Axcess® Multi-MIG® Welding Process Capabilities

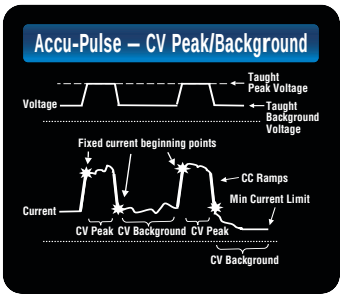
Advanced Manufacturing Systems

Process	Standard Spray	Pulsed Spray	Accu-Pulse® Accu-Speed™ Accu-Curve™	Standard Short Circuit	*RMD™ Regulated Metal Deposition (Optional)*
Weld Puddle Control	**Flat/Horizontal**		**All Position Performance**		**Thin Materials/Gap Filling**

Look for high-speed video clips of Accu-Pulse®, Accu-Curve™ and Accu-Speed™ online at MillerWelds.com/AMS/axcess.

Accu-Pulse® — Steel and Stainless Welding

STANDARD on all Axcess models — the patented Accu-Pulse process allows for precise control of the pulse arc. Accu-Pulse provides optimum molten puddle control and has power to increase wire feed speeds and deposition 20 to 25% in many applications. Two new Accu-Pulse variations, Accu-Curve and Accu-Speed, are now included ***FREE*** with every new Axcess® or Auto-Axcess® system.



Benefits of Accu-Pulse®
(Compared to conventional pulse)

- Shorter arc lengths possible
- Better puddle control
- More tolerant of contact tip to work variation
- Less audible noise
- No arc wandering in tight corners
- Narrow arc plasma column
- Allows weld to fill in at toes increasing travel speed and deposition
- More tolerant of poor fit up and gaps
- Ideal for seam tracking robot welding applications

Accu-Curve™ — Aluminum and Stainless Welding

STANDARD on all Axcess models — Accu-Curve is a variation of the Accu-Pulse process. The transitions from peaks to background voltage are "curved". The curved transitions provide a "softer" feel without sacrificing the tight arc lengths that allow for better puddle control that have become the hallmark of the Accu-Pulse process.

Note: Accu-Curve can be added to existing Axcess or Auto-Axcess systems for FREE by updating code online at MillerWelds.com/AMS/axcess. Requires Palm handheld to transfer code from PC to Axcess.

Benefits of Accu-Curve™

- "Softer" arc feel than Accu-Pulse
- Maintains tight arc lengths
- Maintains better puddle control

Accu-Speed™ — High-Speed, Out-of-Position Welding

STANDARD on all Axcess models — Accu-Speed is a variation of the Accu-Pulse process and was developed for the type of arcs needed in automated welding applications. Accu-Speed has a tighter driving arc that can be directed into the joint, yet still remains stable at the higher travel speeds used in automated welding. In general, Accu-Speed has lower average voltage and amperage when compared to Accu-Pulse.

Note: Accu-Speed can be added to existing Axcess or Auto-Axcess systems for FREE by updating code online at MillerWelds.com/AMS/axcess. Requires Palm handheld to transfer code from PC to Axcess.

Benefits of Accu-Speed™

- Ideal for automated welding applications
- Up to 20% greater travel speed than Accu-Pulse
- Lower average voltage/amperage than Accu-Pulse
- Tight, driving arc
- Remains stable at higher travel speeds

Regulated Metal Deposition (RMD™) — Thin Material and Gaps

Field #195 252 *(Field installation requires Palm handheld with data card slot.)*

The patented RMD (Regulated Metal Deposition) process — a software-based ***OPTION*** for all Axcess models — is a precisely controlled short-circuit transfer. It is a method of detecting when the short is going to clear and then rapidly reacting to this data changing the current (amperage) levels. Features Proactive Dynamic Puddle Control.

Note: FREE demonstration is included with every new Axcess or Auto-Axcess. Requires Palm to activate. FREE eight-hour trial can also be downloaded from MillerWelds.com/AMS/axcess for existing Axcess or Auto-Axcess systems.

Benefits of RMD

- Well suited to thin materials
- Can replace TIG process in some applications
- Gap filling
- Spatter reduction
- Provides less heat into work piece
- Excellent performance on stainless steel
- Can be combined with other Axcess®-related programs
- Minimize distortion
- Use larger diameter wire on thin materials
- Spatter-free welding with CO_2 shielding gas

Other Key Axcess® Features

Auto-Line™

Miller's patented technology allows for any input voltage hookup (190 V–630 V, single- or three-phase, 50 Hz or 60 Hz) with no manual linking. This assures rock-solid, consistent welding output when operating on fluctuating primary lines. It also makes Axcess a truly international machine, allowing you to deploy it anywhere in the world.

Auto-Cal

Technology that allows simple, automatic scaling and synchronization to analog robot controllers. This assures consistent and repeatable results with minimal downtime when installing Auto-Axcess power sources into existing robot cells.

Auto-Axcess Digital Interface

Miller introduced the Digital Interface version of the Auto-Axcess which is controlled by signals on a DeviceNet network.

Wind Tunnel Technology™

Miller's exclusive Wind Tunnel technology directs air flow away from electrical components and PC boards, protecting them from dirt, dust, and debris, decreasing maintenance requirements and improving reliability.

Fan-On-Demand™

Fan-on-Demand provides extra protection for your equipment. The fan operates only when the thermostat senses the need for power source cooling. Running the fan for shorter time periods consumes less energy, while keeping internal components cleaner, increasing their life span.

SureStart™

Provides consistent arc starts by electronically assuring a ball is not left on the wire when welding is stopped. This provides a predictable condition for the next arc start and combines this with precisely-tuned arc starting routines.

Arc Control

Arc Control offers a simple way to tailor factory pulsed weld programs by adjusting the arc plasma cone to accommodate a variety of welding applications without the need for any reprogramming or changing any hardware.

Arc Adjust

Arc Adjust utilizes a simple method that controls arc length for pulse processes and wetting action for RMD™.

Auto Thread

Auto Thread automatically feeds the wire from the spool through the entire gun, eliminating the need to manually hold the wire jog button.

¼-Turn Steel Connectors

Allows for faster installation of system components and eliminates thread stripping.

Remote/Trigger Program Select

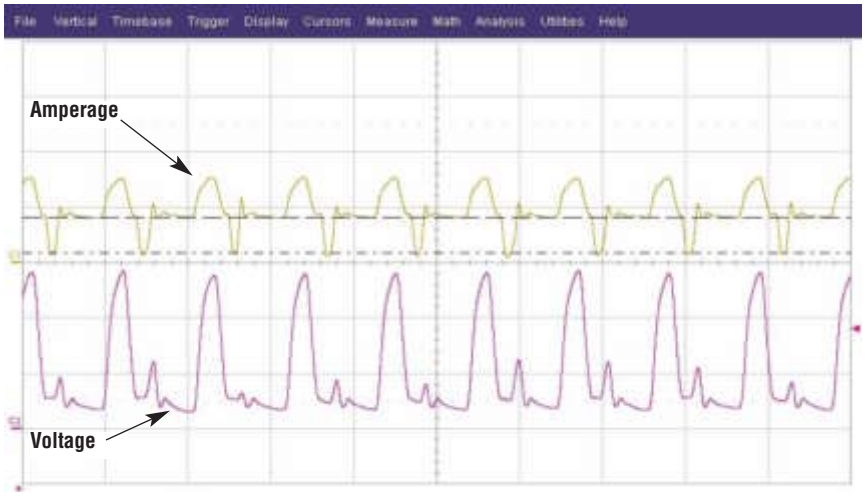
Change weld programs to take advantage of up to 8 programs of Multi-MIG welding process capabilities.

Miller Reliability

Axcess is backed by the best coverage in the industry - Miller's True Blue Warranty, which offers three full years on parts and labor.

TRUE BLUE® 3YR WARRANTY

Accu-Speed



How Accu-Speed Works

- Accu-Speed uses the same CV adaptive scheme and waveform topology as the Accu-Pulse process.
- Accu-Speed responds rapidly to changes in the arc, giving it the ability to run shorter arc lengths at faster travel speeds than conventional pulse waveforms.
- The Accu-Speed wave form (depicted at left) demonstrates the ability of the Axcess power supply to ramp current and voltage quickly to a higher defined peak level, then return immediately to the background level. This has a constricting effect on the arc and allows even shorter arc lengths compared to Accu-Pulse. The result is increased travel speeds and better weld puddle control for "out of position" welding.
- The rapid response of the Axcess reduces time at peak amperage which helps reduces heat input. Reducing heat input helps control distortion, while the peak amperage provides the penetration demanded in critical applications.
- An additional benefit of Accu-Speed can be described as a "tight and driving" arc that can be directed into the joint. The same arc physics improve arc stability at the high travel speeds of automated and robotic applications.