# Accu-Pulse®

- Deltaweld® with Intellx™ Elite or Intellx™ Pro
- XMT® 400 with Intellx™ Elite or Intellx™ Pro

**Material Thickness**

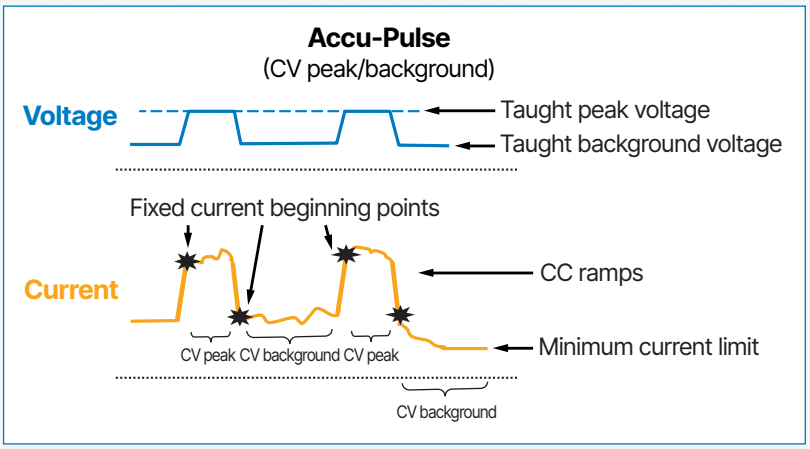
1/16 to 1/2+ inch

**Welding Positions**

**Accu-Pulse is a pulsed GMAW process with industry-leading arc characteristics that allows consistent part-to-part weld quality for newer/lower-skilled operators and ease of use for skilled operators, resulting in predictable weld fusion along with very smooth, consistent bead profiles and higher production rates.**

Accu-Pulse is one of our most flexible, versatile and forgiving welding processes, and can be used in semi-auto, mechanized or robotic applications. The flexibility of Accu-Pulse allows for a large range of material types and thicknesses to be welded, while minimizing expenses from post-weld rework and clean up.

What makes Accu-Pulse unique and versatile is the constant voltage portions of the waveform, which gives the welder the feel of conventional GMAW, while still offering repeatable bead profiles for less skilled operators.




**Material applications:** steel, stainless steel, aluminum, silicon bronze, titanium, nickel alloys, other alloys

**Industry applications:** commercial HVAC, automotive components, truck toolboxes, recreational vehicles, storage tanks/containers, truck and trailers, agriculture equipment, heavy equipment

## Accu-Pulse Benefits

### All Skill Levels Can Use It

- Inexperienced welders will appreciate the consistent arc and the ease of use, allowing for less repairs and more consistent bead profiles, while skilled operators can take advantage of the smooth arc characteristics.

### Very Flexible Process

- Accu-Pulse is tailored to be used with large diameter wires for heavy-plate applications or small diameter wires for thinner sheet metal. The simple weld controls allow for one wire and one gas combination to still be used for a variety of applications, simplifying shop inventory and weld process requirements.

### Lower Heat Input

- Compared to conventional spray, Accu-Pulse can reduce heat input. This can help deal with poor fit-up and part gaps, while reducing warping and burn-through problems.

### Auto or Semi-Auto Applications

- Accu-Pulse can be used in semi-auto applications where an operator needs the ability to manipulate the puddle for part variations. It provides exceptional control, all while minimizing spatter.
- In robotic applications Accu-Pulse provides a fluid puddle with low spatter. It can also be used with through-arc seam tracking, so the weld is consistently in the joint.

# Feature Definitions

## Wire Feed Speed (WFS)

- Wire feed speed is the main control for Accu-Pulse. This provides the user synergic control* of deposition, amperage and voltage. This also gives the user a one-knob adjustment to change overall welding power.

| | |
|---|---|
| **Increase** | • For more welding power for thicker material<br>• For more deposition for faster travel speeds and increased bead size<br>• For more amperage and penetration |
| **Decrease** | • For welding on thinner materials<br>• For welding out of position<br>• For less-fluid and easier-to-manipulate puddle |

## Arc Length

- Changes peak and background portions of the waveform which directly impacts the welding voltage. Changes in value will change the physical arc length. Increasing will make the wire burn closer to the contact tip and decreasing makes the wire burn closer to the workpiece.

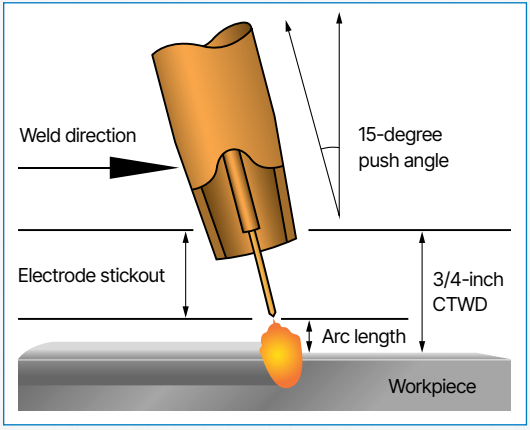
| | |
|---|---|
| **Increase** | • To reduce spatter production<br>• When using long or undersized cables<br>• To increase puddle fluidity |
| **Decrease** | • To help increase travel speed<br>• To provide more control of the weld puddle<br>• To decrease puddle fluidity |

## Arc Control

- Arc control shifts the power without changing the deposition. The power is shifted by changing all of the phases in the pulse waveform. Arc control is normally adjusted when the user wants to fine-tune the transfer for their application.

| | |
|---|---|
| **Increase** | • To help clean up transfer and reduce spatter<br>• To provide a softer, slightly longer, wider arc cone — great for outside corner joints and to smooth the toes of the weld bead |
| **Decrease** | • To provide a stiffer, shorter and narrower arc cone — great for joints that need a faster freezing puddle and thinner materials where bead placement is key<br>• To create a more convex bead profile |

**Synergic control is when the user changes the WFS, the voltage and amperage are changed accordingly for the wire feed speed being commanded. Arc length (AL) and arc control (AC) do not need to be changed when changing wire speed. If the user likes a certain arc the AL and AC offsets will be applied at any point in the WFS range so they will consistently get the arc they like.*




## Accu-Pulse Torch Angles

- 10 to 20 degree push angle
- We recommend maintaining a push angle
- We recommend staying in the front 1/3 of the puddle

## Accu-Pulse Contact Tip to Work Distance (CTWD)

- 5/8 to 3/4 inch CTWD





Miller
We Build.