

**Weld Set Reference: Z254529**  
**Power Wave® 300C (Imperial units)**



(§) Requires Advanced machine

| Process type | Wire type                 | Wire size                           | Waveform             | Gas Type                            | Workpoint Limits  | Wave Control 1      | Wave Control 2 | Wave Control 3 |
|--------------|---------------------------|-------------------------------------|----------------------|-------------------------------------|-------------------|---------------------|----------------|----------------|
| GMAW         | Manual CV                 | None                                | CV                   | Unspecified                         | 10.0 to 45.0 V    | Pinch -10.0 to 10.0 | N/A            | N/A            |
|              | 3XX Stainless             | .035 in                             | CV                   | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 100 to 800 in/min | Pinch -10.0 to 10.0 | N/A            | N/A            |
|              |                           |                                     |                      | 98% Ar 2% CO <sub>2</sub>           |                   |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     |                      | Tri-Mix (He)                        |                   |                     |                |                |
|              |                           |                                     | Precision Pulse™     | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 100 to 600 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% CO <sub>2</sub>           |                   |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     | Pulse                | 98% Ar 2% CO <sub>2</sub>           | 100 to 800 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     | Rapid X® (§)         | 98% Ar 2% CO <sub>2</sub>           | 100 to 800 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     | RapidArc®            | 98% Ar 2% CO <sub>2</sub>           | 100 to 800 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     | Smart Pulse® (§)     | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 125 to 800 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% CO <sub>2</sub>           |                   |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% O <sub>2</sub>            |                   |                     |                |                |
|              |                           |                                     |                      | Ar-Mix                              |                   |                     |                |                |
|              |                           |                                     | STT® (Root Pass) (§) | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 100 to 350 in/min |                     |                |                |
|              |                           |                                     |                      | 98% Ar 2% CO <sub>2</sub>           |                   |                     |                |                |
|              | 98% Ar 2% O <sub>2</sub>  |                                     |                      |                                     |                   |                     |                |                |
|              | Ar/CO <sub>2</sub> /H     |                                     |                      |                                     |                   |                     |                |                |
|              | Ar/CO <sub>2</sub> /N     |                                     |                      |                                     |                   |                     |                |                |
|              |                           | Ar-Mix                              | 100 to 800 in/min    |                                     |                   |                     |                |                |
|              |                           | Tri-Mix (He)                        |                      |                                     |                   |                     |                |                |
|              |                           | 90% He 7.5% Ar 2.5% CO <sub>2</sub> |                      |                                     |                   |                     |                |                |
|              |                           | 98% Ar 2% CO <sub>2</sub>           |                      |                                     |                   |                     |                |                |
|              |                           | 98% Ar 2% O <sub>2</sub>            |                      |                                     |                   |                     |                |                |
|              | CV                        | 98% Ar 2% O <sub>2</sub>            | 100 to 690 in/min    |                                     |                   |                     |                |                |
|              |                           | Ar-Mix                              |                      |                                     |                   |                     |                |                |
|              |                           | Tri-Mix (He)                        |                      |                                     |                   |                     |                |                |
|              |                           | 100 to 800 in/min                   |                      |                                     |                   |                     |                |                |
|              | Precision Pulse™          | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 60 to 600 in/min     |                                     |                   |                     |                |                |
|              |                           | 98% Ar 2% CO <sub>2</sub>           |                      |                                     |                   |                     |                |                |
|              |                           | 98% Ar 2% O <sub>2</sub>            |                      |                                     |                   |                     |                |                |
| Ar-Mix       |                           |                                     |                      |                                     |                   |                     |                |                |
| Tri-Mix (He) |                           |                                     |                      |                                     |                   |                     |                |                |
| Pulse        | 98% Ar 2% CO <sub>2</sub> | 100 to 600 in/min                   |                      |                                     |                   |                     |                |                |
|              | 98% Ar 2% O <sub>2</sub>  |                                     |                      |                                     |                   |                     |                |                |
|              | Ar-Mix                    |                                     |                      |                                     |                   |                     |                |                |
| Rapid X® (§) | 98% Ar 2% CO <sub>2</sub> | 100 to 800 in/min                   |                      |                                     |                   |                     |                |                |
|              | 98% Ar 2% O <sub>2</sub>  |                                     |                      |                                     |                   |                     |                |                |
|              | Ar-Mix                    |                                     |                      |                                     |                   |                     |                |                |

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| Process type         | Wire type                           | Wire size                           | Waveform                            | Gas Type                            | Workpoint Limits        | Wave Control 1          | Wave Control 2 | Wave Control 3 |
|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|----------------|----------------|
| GMAW                 | 3XX Stainless                       | .040 in                             | RapidArc®                           | 98% Ar 2% CO <sub>2</sub>           | 100 to 800 in/min       | UltimArc® -10.0 to 10.0 |                |                |
|                      |                                     |                                     |                                     | 98% Ar 2% O <sub>2</sub>            |                         |                         |                |                |
|                      |                                     |                                     |                                     | Ar-Mix                              |                         |                         |                |                |
|                      |                                     |                                     | Smart Pulse® (§)                    | 90% He 7.5% Ar 2.5% CO <sub>2</sub> |                         |                         |                |                |
|                      |                                     |                                     |                                     | 98% Ar 2% CO <sub>2</sub>           |                         |                         |                |                |
|                      |                                     |                                     |                                     | 98% Ar 2% O <sub>2</sub>            |                         |                         |                |                |
|                      |                                     | STT® (Root Pass) (§)                | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 100 to 300 in/min                   |                         |                         |                |                |
|                      |                                     |                                     | 98% Ar 2% CO <sub>2</sub>           |                                     |                         |                         |                |                |
|                      |                                     |                                     | 98% Ar 2% O <sub>2</sub>            |                                     |                         |                         |                |                |
|                      |                                     |                                     | Ar-Mix                              |                                     |                         |                         |                |                |
|                      |                                     |                                     | Tri-Mix (He)                        |                                     |                         |                         |                |                |
|                      |                                     |                                     | Tri-Mix (He)                        |                                     |                         |                         |                |                |
|                      | CV                                  | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 75 to 525 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | 98% Ar 2% CO <sub>2</sub>           | 75 to 575 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              | 75 to 525 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | Tri-Mix (He)                        | 60 to 400 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | Tri-Mix (He)                        |                                     |                                     |                         |                         |                |                |
|                      | Precision Pulse™                    | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 50 to 500 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | 98% Ar 2% CO <sub>2</sub>           |                                     |                                     |                         |                         |                |                |
|                      |                                     | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              |                                     |                                     |                         |                         |                |                |
|                      |                                     | Tri-Mix (He)                        |                                     |                                     |                         |                         |                |                |
|                      |                                     | Tri-Mix (He)                        |                                     |                                     |                         |                         |                |                |
|                      | Pulse                               | 98% Ar 2% CO <sub>2</sub>           | 75 to 500 in/min                    |                                     |                         |                         |                |                |
|                      |                                     | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              |                                     |                                     |                         |                         |                |                |
|                      |                                     | Ar-Mix                              |                                     |                                     |                         |                         |                |                |
| Rapid X® (§)         | 98% Ar 2% CO <sub>2</sub>           | 100 to 600 in/min                   |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
| RapidArc®            | 98% Ar 2% CO <sub>2</sub>           |                                     |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
| Smart Pulse® (§)     | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 100 to 645 in/min                   |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% CO <sub>2</sub>           | 100 to 625 in/min                   |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              | 100 to 645 in/min                   |                                     |                                     |                         |                         |                |                |
|                      | Tri-Mix (He)                        |                                     |                                     |                                     |                         |                         |                |                |
|                      | Tri-Mix (He)                        |                                     |                                     |                                     |                         |                         |                |                |
| STT® (Root Pass) (§) | 90% He 7.5% Ar 2.5% CO <sub>2</sub> | 90 to 250 in/min                    |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% CO <sub>2</sub>           |                                     |                                     |                                     |                         |                         |                |                |
|                      | 98% Ar 2% O <sub>2</sub>            |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Ar-Mix                              |                                     |                                     |                                     |                         |                         |                |                |
|                      | Tri-Mix (He)                        |                                     |                                     |                                     |                         |                         |                |                |
| AI 4XXX              | .035 in                             | AC Precision Pulse™ (§)             | 100% Ar                             | 125 to 700 in/min                   | UltimArc® -10.0 to 10.0 | N/A                     | N/A            |                |
|                      |                                     | CV                                  |                                     | 150 to 750 in/min                   | Pinch -10.0 to 10.0     |                         |                |                |
|                      |                                     | Precision Pulse™                    |                                     | 125 to 800 in/min                   | UltimArc® -10.0 to 10.0 |                         |                |                |

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|------------------|-----------|-----------|-------------------------|----------------------------|----------------------------|----------------------------|----------------|----------------|-------------------------|------------------|------------------|------------------|-------------------|------------------|-------------------------|----------------------------|----------------------------|----------------------------|--------|-------|----------------------------|----------------------------|----------------------------|--------|--------------|----------------------------|----------------------------|----------------------------|--------|----------------------------|----------------------------|--------|----------------------------|----------------------------|----------------------------|
| GMAW             | Al 4XXX   | 1/16 in   | AC Precision Pulse™ (§) | 100% Ar                    | 100 to 350 in/min          | UltimArc® -10.0 to 10.0    | N/A            | N/A            |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | CV                      |                            | 75 to 340 in/min           | Pinch -10.0 to 10.0        |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | Precision Pulse™        |                            | 125 to 500 in/min          | UltimArc® -10.0 to 10.0    |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           | 3/64 in   | AC Precision Pulse™ (§) |                            | 125 to 590 in/min          | Pinch -10.0 to 10.0        |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | CV                      |                            | 85 to 600 in/min           | UltimArc® -10.0 to 10.0    |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | Precision Pulse™        |                            |                            |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  | Al 5XXX   | .035 in   | AC Precision Pulse™ (§) | 100% Ar                    | 150 to 800 in/min          | UltimArc® -10.0 to 10.0    | N/A            | N/A            |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            | CV                         | 175 to 750 in/min          |                |                | Pinch -10.0 to 10.0     |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            | Precision Pulse™           | 150 to 800 in/min          |                |                | UltimArc® -10.0 to 10.0 |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | 1/16 in                 |                            | AC Precision Pulse™ (§)    | 100 to 400 in/min          |                |                | Pinch -10.0 to 10.0     |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            | CV                         | 125 to 470 in/min          |                |                | UltimArc® -10.0 to 10.0 |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            | Precision Pulse™           | 100 to 400 in/min          |                |                | Pinch -10.0 to 10.0     |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           | 3/64 in   | AC Precision Pulse™ (§) | 100 to 700 in/min          | UltimArc® -10.0 to 10.0    |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | CV                      | 125 to 750 in/min          | Pinch -10.0 to 10.0        |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | Precision Pulse™        | 85 to 700 in/min           | UltimArc® -10.0 to 10.0    |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           | Copper    | .035 in                 | Pulse                      | 75% Ar 25% He              | 100 to 700 in/min          |                |                | UltimArc® -10.0 to 10.0 | N/A              | N/A              |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            | Ar/He-Mix                  |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           | .045 in                 |                            | 75% Ar 25% He              | 75 to 500 in/min           |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  | Ar/He-Mix |           |                         |                            |                            |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  | MCW Steel | .045 in   | CV                      | 75% Ar 25% CO <sub>2</sub> | 100 to 650 in/min          | Pinch -10.0 to 10.0        | N/A            | N/A            |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 80% Ar 20% CO <sub>2</sub> | 100 to 625 in/min          |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 85% Ar 15% CO <sub>2</sub> |                            |                            |                |                | 75 to 500 in/min        |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 90% Ar 10% CO <sub>2</sub> |                            |                            |                |                |                         | 75 to 495 in/min |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | Ar-Mix                     |                            |                            |                |                |                         |                  | 75 to 780 in/min |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 80% Ar 20% CO <sub>2</sub> |                            |                            |                |                |                         |                  |                  | 75 to 760 in/min |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 85% Ar 15% CO <sub>2</sub> |                            |                            |                |                |                         |                  |                  |                  | 100 to 510 in/min |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | 90% Ar 10% CO <sub>2</sub> |                            |                            |                |                |                         |                  |                  |                  |                   | 90 to 225 in/min |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | Ar-Mix                     |                            |                            |                |                |                         |                  |                  |                  |                   |                  | UltimArc® -10.0 to 10.0 |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         | Precision Pulse™           |                            |                            |                |                |                         |                  |                  |                  |                   |                  |                         | 80% Ar 20% CO <sub>2</sub> | 85% Ar 15% CO <sub>2</sub> | 90% Ar 10% CO <sub>2</sub> | Ar-Mix |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            |                            |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        | Pulse | 80% Ar 20% CO <sub>2</sub> | 85% Ar 15% CO <sub>2</sub> | 90% Ar 10% CO <sub>2</sub> | Ar-Mix |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |
|                  |           |           |                         |                            |                            |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        | Rapid X® (§) | 80% Ar 20% CO <sub>2</sub> | 85% Ar 15% CO <sub>2</sub> | 90% Ar 10% CO <sub>2</sub> | Ar-Mix |                            |                            |        |                            |                            |                            |
|                  |           |           | RapidArc®               |                            |                            | 80% Ar 20% CO <sub>2</sub> |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        | 85% Ar 15% CO <sub>2</sub> | 90% Ar 10% CO <sub>2</sub> | Ar-Mix |                            |                            |                            |
| Smart Pulse® (§) |           |           |                         |                            | 75% Ar 25% CO <sub>2</sub> |                            |                |                |                         |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        | 80% Ar 20% CO <sub>2</sub> | 85% Ar 15% CO <sub>2</sub> | 90% Ar 10% CO <sub>2</sub> |
|                  |           |           |                         |                            |                            |                            |                |                | STT® (Root Pass) (§)    |                  |                  |                  |                   |                  |                         |                            |                            |                            |        |       |                            |                            |                            |        |              |                            |                            |                            |        |                            |                            |        |                            |                            |                            |



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**Power Wave® 300C (Imperial units)**



(§) Requires Advanced machine

| Process type     | Wire type                  | Wire size                  | Waveform                   | Gas Type                   | Workpoint Limits        | Wave Control 1          | Wave Control 2 | Wave Control 3 |
|------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------|-------------------------|----------------|----------------|
| GMAW             | Steel                      | .035 in                    | Smart Pulse® (§)           | 80% Ar 20% CO <sub>2</sub> | 100 to 800 in/min       | UltimArc® -10.0 to 10.0 | N/A            | N/A            |
|                  |                            |                            |                            | 85% Ar 15% CO <sub>2</sub> |                         |                         |                |                |
|                  |                            |                            |                            | 90% Ar 10% CO <sub>2</sub> |                         |                         |                |                |
|                  |                            |                            | STT® (Root Pass) (§)       | Ar-Mix                     | 125 to 250 in/min       |                         |                |                |
|                  |                            |                            |                            | 100% CO <sub>2</sub>       | 100 to 350 in/min       |                         |                |                |
|                  |                            |                            |                            | 75% Ar 25% CO <sub>2</sub> |                         |                         |                |                |
|                  |                            |                            |                            | 80% Ar 20% CO <sub>2</sub> |                         |                         |                |                |
|                  |                            |                            |                            | 85% Ar 15% CO <sub>2</sub> |                         |                         |                |                |
|                  |                            | 90% Ar 10% CO <sub>2</sub> |                            |                            |                         |                         |                |                |
|                  |                            | Ar-Mix                     |                            |                            |                         |                         |                |                |
|                  |                            | 95% Ar 5% O <sub>2</sub>   |                            |                            |                         |                         |                |                |
|                  |                            | AC STT® (§)                | 75% Ar 25% CO <sub>2</sub> | 75 to 250 in/min           | Balance 0 to 100 %      | UltimArc® -10.0 to 10.0 |                |                |
|                  |                            |                            | 80% Ar 20% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | Ar-Mix                     |                            |                         |                         |                |                |
|                  |                            | CV                         | 100% CO <sub>2</sub>       | 100 to 725 in/min          | Pinch -10.0 to 10.0     |                         |                |                |
|                  |                            |                            | 75% Ar 25% CO <sub>2</sub> | 100 to 595 in/min          |                         |                         |                |                |
|                  |                            |                            | 80% Ar 20% CO <sub>2</sub> | 100 to 615 in/min          |                         |                         |                |                |
|                  |                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            | Ar-Mix                     |                            |                            |                         |                         |                |                |
|                  |                            | Low Fume Pulse™ (§)        | 90% Ar 10% CO <sub>2</sub> | 75 to 800 in/min           | UltimArc® -10.0 to 10.0 |                         |                |                |
|                  |                            |                            | Ar-Mix                     |                            |                         |                         |                |                |
|                  |                            | Precision Pulse™           | 80% Ar 20% CO <sub>2</sub> | 75 to 600 in/min           |                         |                         |                |                |
|                  |                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                         |                         |                |                |
|                  |                            |                            | Ar-Mix                     |                            |                         |                         |                |                |
| Pulse            | 80% Ar 20% CO <sub>2</sub> | 100 to 600 in/min          | N/A                        |                            |                         |                         |                |                |
|                  | 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
| Rapid X® (§)     | Ar-Mix                     | 75 to 800 in/min           |                            |                            |                         |                         |                |                |
|                  | 80% Ar 20% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
| RapidArc®        | Ar-Mix                     | 75 to 800 in/min           |                            |                            |                         |                         |                |                |
|                  | 80% Ar 20% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
| Smart Pulse® (§) | Ar-Mix                     | 100 to 670 in/min          |                            |                            |                         |                         |                |                |
|                  | 80% Ar 20% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                         |                         |                |                |
|                  | Ar-Mix                     |                            |                            |                            |                         |                         |                |                |

**Weld Set Reference: Z254529**  
**Power Wave® 300C (Imperial units)**



(§) Requires Advanced machine

| Process type               | Wire type                  | Wire size                  | Waveform                   | Gas Type                   | Workpoint Limits  | Wave Control 1          | Wave Control 2          | Wave Control 3 |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------|-------------------------|-------------------------|----------------|
| GMAW                       | Steel                      | .040 in                    | STT® (Root Pass) (§)       | 100% CO <sub>2</sub>       | 100 to 250 in/min | UltimArc® -10.0 to 10.0 | N/A                     | N/A            |
|                            |                            |                            |                            | 75% Ar 25% CO <sub>2</sub> | 100 to 275 in/min |                         |                         |                |
|                            |                            |                            |                            | 80% Ar 20% CO <sub>2</sub> |                   |                         |                         |                |
|                            |                            |                            |                            | 85% Ar 15% CO <sub>2</sub> |                   |                         |                         |                |
|                            |                            |                            |                            | 90% Ar 10% CO <sub>2</sub> |                   |                         |                         |                |
|                            |                            | Ar-Mix                     | AC STT® (§)                | 75% Ar 25% CO <sub>2</sub> | 75 to 200 in/min  | Balance 0 to 100 %      | UltimArc® -10.0 to 10.0 |                |
|                            |                            | 80% Ar 20% CO <sub>2</sub> |                            |                            |                   |                         |                         |                |
|                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                            |                   |                         |                         |                |
|                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                            |                   |                         |                         |                |
|                            |                            | Ar-Mix                     |                            | CV                         |                   |                         |                         |                |
|                            |                            | 75% Ar 25% CO <sub>2</sub> | 50 to 595 in/min           |                            |                   |                         |                         |                |
|                            |                            | 80% Ar 20% CO <sub>2</sub> | 50 to 490 in/min           |                            |                   |                         |                         |                |
|                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                            |                   |                         |                         |                |
|                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                            |                   |                         |                         |                |
|                            |                            | Ar-Mix                     | Low Fume Pulse™ (§)        | 90% Ar 10% CO <sub>2</sub> | 100 to 680 in/min | UltimArc® -10.0 to 10.0 | N/A                     |                |
|                            |                            | Ar-Mix                     |                            |                            |                   |                         |                         |                |
|                            |                            | Precision Pulse™           | 80% Ar 20% CO <sub>2</sub> | 75 to 400 in/min           |                   |                         |                         |                |
|                            |                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                   |                         |                         |                |
|                            |                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                   |                         |                         |                |
|                            |                            |                            | Ar-Mix                     |                            |                   |                         |                         |                |
|                            |                            | Pulse                      | 95% Ar 5% O <sub>2</sub>   | 75 to 475 in/min           |                   |                         |                         |                |
|                            |                            |                            | 80% Ar 20% CO <sub>2</sub> |                            |                   |                         |                         |                |
|                            |                            |                            | 85% Ar 15% CO <sub>2</sub> |                            |                   |                         |                         |                |
|                            |                            |                            | 90% Ar 10% CO <sub>2</sub> |                            |                   |                         |                         |                |
| Ar-Mix                     | Rapid X® (§)               | 80% Ar 20% CO <sub>2</sub> | 75 to 690 in/min           |                            |                   |                         |                         |                |
| 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                            |                   |                         |                         |                |
| 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                            |                   |                         |                         |                |
| Ar-Mix                     |                            |                            |                            |                            |                   |                         |                         |                |
| RapidArc®                  | 95% Ar 5% O <sub>2</sub>   | 75 to 650 in/min           |                            |                            |                   |                         |                         |                |
|                            | 80% Ar 20% CO <sub>2</sub> | 75 to 675 in/min           |                            |                            |                   |                         |                         |                |
|                            | 85% Ar 15% CO <sub>2</sub> |                            |                            |                            |                   |                         |                         |                |
|                            | 90% Ar 10% CO <sub>2</sub> |                            |                            |                            |                   |                         |                         |                |
| Ar-Mix                     |                            |                            |                            |                            |                   |                         |                         |                |
| .045 in                    | RapidArc®                  | 95% Ar 5% O <sub>2</sub>   | 75 to 615 in/min           |                            |                   |                         |                         |                |

**Weld Set Reference: Z254529**  
**Power Wave® 300C (Imperial units)**



(§) Requires Advanced machine

| Process type               | Wire type                  | Wire size                  | Waveform                | Gas Type                   | Workpoint Limits  | Wave Control 1            | Wave Control 2        | Wave Control 3            |
|----------------------------|----------------------------|----------------------------|-------------------------|----------------------------|-------------------|---------------------------|-----------------------|---------------------------|
| GMAW                       | Steel                      | .045 in                    | Smart Pulse® (§)        | 80% Ar 20% CO <sub>2</sub> | 100 to 660 in/min | UltimArc® -10.0 to 10.0   | N/A                   | N/A                       |
|                            |                            |                            |                         | 85% Ar 15% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            |                         | 90% Ar 10% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            | STT® (Root Pass) (§)    | Ar-Mix                     | 100 to 200 in/min |                           |                       |                           |
|                            |                            |                            |                         | 100% CO <sub>2</sub>       | 90 to 250 in/min  |                           |                       |                           |
|                            |                            |                            |                         | 75% Ar 25% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            |                         | 80% Ar 20% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            |                         | 85% Ar 15% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            | 90% Ar 10% CO <sub>2</sub> |                         |                            |                   |                           |                       |                           |
|                            |                            | .052 in                    | CV                      | Ar-Mix                     | 90 to 300 in/min  | Pinch -10.0 to 10.0       | N/A                   | N/A                       |
|                            |                            |                            |                         | 100% CO <sub>2</sub>       | 50 to 390 in/min  |                           |                       |                           |
|                            |                            |                            |                         | 75% Ar 25% CO <sub>2</sub> | 50 to 335 in/min  |                           |                       |                           |
|                            |                            |                            |                         | 80% Ar 20% CO <sub>2</sub> | 50 to 320 in/min  |                           |                       |                           |
|                            |                            |                            |                         | 85% Ar 15% CO <sub>2</sub> |                   |                           |                       |                           |
| 90% Ar 10% CO <sub>2</sub> |                            |                            |                         |                            |                   |                           |                       |                           |
| Precision Pulse™           | Ar-Mix                     | 75 to 355 in/min           | UltimArc® -10.0 to 10.0 |                            |                   |                           |                       |                           |
|                            | 80% Ar 20% CO <sub>2</sub> |                            |                         |                            |                   |                           |                       |                           |
|                            | 85% Ar 15% CO <sub>2</sub> |                            |                         |                            |                   |                           |                       |                           |
|                            | 90% Ar 10% CO <sub>2</sub> |                            |                         |                            |                   |                           |                       |                           |
| FCAW-S                     | Self-Shielded              | None                       | Self-Shielded           | No gas                     | 10.0 to 45.0 V    | Pinch -10.0 to 10.0       | N/A                   | N/A                       |
| FCAW-G                     | Manual CV                  | None                       | Gas-Shielded            | Unspecified                | 10.0 to 45.0 V    | Pinch -10.0 to 10.0       | N/A                   | N/A                       |
|                            | Steel                      | .045 in                    | Gas-Shielded            | 100% CO <sub>2</sub>       | 175 to 600 in/min | Pinch -10.0 to 10.0       | N/A                   | N/A                       |
|                            |                            |                            |                         | 75% Ar 25% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            |                         | Ar-Mix                     |                   |                           |                       |                           |
|                            |                            | .052 in                    |                         | 100% CO <sub>2</sub>       | 150 to 500 in/min |                           |                       |                           |
|                            |                            |                            |                         | 75% Ar 25% CO <sub>2</sub> |                   |                           |                       |                           |
|                            |                            |                            |                         | Ar-Mix                     |                   |                           |                       |                           |
|                            | 1/16 in                    | 100% CO <sub>2</sub>       | 125 to 400 in/min       |                            |                   |                           |                       |                           |
|                            |                            | 75% Ar 25% CO <sub>2</sub> | 125 to 375 in/min       |                            |                   |                           |                       |                           |
|                            |                            | Ar-Mix                     |                         |                            |                   |                           |                       |                           |
| GTAW                       |                            | GTAW                       | N/A                     | HF TIG (§)                 | Helium, Argon     |                           |                       |                           |
|                            | Touch Start                |                            |                         |                            |                   |                           |                       |                           |
|                            | HF TIG Pulse (§)           |                            |                         | Frequency 0.3 to 35.6 Hz   |                   | Background 20 to 100 %    |                       |                           |
|                            | Touch Start TIG Pulse      |                            |                         | 10 to 350 A                |                   | AC Frequency 50 to 200 Hz | AC Balance 35 to 85 % | DC Offset -30 to 30 %     |
|                            | HF AC TIG (§)              |                            |                         |                            |                   |                           |                       |                           |
|                            | Touch Start AC TIG (§)     |                            |                         |                            |                   |                           |                       |                           |
| SMAW                       | Stick                      | N/A                        | AC SMAW (§)             | No gas                     | 15 to 350 A       | Arc Force -10.0 to 10.0   | Hot Start 0.0 to 10.0 | AC Frequency 20 to 100 Hz |
|                            |                            |                            | Crisp (EXX10)           |                            |                   |                           |                       |                           |
|                            |                            |                            | DCEN SMAW (§)*          |                            |                   |                           |                       | N/A                       |
|                            |                            |                            | Soft (EXX18)            |                            |                   |                           |                       |                           |
|                            |                            |                            | Stainless (E3XX)        |                            |                   |                           |                       |                           |
| Gouge                      | Carbon Arc                 | N/A                        | Arc Gouge               | No gas                     | 60 to 350 A       | N/A                       | N/A                   | N/A                       |

\*This mode is not available on the ECO version. See the manual on how to weld DC- SMAW