. Traditionally – with older machines – the welding operator has to make adjustments for the voltage drop manually.

The other key component of ArcReach is the Adjust While Welding (AWW) technology. This allows for adjustments and parameter changes to be made at the wire feeder or remote without having to stop the arc, giving welders the opportunity to compensate for heat build-up, changes to the weld position or other variations in the fit-up.

Productivity gains

Dated welding equipment can significantly harm the productivity of a welding operation because each year hundreds of working hours are lost from operators having to walk from the weld joint to the welder. For example, if a welding operator walks four times a day to the power source to adjust the parameters, and each walk takes an average of 15 minutes, this will waste 250 hours per year. If the operator is being paid a salary of \$45 per hour, the total yearly cost of their wasted time is \$11,250. Such labour losses and costs are even harder to absorb when suitably skilled welders are difficult to source in the first place.²

Gaining back lost welding hours will have a very quantifiable and positive impact on productivity. With ArcReach technology in place it is possible for a welding operator to save up to two hours a day in walking time – time they can spend welding or performing value-adding tasks instead. It also ensures that welding operators stay focused on the task at hand. Without interruptions, they produce higher quality welds. This reduces the need for re-work and adds to the overall productivity of the operation.



Safety improvements

The ArcReach technology eliminates the risks associated with having to walk across a job site to get to the power source. Job sites are often fraught with hazards and the risk of slipping, tripping or falling is reduced when the operator doesn't have to travel regularly through the site. For example, a construction job site might involve multiple stories or require the welding operator to work from a crane or a pylon at a great height. Job sites can also be cluttered and are invariably busy too, so the less movement from the welding position, the better.

A progressive solution

The ArcReach remote control welding technology helps businesses to save time and money without compromising on the quality of their work. It also improves the job safety of welding operators. This technology – coupled with Miller products such as the XMT 350 FieldPro – will ensure a business achieves the most productive and efficient results from their welding operations.

To learn more about the Miller ArcReach technology and accompanying products that are available in Australia, ask one of our experts at Welding Industries Australia: <https://www.welding.com.au/arcreach-technology>

For more information, visit: www.welding.com.au

1. [Miller Enhances ArcReach Technology With New Industry-Exclusive Capabilities](#)
2. [Game-Changing Welding Technologies Stop You From Wasting Hours Every Day](#)
3. [Apex Steel Saves up to Two Hours Per Welder Every Day With Remote Control Technology](#)

