

SPECIFICATIONS

Powermax105 cutting specifications

| Handheld cut capacity (material thickness) | |
|---|-------------------------|
| Recommended cut capacity at 500 mm/min (20 ipm)* | 32 mm (1-1/4 in.) |
| Recommended cut capacity at 250 mm/min (10 ipm)* | 38 mm (1-1/2 in.) |
| Severance capacity at 125 mm/min (5 ipm)* | 50 mm (2 in.) |
| Pierce capacity (material thickness) | |
| Pierce capacity for handheld cutting, or mechanized cutting with programmable torch height control | 22 mm (7/8 in.) |
| Pierce capacity for mechanized cutting without programmable torch height control | 20 mm (3/4 in.) |
| Maximum cut speed** (mild steel) | |
| 6 mm (1/4 in.) | 5600 mm/min (220 ipm) |
| 12 mm (1/2 in.) | 2400 mm/min (95 ipm) |
| 20 mm (3/4 in.) | 1300 mm/min (50 ipm) |
| 25 mm (1 in.) | 760 mm/min (30 ipm) |
| 32 mm (1-1/4 in.) | 510 mm/min (20 ipm) |
| Gouging capacity | |
| Maximum Removal metal removal rate on mild steel (65 A) | 4.8 kg/hr (10.7 lbs/hr) |
| Maximum Control metal removal rate on mild steel (65 A) | 3.4 kg/hr (7.5 lbs/hr) |
| Maximum Removal metal removal rate on mild steel (85 A) | 8.8 kg/hr (19.5 lbs/hr) |
| Maximum Control metal removal rate on mild steel (85 A) | 6.2 kg/hr (13.7 lbs/hr) |
| Maximum Removal metal removal rate on mild steel (105 A) | 9.8 kg/hr (21.7 lbs/hr) |
| Maximum Control metal removal rate on mild steel (105 A) | 6.9 kg/hr (15.2 lbs/hr) |
| Duramax series torch weights (refer to page 1-5 <i>Component weights (105 A systems)</i>) | |
| Duty cycle and voltage information (refer to page 1-6 <i>Powermax105 power supply ratings</i>) | |

* Cut capacity speeds are not necessarily maximum speeds. They are the speeds that must be achieved to be rated at that thickness.

** Maximum cut speeds are the results of Hypertherm's laboratory testing. Actual cutting speeds may vary based on different cutting applications.

Choose the machine torch consumables

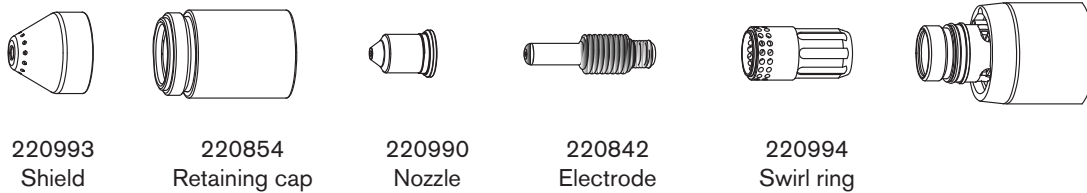
Powermax systems with the Duramax 180° full-length machine torch or Duramax 180° mini machine torch are shipped with a box of consumables. In addition, an ohmic-sensing retaining cap is available for use with shielded consumables.

With shielded consumables, the torch tip may touch the metal when cutting. With unshielded consumables, you must keep the torch a small distance, about 2-3 mm (.08-.12 inch), away from the metal. Unshielded consumables generally have a shorter life than shielded consumables. Depending upon which system you order, you may receive a starter consumable kit with a standard retaining cap or ohmic retaining cap.

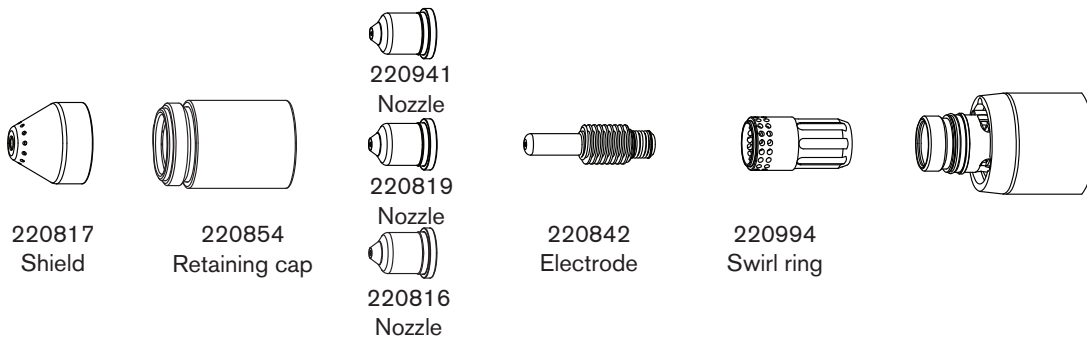
Both styles of machine torches use the same consumables.

Machine torch consumables

Mechanized shielded 105 A consumables



Mechanized shielded 45 A, 65 A, 85 A consumables

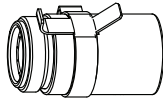


MACHINE TORCH SETUP

Mechanized shielded with ohmic 105 A consumables



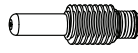
220993
Shield



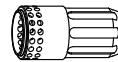
220953
Ohmic-sensing
retaining cap



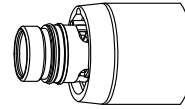
220990
Nozzle



220842
Electrode



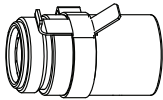
220994
Swirl ring



Mechanized shielded with ohmic 45 A, 65 A, 85 A consumables



220817
Shield



220953
Ohmic-sensing
retaining cap



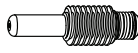
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Nozzle



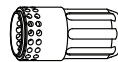
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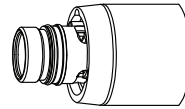
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Nozzle



220842
Electrode



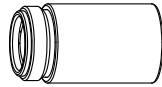
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Swirl ring



Mechanized unshielded 105 A consumables



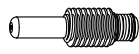
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Deflector



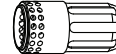
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Retaining cap



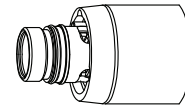
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Nozzle



220842
Electrode



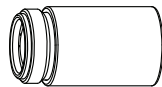
220994
Swirl ring



Mechanized unshielded 45 A, 65 A, 85 A consumables



220955
Deflector



220854
Retaining cap



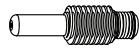
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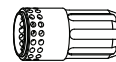
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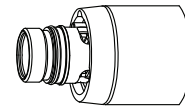
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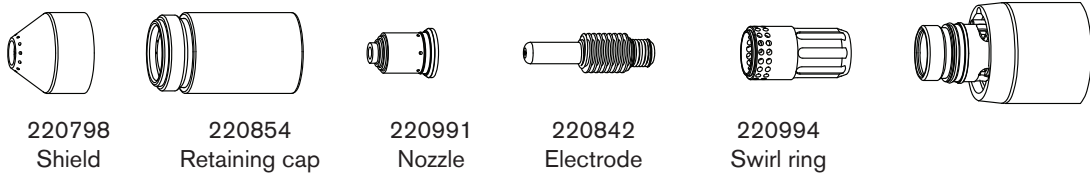
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Electrode



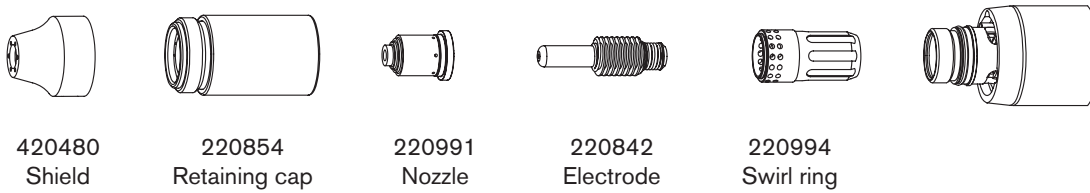
220994
Swirl ring



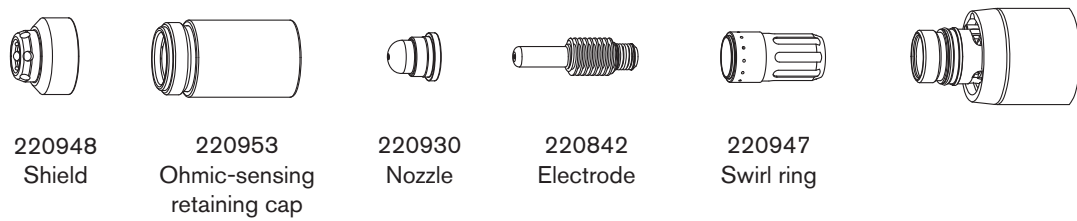
Maximum Removal gouging consumables



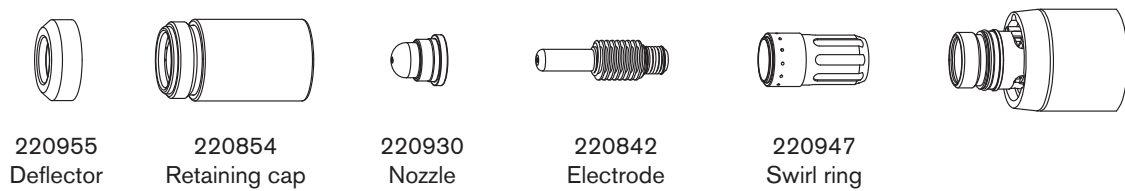
Maximum Control gouging consumables



FineCut® shielded consumables



FineCut® unshielded consumables



Using the cut charts

The following sections provide cut charts for each set of mechanized consumables. A consumable diagram with part numbers precedes each set of charts. For each consumable type, there are Metric and English charts for mild steel, stainless steel, and aluminum.

Note: For cut charts on using F5 gas to cut stainless steel, refer to the *Use F5 to Cut Stainless Steel* application note (809060). You can download this document from the Documents library at www.hypertherm.com.

Each chart contains the following information:

- Amperage setting — Except for FineCut charts, the amperage setting at the top left side of the page applies to all the settings given on that page. In FineCut charts, the amperage setting for each thickness, either 45 or 40 (45, 40, or 30 for low speed), is included in the chart.
- Material Thickness — Thickness of the workpiece (metal plate being cut).
- Torch-to-Work Distance — For shielded consumables, the distance between the shield and the workpiece during cutting. For unshielded consumables, the distance between the nozzle and the workpiece during cutting.
- Initial Pierce Height — Distance between the shield (shielded) or the nozzle (unshielded) and the workpiece when the torch is triggered, prior to descending to the cut height.
- Pierce Delay Time — Length of time the triggered torch remains stationary at the pierce height before the torch starts the cutting motion.
- Best Quality Settings (cut speed and voltage) — Settings that provide the starting point for finding the best cut quality (best angle, least dross, best cut-surface finish). Adjust the speed for your application and table to obtain the desired result.
- Production Settings (cut speed and voltage) — 70% to 80% of the maximum speed ratings. These speeds result in the greatest number of cut parts, but not necessarily the best possible cut quality.

Note: The arc voltage increases as the consumables wear and the voltage setting should be increased to maintain the correct Torch-to-Work Distance.

Each cut chart lists hot and cold air flow rates.

- Hot air flow rate — Plasma is on, the system is operating at running current, and the system is in a steady state at the default system pressure (automatic mode).
- Cold air flow rate — Plasma is off and the system is in a steady state with air flowing through the torch at the default system pressure.

Note: Hypertherm collected the data under laboratory test conditions using new consumables.

Estimated kerf-width compensation

The widths in the tables below are for reference. The data are obtained with the “Best Quality” settings. Differences between installations and material composition may cause actual results to vary from those shown in the tables.

Estimated kerf-width compensation – Metric (mm)

| Process | Thickness (mm) | | | | | | | | | | |
|------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0.5 | 1 | 2 | 3 | 6 | 8 | 10 | 12 | 16 | 20 | 25 |
| Mild Steel | | | | | | | | | | | |
| 105 A Shielded | | | | | 2.1 | 2.2 | 2.2 | 2.2 | 2.5 | 2.7 | 3.3 |
| 85 A Shielded | | | | 1.7 | 1.8 | 1.9 | 2.0 | 2.2 | 2.4 | 2.6 | |
| 65 A Shielded | | | 1.6 | 1.6 | 1.8 | 1.9 | 2.0 | 2.2 | 2.3 | | |
| 45 A Shielded | 1.1 | 1.1 | 1.4 | 1.5 | 1.7 | | | | | | |
| FineCut | 0.7 | 0.7 | 1.3 | 1.3 | | | | | | | |
| Low Speed FineCut | 0.6 | 0.8 | 0.7 | 1.3 | | | | | | | |
| 105 A Unshielded | | | | | 2.1 | 2.2 | 2.2 | 2.2 | 2.5 | 2.7 | 3.3 |
| 85 A Unshielded | | | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1 | 2.3 | | |
| 65 A Unshielded | | | 1.6 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | | | |
| 45 A Unshielded | 0.5 | 0.9 | 1.3 | 1.3 | | | | | | | |
| Stainless Steel | | | | | | | | | | | |
| 105 A Shielded | | | | | 1.9 | 2.1 | 2.3 | 2.3 | 2.3 | 2.6 | 2.9 |
| 85 A Shielded | | | | 1.6 | 1.8 | 1.9 | 2.1 | 2.3 | 2.4 | 2.5 | |
| 65 A Shielded | | | 1.4 | 1.5 | 1.8 | 1.9 | 2.0 | 2.2 | 2.4 | | |
| 45 A Shielded | 0.9 | 1.1 | 1.5 | 1.6 | 1.8 | | | | | | |
| FineCut | 0.6 | 0.6 | 1.0 | 1.4 | | | | | | | |
| Low Speed FineCut | 0.7 | 0.6 | 1.3 | 1.4 | | | | | | | |
| 105 A Unshielded | | | | | 2.0 | 2.2 | 2.4 | 2.5 | 2.7 | 2.7 | 3.1 |
| 85 A Unshielded | | | 1.7 | 1.7 | 1.8 | 1.9 | 2.1 | 2.2 | 2.4 | | |
| 65 A Unshielded | | | 1.6 | 1.6 | 1.8 | 1.8 | 1.9 | 2.0 | | | |
| 45 A Unshielded | 0.5 | 1.0 | 1.3 | 1.5 | 1.5 | | | | | | |
| Aluminum | | | | | | | | | | | |
| 105 A Shielded | | | | | 2.3 | 2.3 | 2.4 | 2.6 | 2.7 | 3.0 | 3.5 |
| 85 A Shielded | | | | 2.0 | 1.9 | 2.0 | 2.1 | 2.2 | 2.4 | 2.6 | |
| 65 A Shielded | | | 1.9 | 1.9 | 1.9 | 2.0 | 2.1 | 2.3 | 2.5 | | |
| 45 A Shielded | | 1.5 | 1.5 | 1.6 | 1.5 | | | | | | |
| 105 A Unshielded | | | | | 2.2 | 2.4 | 2.5 | 2.6 | 2.7 | 3.0 | 3.3 |
| 85 A Unshielded | | | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.2 | | |
| 65 A Unshielded | | | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 2.0 | | | |
| 45 A Unshielded | | 1.6 | 1.5 | 1.4 | 1.5 | | | | | | |

MACHINE TORCH SETUP

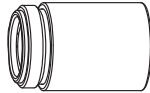
Estimated kerf-width compensation – English (inches)

| Process | Thickness (inches) | | | | | | | | | | |
|------------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 22GA | 18GA | 14GA | 10GA | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| Mild Steel | | | | | | | | | | | |
| 105 A Shielded | | | | | | 0.083 | 0.088 | 0.089 | 0.100 | 0.101 | 0.133 |
| 85 A Shielded | | | | 0.068 | 0.071 | 0.073 | 0.078 | 0.090 | 0.095 | 0.100 | |
| 65 A Shielded | | | 0.062 | 0.065 | 0.068 | 0.070 | 0.076 | 0.088 | 0.090 | 0.091 | |
| 45 A Shielded | 0.035 | 0.054 | 0.055 | 0.061 | 0.065 | 0.066 | | | | | |
| FineCut | 0.024 | 0.043 | 0.049 | 0.051 | | | | | | | |
| Low Speed FineCut | 0.025 | 0.031 | 0.027 | 0.051 | | | | | | | |
| 105 A Unshielded | | | | | | 0.083 | 0.097 | 0.098 | 0.107 | 0.111 | 0.125 |
| 85 A Unshielded | | | | 0.070 | 0.073 | 0.075 | 0.080 | 0.085 | 0.090 | | |
| 65 A Unshielded | | | 0.062 | 0.064 | 0.066 | 0.068 | 0.075 | 0.081 | | | |
| 45 A Unshielded | 0.020 | 0.050 | 0.051 | 0.054 | 0.057 | 0.059 | | | | | |
| Stainless Steel | | | | | | | | | | | |
| 105 A Shielded | | | | | | 0.076 | 0.089 | 0.091 | 0.092 | 0.099 | 0.113 |
| 85 A Shielded | | | | 0.065 | 0.068 | 0.070 | 0.080 | 0.094 | 0.095 | 0.096 | |
| 65 A Shielded | | | 0.056 | 0.062 | 0.068 | 0.073 | 0.076 | 0.090 | 0.093 | | |
| 45 A Shielded | 0.032 | 0.055 | 0.058 | 0.067 | 0.069 | 0.069 | | | | | |
| FineCut | 0.018 | 0.036 | 0.040 | 0.055 | | | | | | | |
| Low Speed FineCut | 0.025 | 0.023 | 0.021 | 0.055 | | | | | | | |
| 105 A Unshielded | | | | | | 0.080 | 0.095 | 0.101 | 0.106 | 0.104 | 0.122 |
| 85 A Unshielded | | | 0.066 | 0.068 | 0.070 | 0.072 | 0.080 | 0.090 | 0.095 | | |
| 65 A Unshielded | | | 0.061 | 0.064 | 0.067 | 0.070 | 0.072 | 0.080 | | | |
| 45 A Unshielded | 0.020 | 0.054 | 0.052 | 0.060 | 0.058 | 0.058 | | | | | |
| Aluminum | | | | | | | | | | | |
| | | 1/32 | 1/16 | 1/8 | 3/16 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 |
| 105 A Shielded | | | | | | 0.091 | 0.092 | 0.102 | 0.107 | 0.111 | 0.138 |
| 85 A Shielded | | | | 0.080 | 0.078 | 0.075 | 0.080 | 0.090 | 0.095 | 0.100 | |
| 65 A Shielded | | | 0.073 | 0.074 | 0.075 | 0.076 | 0.083 | 0.091 | 0.100 | | |
| 45 A Shielded | | 0.059 | 0.061 | 0.065 | | 0.060 | | | | | |
| 105 A Unshielded | | | | | | 0.089 | 0.098 | 0.102 | 0.106 | 0.117 | 0.132 |
| 85 A Unshielded | | | | 0.075 | 0.075 | 0.075 | 0.080 | 0.082 | 0.088 | | |
| 65 A Unshielded | | | 0.070 | 0.070 | 0.070 | 0.070 | 0.072 | 0.079 | | | |
| 45 A Unshielded | | 0.062 | 0.058 | 0.057 | | 0.061 | | | | | |

105 A Shielded consumables



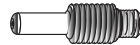
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Shield



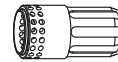
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Retaining cap



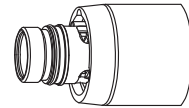
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Nozzle



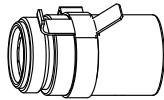
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Electrode



220994
Swirl ring



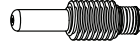
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Shield



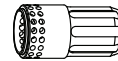
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Ohmic-sensing
retaining cap



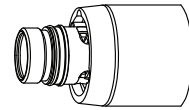
220990
Nozzle



220842
Electrode



220994
Swirl ring



MACHINE TORCH SETUP

105 A Shielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 3.2 | 6.4 | 200 | 0.5 | 4140 | 144 | 5090 | 145 |
| 8 | | | | 0.75 | 3140 | 145 | 3870 | 145 |
| 10 | | | | | 2260 | 145 | 2790 | 145 |
| 12 | | | | | 1690 | 145 | 2060 | 148 |
| 16 | | | | 1.0 | 1060 | 149 | 1310 | 149 |
| 20 | | 780 | 152 | | 940 | 152 | | |
| 25 | | Edge Start | | | 550 | 159 | 580 | 158 |
| 30 | | | | | 370 | 162 | 410 | 161 |
| 32 | | | | | 350 | 166 | 370 | 161 |
| 35 | | | | | 290 | 168 | 320 | 165 |
| 40 | 190 | | | | 173 | 210 | 170 | |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|------------|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.125 | 0.25 | 200 | 0.5 | 156 | 144 | 192 | 145 |
| 3/8 | | | | 0.75 | 94 | 145 | 116 | 145 |
| 1/2 | | | | | 62 | 146 | 76 | 148 |
| 5/8 | | | | | 1.0 | 42 | 149 | 52 |
| 3/4 | | | | 33 | | 151 | 40 | 150 |
| 7/8 | | 1.25 | 26 | 154 | 30 | 157 | | |
| 1 | | | Edge Start | | | 21 | 160 | 22 |
| 1-1/8 | 15 | | | | | 162 | 17 | 160 |
| 1-1/4 | 14 | | | | | 166 | 15 | 161 |
| 1-1/2 | 9 | 171 | | | | 10 | 168 | |

105 A Shielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 3.2 | 6.4 | 200 | 0.5 | 4870 | 139 | 6000 | 141 |
| 8 | | | | | 3460 | 141 | 4210 | 142 |
| 10 | | | | | 2240 | 144 | 2670 | 142 |
| 12 | | | | 1490 | 148 | 1860 | 144 | |
| 16 | | 0.75 | 950 | 149 | 1080 | 149 | | |
| 20 | | 8.0 | 250 | 1.25 | 660 | 154 | 810 | 152 |
| 25 | | Edge Start | | | 440 | 158 | 530 | 156 |
| 30 | | | | | 340 | 164 | 360 | 160 |
| 32 | | | | | 300 | 166 | 320 | 163 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.125 | 0.25 | 200 | 0.5 | 185 | 139 | 224 | 141 |
| 3/8 | | | | | 94 | 143 | 112 | 142 |
| 1/2 | | | | | 55 | 148 | 68 | 145 |
| 5/8 | | | | 0.75 | 38 | 149 | 43 | 149 |
| 3/4 | | 0.31 | 250 | 1.25 | 28 | 153 | 34 | 151 |
| 7/8 | | Edge Start | | | 22 | 156 | 27 | 153 |
| 1 | | | | | 17 | 158 | 20 | 156 |
| 1-1/8 | | | | | 14 | 162 | 16 | 159 |
| 1-1/4 | | 12 | 166 | 13 | 163 | | | |

MACHINE TORCH SETUP

105 A Shielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

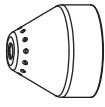
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 3.2 | 6.4 | 200 | 0.5 | 5980 | 145 | 7090 | 144 |
| 8 | | | | 0.75 | 4170 | 149 | 5020 | 148 |
| 10 | | | | | 2640 | 152 | 3280 | 151 |
| 12 | | | | 1.0 | 1910 | 156 | 2450 | 154 |
| 16 | | | | | 1290 | 157 | 1660 | 155 |
| 20 | | | | 1020 | 163 | 1190 | 162 | |
| 25 | | Edge Start | | | 660 | 166 | 790 | 165 |
| 30 | | | | | 430 | 173 | 570 | 171 |
| 32 | | | | | 340 | 175 | 490 | 173 |

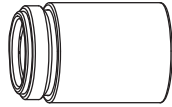
English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.125 | 0.25 | 200 | 0.5 | 223 | 146 | 265 | 145 |
| 3/8 | | | | 0.75 | 110 | 151 | 136 | 150 |
| 1/2 | | | | | 1.0 | 71 | 156 | 91 |
| 5/8 | | | | 51 | | 157 | 66 | 155 |
| 3/4 | | | | 43 | 162 | 50 | 161 | |
| 7/8 | | | | Edge Start | | | 34 | 164 |
| 1 | | 25 | 166 | | | | 30 | 165 |
| 1-1/8 | | 20 | 171 | | | | 25 | 169 |
| 1-1/4 | | 15 | 175 | | | | 20 | 173 |

85 A Shielded consumables



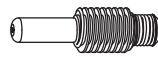
220817
Shield



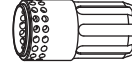
220854
Retaining cap



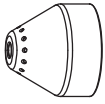
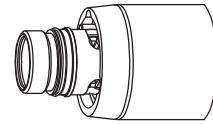
220816
Nozzle



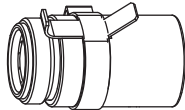
220842
Electrode



220994
Swirl ring



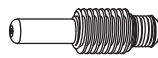
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Shield



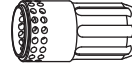
220953
Ohmic-sensing
retaining cap



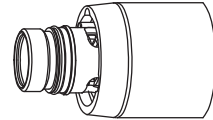
220816
Nozzle



220842
Electrode



220994
Swirl ring



MACHINE TORCH SETUP

85 A Shielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 3 | 1.5 | 3.8 | 250 | 0.1 | 6800 | 122 | 9200 | 120 |
| 4 | | | | 0.2 | 5650 | 122 | 7300 | 122 |
| 6 | | | | 0.5 | 3600 | 123 | 4400 | 125 |
| 8 | | | | | 2500 | 125 | 3100 | 127 |
| 10 | | | | | 1680 | 127 | 2070 | 128 |
| 12 | | 4.5 | 300 | 0.7 | 1280 | 130 | 1600 | 130 |
| 16 | | | | 1.0 | 870 | 134 | 930 | 133 |
| 20 | | 6.0 | 400 | 1.5 | 570 | 137 | 680 | 136 |
| 25 | | Edge Start | | | 350 | 142 | 450 | 141 |
| 30 | | Edge Start | | | 200 | 146 | 300 | 144 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 10GA | 0.06 | 0.15 | 250 | 0.2 | 250 | 122 | 336 | 121 |
| 3/16 | | | | 0.2 | 185 | 123 | 220 | 123 |
| 1/4 | | | | 0.5 | 130 | 123 | 160 | 126 |
| 3/8 | | | | | 70 | 126 | 86 | 127 |
| 1/2 | | | | | 45 | 131 | 56 | 131 |
| 5/8 | | 0.18 | 300 | 1.0 | 35 | 134 | 37 | 133 |
| 3/4 | | 0.24 | 400 | 1.5 | 24 | 136 | 29 | 135 |
| 7/8 | | Edge Start | | | 19 | 139 | 22 | 138 |
| 1 | | Edge Start | | | 13 | 142 | 17 | 141 |
| 1-1/8 | | Edge Start | | | 9 | 145 | 13 | 143 |
| 1-1/4 | Edge Start | | | 7 | 148 | 10 | 146 | |

85 A Shielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 3 | 1.5 | 3.8 | 250 | 0.1 | 7500 | 122 | 9200 | 120 |
| 4 | | | | 0.2 | 6100 | 122 | 7500 | 120 |
| 6 | | | | 0.5 | 3700 | 122 | 4600 | 122 |
| 8 | | | | | 2450 | 124 | 3050 | 124 |
| 10 | | 4.5 | 300 | 0.5 | 1550 | 127 | 1900 | 126 |
| 12 | | | | 0.7 | 1100 | 131 | 1400 | 130 |
| 16 | | | | 1.0 | 700 | 135 | 760 | 134 |
| 20 | | | | Edge Start | | 480 | 138 | 570 |
| 25 | | Edge Start | | 300 | 143 | 370 | 141 | |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | |
| 10GA | 0.06 | 0.15 | 250 | 0.2 | 275 | 122 | 336 | 120 | |
| 3/16 | | | | | 200 | 122 | 240 | 121 | |
| 1/4 | | | | 0.5 | 130 | 122 | 164 | 122 | |
| 3/8 | | | | | 65 | 126 | 80 | 125 | |
| 1/2 | | 0.18 | 300 | 0.5 | 36 | 132 | 48 | 131 | |
| 5/8 | | | | 1.0 | 28 | 135 | 30 | 134 | |
| 3/4 | | | | Edge Start | | 20 | 137 | 24 | 136 |
| 7/8 | | | | Edge Start | | 16 | 140 | 19 | 139 |
| 1 | | Edge Start | | 11 | 143 | 14 | 141 | | |

MACHINE TORCH SETUP

85 A Shielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

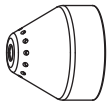
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 3 | 1.5 | 3.8 | 250 | 0.1 | 8000 | 122 | 9400 | 121 |
| 4 | | | | 0.2 | 6500 | 123 | 8000 | 123 |
| 6 | | | | 0.5 | 3800 | 126 | 4900 | 126 |
| 8 | | | | | 2650 | 130 | 3470 | 129 |
| 10 | | 4.5 | 300 | 0.7 | 1920 | 132 | 2500 | 131 |
| 12 | | | | 0.7 | 1450 | 134 | 1930 | 133 |
| 16 | | | | 1.0 | 950 | 139 | 1200 | 137 |
| 20 | | | | Edge Start | | 600 | 143 | 880 |
| 25 | | Edge Start | | 380 | 146 | 540 | 144 | |

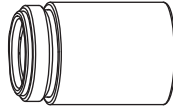
English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | |
| 1/8 | 0.06 | 0.15 | 250 | 0.2 | 300 | 122 | 360 | 121 | |
| 1/4 | | | | 0.5 | 130 | 127 | 172 | 127 | |
| 3/8 | | | | 0.5 | 80 | 132 | 104 | 131 | |
| 1/2 | | | | | 50 | 135 | 68 | 133 | |
| 5/8 | | 0.18 | 300 | 1.0 | 38 | 139 | 48 | 137 | |
| 3/4 | | | | Edge Start | | 25 | 142 | 37 | 140 |
| 7/8 | | | | Edge Start | | 20 | 144 | 29 | 142 |
| 1 | | | | Edge Start | | 14 | 146 | 20 | 144 |

65 A Shielded consumables



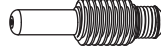
220817
Shield



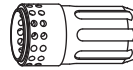
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Retaining cap



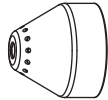
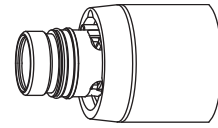
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Nozzle



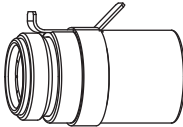
220842
Electrode



220994
Swirl ring



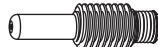
220817
Shield



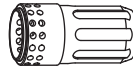
220953
Ohmic-sensing
retaining cap



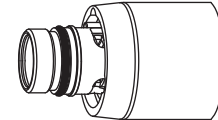
220819
Nozzle



220842
Electrode



220994
Swirl ring



MACHINE TORCH SETUP

65 A Shielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts | |
| 2 | 1.5 | 3.8 | 250 | 0.1 | 6050 | 124 | 7000 | 121 | |
| 3 | | | | 0.2 | 5200 | 125 | 6100 | 123 | |
| 4 | | | | 0.5 | 4250 | 125 | 5100 | 124 | |
| 6 | | | | | 2550 | 127 | 3240 | 127 | |
| 8 | | | | | 1700 | 129 | 2230 | 128 | |
| 10 | | 4.5 | 300 | 0.7 | 1100 | 131 | 1500 | 129 | |
| 12 | | | | 1.2 | 850 | 134 | 1140 | 131 | |
| 16 | | 6.0 | 400 | 2.0 | 560 | 138 | 650 | 136 | |
| 20 | | Edge Start | | | | 350 | 142 | 450 | 142 |
| 25 | | | | | | 210 | 145 | 270 | 145 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | |
| 16GA | 0.06 | 0.15 | 250 | 0.1 | 260 | 123 | 294 | 121 | |
| 10GA | | | | | 190 | 125 | 224 | 123 | |
| 3/16 | | | | 0.2 | 140 | 126 | 168 | 125 | |
| 1/4 | | | | | 0.5 | 90 | 127 | 116 | 127 |
| 3/8 | | | | | | 0.7 | 45 | 130 | 62 |
| 1/2 | | 0.18 | 300 | 1.2 | 30 | 135 | 40 | 132 | |
| 5/8 | | 0.24 | 400 | 2.0 | 23 | 138 | 26 | 136 | |
| 3/4 | | Edge Start | | | | 15 | 141 | 19 | 141 |
| 7/8 | | | | | | 12 | 143 | 14 | 143 |
| 1 | | | | | | 8 | 145 | 10 | 145 |

65 A Shielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | | |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts | | |
| 2 | 1.5 | 3.8 | 250 | 0.1 | 8100 | 125 | 10000 | 121 | | |
| 3 | | | | 0.2 | 6700 | 125 | 8260 | 123 | | |
| 4 | | | | 0.5 | 5200 | 125 | 6150 | 124 | | |
| 6 | | | | | 2450 | 126 | 2850 | 126 | | |
| 8 | | | | 0.7 | 1500 | 129 | 1860 | 129 | | |
| 10 | | 960 | 132 | | 1250 | 132 | | | | |
| 12 | | 750 | 135 | | 920 | 134 | | | | |
| 16 | | 4.5 | 300 | 1.2 | Edge Start | | 500 | 139 | 500 | 139 |
| 20 | | | | | 300 | 143 | 370 | 143 | | |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | |
| 16GA | 0.06 | 0.15 | 250 | 0.1 | 345 | 124 | 426 | 121 | |
| 10GA | | | | | 240 | 125 | 296 | 123 | |
| 3/16 | | | | 0.2 | 155 | 126 | 168 | 125 | |
| 1/4 | | | | | 0.5 | 80 | 126 | 96 | 126 |
| 3/8 | | | | | | 40 | 131 | 52 | 131 |
| 1/2 | | 0.18 | 300 | 1.2 | 26 | 136 | 32 | 135 | |
| 5/8 | | | | | Edge Start | | 20 | 139 | 20 |
| 3/4 | | Edge Start | | | | 14 | 142 | 15 | 142 |

MACHINE TORCH SETUP

65 A Shielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

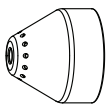
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | | |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts | | |
| 2 | 1.5 | 3.8 | 250 | 0.1 | 8800 | 121 | 10300 | 122 | | |
| 3 | | | | 0.2 | 7400 | 124 | 8800 | 124 | | |
| 4 | | | | 0.5 | 6000 | 126 | 7350 | 125 | | |
| 6 | | | | | 3200 | 130 | 4400 | 128 | | |
| 8 | | | | 0.7 | 1950 | 133 | 2750 | 130 | | |
| 10 | | 1200 | 136 | | 1650 | 132 | | | | |
| 12 | | 1000 | 138 | | 1330 | 136 | | | | |
| 16 | | 4.5 | 300 | 1.2 | Edge Start | | 650 | 143 | 800 | 141 |
| 20 | | | | | 380 | 147 | 560 | 145 | | |

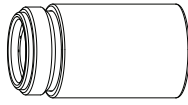
English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|----|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | | |
| 1/16 | 0.06 | 0.15 | 250 | 0.1 | 365 | 121 | 428 | 121 | | |
| 1/8 | | | | | 280 | 124 | 336 | 124 | | |
| 1/4 | | | | | 105 | 131 | 152 | 128 | | |
| 3/8 | | | | 0.5 | 50 | 135 | 68 | 131 | | |
| 1/2 | | | | | 35 | 139 | 48 | 138 | | |
| 5/8 | | 0.18 | 300 | 1.2 | Edge Start | | 26 | 143 | 32 | 141 |
| 3/4 | | | | | 16 | 146 | 24 | 144 | | |

45 A Shielded consumables



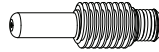
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Shield



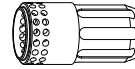
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Retaining cap



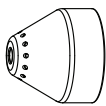
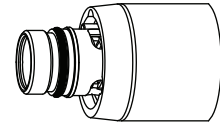
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Nozzle



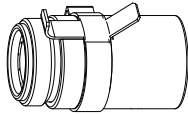
220842
Electrode



220994
Swirl ring



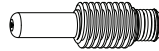
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Shield



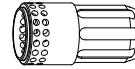
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Ohmic-sensing
retaining cap



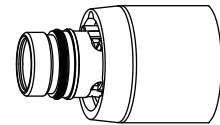
220941
Nozzle



220842
Electrode



220994
Swirl ring



MACHINE TORCH SETUP

45 A Shielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 0.5 | 1.5 | 3.8 | 250 | 0.0 | 9000 | 128 | 12500 | 126 |
| 1 | | | | | 9000 | 128 | 10800 | 128 |
| 1.5 | | | | 0.1 | 9000 | 130 | 10200 | 129 |
| 2 | | | | | 0.3 | 6600 | 130 | 7800 |
| 3 | | | | 0.4 | | 3850 | 133 | 4900 |
| 4 | | | | | 2200 | 134 | 3560 | 131 |
| 6 | | | | 0.5 | 1350 | 137 | 2050 | 132 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 26GA | 0.06 | 0.15 | 250 | 0.0 | 350 | 128 | 500 | 128 |
| 22GA | | | | | 350 | 128 | 450 | 128 |
| 18GA | | | | 0.1 | 350 | 129 | 400 | 128 |
| 16GA | | | | | 350 | 130 | 400 | 129 |
| 14GA | | | | 0.2 | 270 | 130 | 320 | 129 |
| 12GA | | | | 0.4 | 190 | 133 | 216 | 131 |
| 10GA | | | | | 100 | 134 | 164 | 131 |
| 3/16 | | | | 0.5 | 70 | 135 | 108 | 132 |
| 1/4 | | | | 0.6 | 48 | 137 | 73 | 132 |

45 A Shielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 0.5 | 1.5 | 3.8 | 250 | 0.0 | 9000 | 130 | 12500 | 129 |
| 1 | | | | | 9000 | 130 | 10800 | 130 |
| 1.5 | | | | 9000 | 130 | 10200 | 130 | |
| 2 | | | | 0.3 | 6000 | 132 | 8660 | 131 |
| 3 | | | | 0.4 | 3100 | 132 | 4400 | 132 |
| 4 | | | | | 2000 | 134 | 2600 | 134 |
| 6 | | | | 0.5 | 900 | 140 | 1020 | 139 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 26GA | 0.06 | 0.15 | 250 | 0.0 | 350 | 130 | 500 | 129 |
| 22GA | | | | | 350 | 130 | 450 | 129 |
| 18GA | | | | 0.1 | 350 | 130 | 400 | 130 |
| 16GA | | | | | 350 | 130 | 400 | 130 |
| 14GA | | | | 0.2 | 250 | 132 | 360 | 131 |
| 12GA | | | | 0.4 | 140 | 132 | 206 | 131 |
| 10GA | | | | | 100 | 133 | 134 | 134 |
| 3/16 | | | | 0.5 | 52 | 135 | 58 | 135 |
| 1/4 | | | | 0.6 | 30 | 141 | 35 | 140 |

MACHINE TORCH SETUP

45 A Shielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 1 | 1.5 | 3.8 | 250 | 0.0 | 8250 | 136 | 11000 | 136 |
| 2 | | | | 0.1 | 6600 | 136 | 9200 | 135 |
| 3 | | | | 0.2 | 3100 | 139 | 6250 | 134 |
| 4 | | | | 0.4 | 2200 | 141 | 4850 | 135 |
| 6 | | | | 0.5 | 1500 | 142 | 2800 | 137 |

English

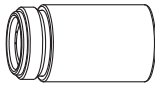
| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/32 | 0.06 | 0.15 | 250 | 0.0 | 325 | 136 | 450 | 136 |
| 1/16 | | | | 0.1 | 325 | 136 | 400 | 136 |
| 3/32 | | | | 0.2 | 200 | 136 | 328 | 134 |
| 1/8 | | | | 0.4 | 100 | 140 | 224 | 134 |
| 1/4 | | | | 0.5 | 54 | 142 | 96 | 137 |

FineCut® consumables

Note: The cut charts in this section apply to both shielded and unshielded consumables.



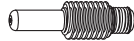
220948
Shield



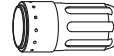
220953
Ohmic-sensing
retaining cap



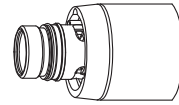
220930
Nozzle



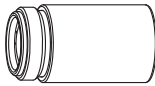
220842
Electrode



220947
Swirl ring



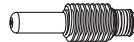
220955
Deflector



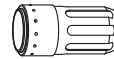
220854
Retaining cap



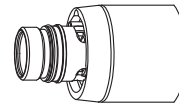
220930
Nozzle



220842
Electrode



220947
Swirl ring



MACHINE TORCH SETUP

FineCut (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 181 / 384 |
| Cold | 191 / 404 |

Metric

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|----|
| | | | | | | Cut Speed | Voltage | |
| mm | A | mm | mm | % | seconds | (mm/min) | Volts | |
| 0.5 | 40 | 1.5 | 2.25 | 150 | 0.0 | 8250 | 78 | |
| 0.6 | | | | | | 8250 | 78 | |
| 0.8 | | | | | | 8250 | 78 | |
| 1 | 45 | | | | 0.2 | 8250 | 78 | |
| 1.5 | | | | | | 0.4 | 6400 | 78 |
| 2 | | | | | | | 4800 | 78 |
| 3 | | | | | | 0.5 | 2500 | 78 |
| 4 | | | | | | 0.6 | 1900 | 78 |

English

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|----|
| | | | | | | Cut Speed | Voltage | |
| | A | inches | inches | % | seconds | ipm | Volts | |
| 26GA | 40 | 0.06 | 0.09 | 150 | 0.0 | 325 | 78 | |
| 24GA | | | | | | 325 | 78 | |
| 22GA | | | | | 0.1 | 325 | 78 | |
| 20GA | | | | | | 325 | 78 | |
| 18GA | 45 | | | | 0.2 | 325 | 78 | |
| 16GA | | | | | | 0.4 | 250 | 78 |
| 14GA | | | | | | | 200 | 78 |
| 12GA | | | | | | 0.5 | 120 | 78 |
| 10GA | | 95 | 78 | | | | | |

FineCut (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 181 / 384 |
| Cold | 191 / 404 |

Metric

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|
| | | | | | | Cut Speed | Voltage |
| mm | A | mm | mm | % | seconds | (mm/min) | Volts |
| 0.5 | 40 | 0.5 | 2.0 | 400 | 0.0 | 8250 | 68 |
| 0.6 | | | | | | 8250 | 68 |
| 0.8 | | | | | | 8250 | 68 |
| 1 | 45 | | | | 0.4 | 6150 | 70 |
| 1.5 | | | | | | 4800 | 71 |
| 2 | | | | | | 2550 | 80 |
| 3 | | | | | | 1050 | 84 |
| 4 | | | | | | | |

English

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|----|
| | | | | | | Cut Speed | Voltage | |
| | A | inches | inches | % | seconds | ipm | Volts | |
| 26GA | 40 | 0.02 | 0.08 | 400 | 0.0 | 325 | 68 | |
| 24GA | | | | | | 325 | 68 | |
| 22GA | | | | | | 325 | 68 | |
| 20GA | 45 | | | | 0.1 | 325 | 68 | |
| 18GA | | | | | | 325 | 68 | |
| 16GA | | | | | | 0.4 | 240 | 70 |
| 14GA | | | | | | | 200 | 70 |
| 12GA | | | | | | | 120 | 80 |
| 10GA | 0.6 | 75 | 80 | | | | | |

MACHINE TORCH SETUP

Low Speed FineCut (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 181 / 384 |
| Cold | 191 / 404 |

Metric

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | | | | | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|-----|------|-----|-----|------|----|
| | | | | | | Cut Speed | Voltage | | | | | | |
| mm | A | mm | mm | % | seconds | (mm/min) | Volts | | | | | | |
| 0.5 | 30 | 1.5 | 2.25 | 150 | 0.0 | 3800 | 69 | | | | | | |
| 0.6 | | | | | | 3800 | 68 | | | | | | |
| 0.8 | | | | | | 3800 | 70 | | | | | | |
| 1 * | 40 | | | | 1.5 | 2.25 | 150 | 0.2 | 3800 | 72 | | | |
| 1.5 * | | | | | | | | | 3800 | 75 | | | |
| 2 | 45 | | | | | | | 1.5 | 2.25 | 150 | 0.4 | 3700 | 76 |
| 3 | | | | | | | | | | | | 2750 | 78 |
| 4 | | | | | | | | | | | 0.6 | 1900 | 78 |
| | | | | | | | | | | | | | |

English

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|-----|-----|-----|
| | | | | | | Cut Speed | Voltage | | | |
| | A | inches | inches | % | seconds | ipm | Volts | | | |
| 26GA | 30 | 0.06 | 0.09 | 150 | 0.0 | 150 | 70 | | | |
| 24GA | | | | | | 150 | 68 | | | |
| 22GA | | | | | 0.1 | 150 | 70 | | | |
| 20GA | | | | | | 150 | 71 | | | |
| 18GA | 40 | | | | 0.06 | 0.09 | 150 | 0.2 | 150 | 73 |
| 16GA * | | | | | | | | | 0.4 | 150 |
| 14GA * | 0.5 | | | | | | | 150 | | 76 |
| 12GA | | | | | | | | 120 | 78 | |
| 10GA | | | | | | | | 95 | 78 | |

*Not a dross-free cut.

Low Speed FineCut (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 181 / 384 |
| Cold | 191 / 404 |

Metric

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|----|
| | | | | | | Cut Speed | Voltage | |
| mm | A | mm | mm | % | seconds | (mm/min) | Volts | |
| 0.5 | 30 | 0.5 | 2.0 | 400 | 0.0 | 3800 | 69 | |
| 0.6 | | | | | | 3800 | 69 | |
| 0.8 | | | | | | 3800 | 69 | |
| 1 | 40 | | | | 0.15 | 3800 | 69 | |
| 1.5 | | | | | | 0.4 | 2900 | 69 |
| 2 | | | | | | | 2750 | 69 |
| 3 | 45 | | | | 0.5 | 2550 | 80 | |
| 4 | | | | | | 0.6 | 1050 | 80 |

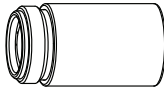
English

| Material Thickness | Current | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Recommended | | |
|--------------------|---------|------------------------|-----------------------|-----|-------------------|-------------|---------|-----|
| | | | | | | Cut Speed | Voltage | |
| | A | in | in | % | seconds | ipm | Volts | |
| 26GA | 30 | 0.02 | 0.08 | 400 | 0.0 | 150 | 69 | |
| 24GA | | | | | | 150 | 69 | |
| 22GA | | | | | | 150 | 69 | |
| 20GA | 40 | | | | 0.1 | 150 | 69 | |
| 18GA | | | | | | 0.2 | 145 | 69 |
| 16GA | | | | | | | 0.4 | 115 |
| 14GA | 110 | | | | 69 | | | |
| 12GA | 45 | | | | 0.5 | 120 | 80 | |
| 10GA | | 0.6 | 75 | 80 | | | | |

105 A Unshielded consumables



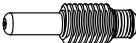
220955
Deflector



220854
Retaining cap



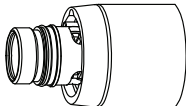
220990
Nozzle



220842
Electrode



220994
Swirl ring



105 A Unshielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 4.6 | 9.2 | 200 | 0.5 | 4040 | 148 | 4980 | 145 |
| 8 | | | | | 3160 | 149 | 3770 | 145 |
| 10 | | | | | 2350 | 150 | 2700 | 145 |
| 12 | | | | 1700 | 153 | 2080 | 147 | |
| 16 | | | | 0.6 | 980 | 155 | 1200 | 152 |
| 20 | | | | 1.0 | 742 | 155 | 940 | 154 |
| 25 | | Edge Start | | | 500 | 159 | 580 | 159 |
| 30 | | | | | 300 | 161 | 370 | 160 |
| 32 | | | | | 260 | 169 | 270 | 167 |
| 35 | | | | | 320 | 164 | 350 | 163 |
| 40 | 160 | | | | 176 | 190 | 172 | |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.18 | 0.36 | 200 | 0.5 | 153 | 148 | 188 | 145 |
| 3/8 | | | | | 91 | 150 | 112 | 145 |
| 1/2 | | | | | 62 | 153 | 76 | 148 |
| 5/8 | | | | 0.6 | 39 | 155 | 48 | 152 |
| 3/4 | | | | 1.0 | 31 | 155 | 40 | 153 |
| 7/8 | | | | 1.25 | 25 | 156 | 30 | 158 |
| 1 | | Edge Start | | | 19 | 160 | 22 | 159 |
| 1-1/8 | 14 | | | | 161 | 17 | 160 | |
| 1-1/4 | 13 | | | | 164 | 14 | 163 | |

MACHINE TORCH SETUP

105 A Unshielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 4.6 | 9.2 | 200 | 0.5 | 4970 | 145 | 6120 | 142 |
| 8 | | | | | 3420 | 147 | 4210 | 144 |
| 10 | | | | | 2090 | 149 | 2570 | 146 |
| 12 | | | | | 1410 | 151 | 1740 | 149 |
| 16 | | | | 0.75 | 880 | 153 | 1080 | 151 |
| 20 | | | | 1.0 | 660 | 156 | 800 | 155 |
| 25 | | Edge Start | | | 420 | 159 | 500 | 159 |
| 30 | | Edge Start | | | 330 | 162 | 370 | 161 |
| 32 | | Edge Start | | | 300 | 163 | 320 | 162 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.18 | 0.36 | 200 | 0.5 | 185 | 145 | 228 | 142 |
| 3/8 | | | | | 88 | 149 | 108 | 145 |
| 1/2 | | | | | 52 | 151 | 64 | 149 |
| 5/8 | | | | | 0.75 | 35 | 153 | 43 |
| 3/4 | | | | 1.0 | 28 | 155 | 34 | 154 |
| 7/8 | | | | Edge Start | | | 22 | 157 |
| 1 | | Edge Start | | | 16 | 159 | 19 | 159 |
| 1-1/8 | | Edge Start | | | 14 | 161 | 16 | 161 |

105 A Unshielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 217 / 460 |
| Cold | 250 / 530 |

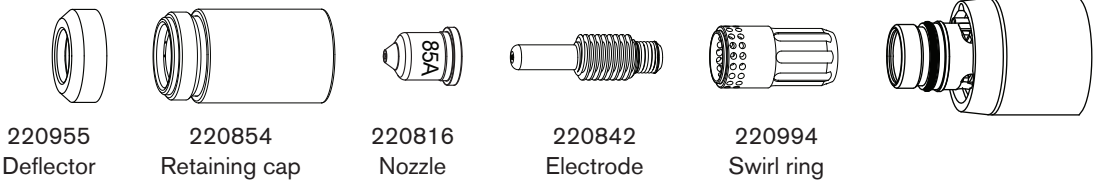
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 6 | 4.6 | 9.2 | 200 | 0.5 | 5840 | 148 | 7170 | 149 |
| 8 | | | | 0.75 | 4110 | 152 | 5060 | 151 |
| 10 | | | | | 2670 | 154 | 3580 | 153 |
| 12 | | | | 1.0 | 2090 | 155 | 2450 | 154 |
| 16 | | | | | 1330 | 160 | 1660 | 158 |
| 20 | | | | 1.3 | 980 | 163 | 1190 | 162 |
| 25 | | Edge Start | | | 660 | 167 | 770 | 167 |
| 30 | | | | 500 | 170 | 590 | 169 | |
| 32 | 450 | | | 171 | 520 | 170 | | |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/4 | 0.180 | 0.36 | 200 | 0.5 | 218 | 149 | 268 | 149 |
| 3/8 | | | | 0.75 | 110 | 154 | 136 | 153 |
| 1/2 | | | | | 1.0 | 77 | 156 | 91 |
| 5/8 | | | | 51 | | 160 | 66 | 158 |
| 3/4 | | | | 1.25 | 41 | 162 | 50 | 161 |
| 7/8 | | | | | Edge Start | | 33 | 165 |
| 1 | 25 | 167 | 29 | 167 | | | | |
| 1-1/8 | 20 | 169 | 25 | 169 | | | | |

85 A Unshielded consumables



85 A Unshielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 2 | 2.0 | 5.0 | 250 | 0.0 | 7150 | 117 | 10400 | 116 |
| 3 | | | | 0.1 | 6240 | 118 | 9000 | 117 |
| 4 | | | | 0.2 | 5250 | 118 | 7200 | 117 |
| 6 | | | | 0.5 | 3450 | 120 | 4400 | 119 |
| 8 | | | | | 2400 | 121 | 3100 | 121 |
| 10 | | 1560 | 123 | 2070 | 122 | | | |
| 12 | | 6.0 | 300 | 0.7 | 1200 | 126 | 1600 | 124 |
| 16 | | Edge Start | | | 820 | 132 | 930 | 128 |
| 20 | | | | | 540 | 137 | 640 | 132 |
| 25 | | | | | 320 | 143 | 400 | 137 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 14GA | 0.08 | 0.20 | 250 | 0.1 | 280 | 117 | 416 | 116 |
| 10GA | | | | 0.2 | 230 | 118 | 328 | 117 |
| 3/16 | | | | | 175 | 119 | 220 | 118 |
| 1/4 | | | | 0.5 | 125 | 120 | 160 | 119 |
| 3/8 | | | | | 65 | 122 | 86 | 122 |
| 1/2 | | 0.24 | 300 | 0.6 | 42 | 127 | 56 | 125 |
| 5/8 | | Edge Start | | | 33 | 131 | 37 | 128 |
| 3/4 | | | | | 23 | 136 | 27 | 131 |
| 7/8 | | | | | 18 | 140 | 21 | 134 |
| 1 | | | | | 12 | 144 | 15 | 138 |

MACHINE TORCH SETUP

85 A Unshielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts | |
| 2 | 2.0 | 5.0 | 250 | 0.1 | 8550 | 117 | 11300 | 116 | |
| 3 | | | | | 7000 | 118 | 9660 | 117 | |
| 4 | | | | 5600 | 118 | 7800 | 118 | | |
| 6 | | | | 3400 | 120 | 4570 | 121 | | |
| 8 | | 6.0 | 300 | 0.5 | 2250 | 121 | 2970 | 122 | |
| 10 | | | | | 1430 | 123 | 1840 | 124 | |
| 12 | | Edge Start | | | | 1000 | 129 | 1340 | 128 |
| 16 | | | | | | 650 | 134 | 730 | 133 |
| 20 | | | | | | 360 | 138 | 570 | 137 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|-----|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage | |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts | |
| 14GA | 0.08 | 0.20 | 250 | 0.1 | 340 | 117 | 452 | 116 | |
| 10GA | | | | | 250 | 118 | 352 | 118 | |
| 3/16 | | | | 180 | 119 | 249 | 119 | | |
| 1/4 | | | | 120 | 120 | 160 | 121 | | |
| 3/8 | | 0.24 | 300 | 0.5 | 60 | 122 | 77 | 123 | |
| 1/2 | | | | | 35 | 131 | 46 | 129 | |
| 5/8 | | Edge Start | | | | 26 | 134 | 29 | 133 |
| 3/4 | | | | | | 17 | 137 | 24 | 136 |

85 A Unshielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 194 / 412 |
| Cold | 236 / 500 |

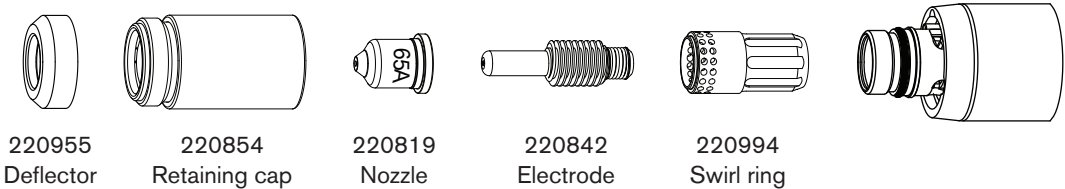
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 2 | 2.0 | 5.0 | 250 | 0.1 | 8700 | 118 | 11200 | 118 |
| 3 | | | | | 7350 | 120 | 9600 | 119 |
| 4 | | | | 6000 | 122 | 8100 | 120 | |
| 6 | | | | 0.5 | 3300 | 125 | 4930 | 122 |
| 8 | | | | | 2350 | 127 | 3250 | 124 |
| 10 | | 6.0 | 300 | | 1800 | 128 | 2140 | 127 |
| 12 | | | | 1300 | 133 | 1720 | 130 | |
| 16 | | Edge Start | | | 840 | 139 | 1130 | 134 |
| 20 | | Edge Start | | | 470 | 144 | 700 | 138 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/8 | 0.08 | 0.20 | 250 | 0.2 | 280 | 120 | 368 | 119 |
| 3/16 | | | | | 200 | 123 | 271 | 120 |
| 1/4 | | | | 0.5 | 110 | 126 | 172 | 122 |
| 3/8 | | | | | 75 | 127 | 88 | 126 |
| 1/2 | | | | | 0.24 | 300 | 45 | 135 |
| 5/8 | | Edge Start | | | | | 34 | 139 |
| 3/4 | | Edge Start | | | 22 | 143 | 32 | 137 |

65 A Unshielded consumables



65 A Unshielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 2 | 2.0 | 5.0 | 250 | 0.1 | 6050 | 117 | 7340 | 117 |
| 3 | | | | 0.2 | 5200 | 118 | 6330 | 118 |
| 4 | | | | 0.5 | 4250 | 118 | 5250 | 118 |
| 6 | | | | | 2550 | 120 | 3560 | 120 |
| 8 | | 1620 | 123 | 2230 | 121 | | | |
| 10 | | 6.0 | 300 | 0.7 | 970 | 127 | 1500 | 122 |
| 12 | | Edge Start | | | 760 | 129 | 1140 | 124 |
| 16 | | | | | 500 | 134 | 650 | 129 |
| 20 | | | | | 280 | 138 | 400 | 133 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 16GA | 0.08 | 0.20 | 250 | 0.1 | 255 | 116 | 308 | 117 |
| 10GA | | | | | 190 | 118 | 232 | 118 |
| 3/16 | | | | | 135 | 119 | 172 | 119 |
| 1/4 | | | | 0.5 | 90 | 120 | 116 | 120 |
| 3/8 | | 0.24 | 300 | | 0.7 | 40 | 126 | 62 |
| 1/2 | | Edge Start | | | 27 | 130 | 40 | 125 |
| 5/8 | | | | | 20 | 134 | 26 | 129 |
| 3/4 | | | | | 13 | 137 | 18 | 132 |

MACHINE TORCH SETUP

65 A Unshielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 2 | 2.0 | 5.0 | 250 | 0.1 | 7950 | 117 | 10300 | 116 |
| 3 | | | | 0.2 | 6600 | 118 | 8500 | 117 |
| 4 | | | | 0.5 | 5050 | 119 | 6500 | 119 |
| 6 | | | | | 2300 | 121 | 3070 | 121 |
| 8 | | | | 0.7 | 1400 | 123 | 1900 | 122 |
| 10 | | 6.0 | 300 | 0.7 | 920 | 126 | 1250 | 123 |
| 12 | | Edge Start | | | 710 | 130 | 925 | 127 |
| 16 | | Edge Start | | | 430 | 135 | 500 | 133 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 16GA | 0.08 | 0.20 | 250 | 0.1 | 340 | 116 | 437 | 115 |
| 10GA | | | | | 235 | 118 | 304 | 118 |
| 3/16 | | | | 0.2 | 150 | 120 | 194 | 120 |
| 1/4 | | | | | 0.5 | 75 | 121 | 100 |
| 3/8 | | | | 0.24 | 300 | 0.7 | 38 | 125 |
| 1/2 | | Edge Start | | | 25 | 132 | 32 | 129 |
| 5/8 | | Edge Start | | | 17 | 135 | 20 | 133 |

65 A Unshielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 175 / 370 |
| Cold | 209 / 443 |

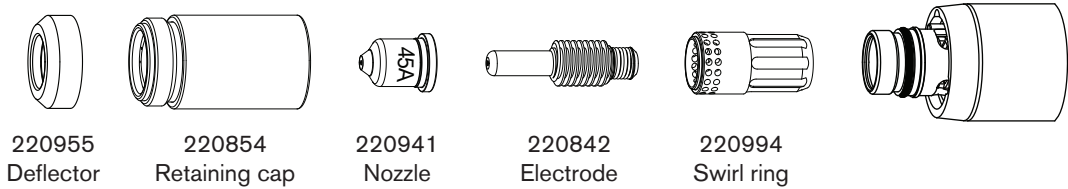
Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|------|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 2 | 2.0 | 5.0 | 250 | 0.1 | 7750 | 123 | 11300 | 122 |
| 3 | | | | 0.2 | 6550 | 124 | 9500 | 123 |
| 4 | | | | 0.5 | 5400 | 125 | 7640 | 124 |
| 6 | | | | | 3000 | 127 | 3900 | 126 |
| 8 | | 0.7 | 1800 | 130 | 2460 | 127 | | |
| 10 | | 6.0 | 300 | 0.7 | 1100 | 133 | 1640 | 129 |
| 12 | | Edge Start | | | 900 | 135 | 1250 | 133 |
| 16 | | | | | 600 | 139 | 700 | 136 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/16 | 0.08 | 0.20 | 250 | 0.1 | 325 | 122 | 476 | 122 |
| 1/8 | | | | | 250 | 124 | 360 | 123 |
| 3/16 | | | | | 175 | 125 | 245 | 124 |
| 1/4 | | | | 0.5 | 100 | 127 | 128 | 126 |
| 3/8 | | 0.24 | 300 | | 0.7 | 45 | 132 | 68 |
| 1/2 | | Edge Start | | | 32 | 136 | 44 | 134 |
| 5/8 | | | | | 24 | 138 | 28 | 136 |

45 A Unshielded consumables



45 A Unshielded cutting (Mild Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 0.5 | 1.5 | 3.8 | 250 | 0.0 | 9000 | 120 | 12500 | 120 |
| 1 | | | | | 9000 | 120 | 10800 | 121 |
| 1.5 | | | | 0.1 | 7700 | 120 | 10200 | 121 |
| 2 | | | | | 6150 | 119 | 7800 | 122 |
| 3 | | | | 0.4 | 3950 | 121 | 4900 | 123 |
| 4 | | | | | 2350 | 123 | 3560 | 124 |
| 6 | | | | 0.5 | 1400 | 126 | 2050 | 124 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 26GA | 0.06 | 0.15 | 250 | 0.0 | 350 | 120 | 500 | 120 |
| 22GA | | | | | 350 | 120 | 450 | 120 |
| 18GA | | | | 0.1 | 350 | 119 | 400 | 121 |
| 16GA | | | | | 300 | 121 | 400 | 121 |
| 14GA | | | | 0.2 | 250 | 119 | 320 | 122 |
| 12GA | | | | 0.4 | 200 | 120 | 216 | 123 |
| 10GA | | | | | 100 | 123 | 164 | 124 |
| 3/16 | | | | 0.5 | 85 | 122 | 108 | 124 |
| 1/4 | | | | 0.6 | 48 | 127 | 73 | 124 |

MACHINE TORCH SETUP

45 A Unshielded cutting (Stainless Steel)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 0.5 | 1.5 | 3.8 | 250 | 0.0 | 9000 | 121 | 12500 | 119 |
| 1 | | | | | 9000 | 121 | 10800 | 119 |
| 1.5 | | | | 0.1 | 9000 | 121 | 10200 | 120 |
| 2 | | | | | 0.3 | 6000 | 122 | 9600 |
| 3 | | | | 0.4 | | 3250 | 123 | 4750 |
| 4 | | | | | 1900 | 128 | 3000 | 122 |
| 6 | | | | 0.5 | 700 | 130 | 1450 | 124 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 26GA | 0.06 | 0.15 | 250 | 0.0 | 350 | 120 | 500 | 119 |
| 22GA | | | | | 350 | 120 | 450 | 119 |
| 18GA | | | | 0.1 | 350 | 118 | 400 | 119 |
| 16GA | | | | | 350 | 121 | 400 | 120 |
| 14GA | | | | 0.2 | 300 | 122 | 400 | 120 |
| 12GA | | | | | 0.4 | 150 | 121 | 224 |
| 10GA | | | | 100 | | 125 | 140 | 121 |
| 3/16 | | | | 0.5 | 42 | 131 | 88 | 123 |
| 1/4 | | | | 0.6 | 25 | 130 | 48 | 124 |

45 A Unshielded cutting (Aluminum)

| Air flow rate – slpm/scfh | |
|---------------------------|-----------|
| Hot | 177 / 376 |
| Cold | 201 / 427 |

Metric

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| mm | mm | mm | % | seconds | (mm/min) | Volts | (mm/min) | Volts |
| 1 | 1.5 | 3.8 | 250 | 0.0 | 7400 | 126 | 11000 | 121 |
| 2 | | | | 0.1 | 4400 | 127 | 9200 | 123 |
| 3 | | | | 0.2 | 2800 | 129 | 6250 | 125 |
| 4 | | | | 0.4 | 2100 | 132 | 4700 | 126 |
| 6 | | | | 0.5 | 1050 | 135 | 2250 | 127 |

English

| Material Thickness | Torch-to-Work Distance | Initial Pierce Height | | Pierce Delay Time | Best Quality Settings | | Production Settings | |
|--------------------|------------------------|-----------------------|-----|-------------------|-----------------------|---------|---------------------|---------|
| | | | | | Cut Speed | Voltage | Cut Speed | Voltage |
| inches | inches | inches | % | seconds | ipm | Volts | ipm | Volts |
| 1/32 | 0.06 | 0.15 | 250 | 0.0 | 325 | 126 | 450 | 121 |
| 1/16 | | | | 0.1 | 200 | 126 | 400 | 122 |
| 3/32 | | | | 0.2 | 150 | 127 | 328 | 124 |
| 1/8 | | | | 0.4 | 100 | 130 | 224 | 125 |
| 1/4 | | | | 0.5 | 36 | 136 | 72 | 127 |