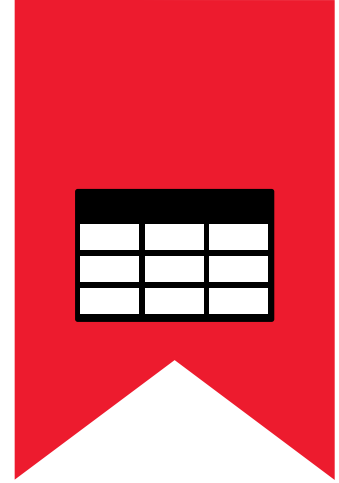


# Hypertherm®

## Powermax65/85/105 SYNC™

### Cut Charts Guide



810500MU – REVISION 1

MULTILINGUAL



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# ***Powermax65/85/105 SYNC***

## **Cut Charts Guide**

810500MU  
REVISION 1

MULTILINGUAL  
Multilingual instructions

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For training and education resources, go to the Hypertherm Cutting Institute (HCI) online at [www.hypertherm.com/hci](http://www.hypertherm.com/hci).

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## ⚠ WARNING



### EXPLOSION HAZARD – CUTTING WITH ALUMINUM NEAR WATER

Underwater cutting with fuel gases or aluminum can cause an explosion hazard.

- Do NOT cut under water with fuel gases that contain hydrogen.
- Do NOT cut aluminum alloys under water or on a water table, unless you can prevent the accumulation of hydrogen gas.

Doing so can cause an explosion during cutting system operation. Refer to the *Safety and Compliance Manual* (80669C) for more information.

## ⚠ WARNING



### EXPLOSION HAZARD – CUTTING WITH FLAMMABLE OR OXIDIZING GASES

Do not use flammable or oxidizing gases with Powermax systems. These gases can cause explosive conditions during plasma cutting operations.

An example of an oxidizing gas is oxygen. Examples of flammable gases are acetylene, propylene, methane, and pure hydrogen. Refer to the *Safety and Compliance Manual* (80669C) for more information.

### For more information

- For information about integrating your Powermax® system with a mechanized cutting setup, refer to the *Powermax65/85/105 SYNC Mechanized Cutting Guide* (810480).
- For additional information about your system refer to the *Powermax65/85/105 SYNC Operator Manual* (810470).

Download these documents at [www.hypertherm.com/docs](http://www.hypertherm.com/docs).

### About the cut charts


The cut charts in this guide are a good starting point. Adjust the variables in the cut charts as needed to get optimal results for your cutting equipment and environment.

Cut charts are included for the following:


- Cutting mild steel, stainless steel, and aluminum at 45 A – 105 A with air using standard cutting cartridges
- Cutting mild steel and stainless steel with air using FineCut cartridges

Hypertherm collected the cut chart data using new cartridges and obeying all requirements for electric supply, gas supply, and site conditions.

### Select the best cartridge for the material you want to cut

	Metric material thickness (mm)											
	0.5	1	2	3	5	8	10	12	15	20	25	30
FineCut	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
45 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
65 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
85 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
105 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black

Optimal cut quality
Near to optimal cut quality
Decreased cut quality or speed

	English material thickness (in.)										
	0.02	0.06	1/8	1/4	3/8	1/2	5/8	3/4	1	1-1/4	1-1/2
FineCut	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
45 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
65 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
85 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
105 A	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black

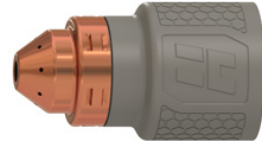
### Cut chart elements

The following illustration identifies the elements that are on each cut chart.

**1**  
Mild Steel – 105 A – Air



428895 ohmic sensing ring



428936

**2** Metric

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		seconds	Cut Speed	Arc Voltage	Cut Speed	
6	3.2	6.4	200	0.5	3960	143	4880	143	2.2
20				1.0	790	153	940	152	2.8
40				Edge start		200	172	250	170

**2** English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		seconds	in/min	volts	in/min	
1/4	0.125	0.25	200	0.5	156	143	192	143	0.086
3/4				1.0	33	152	40	151	0.108
1-1/2				Edge start		9	170	10	168

**4** Gas flow rate – slpm / scfh

236 / 500	Hot (cutflow)
311 / 660	Cold (postflow)

**1** Type of metal:

- Mild Steel
- Stainless Steel
- Aluminum

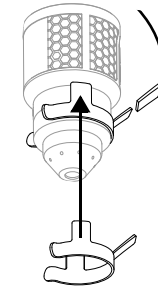
Cut process:

- **A** = Amperage. The amperage applies to all the settings on that page.
- In **FineCut** charts, the amperage for each thickness is included in the cut chart. This guide includes high-speed and low-speed charts. High-speed settings can give better cut quality and less dross at some thicknesses, if the cutting table lets you cut at those settings.

Type of gas:

- Air (or nitrogen)

Use an **ohmic sensing ring** to connect a mechanized cartridge to a torch height control (THC) system. Install it on the cartridge as shown. The 428895 kit includes 3 ohmic sensing rings (420580).



**3** Units of measurement:

- mm = millimeters
- % = percentage
- seconds
- mm/min = millimeters per minute
- volts
- inches
- in/min = inches per minute
- A = amperage (FineCut charts)

**Edge start** = Start the cut from the edge of the workpiece.

**2** Metric = Metric measurements

**English** = English measurements

**Material Thickness** = Thickness of the workpiece (metal plate being cut).

**Cut Height** = Distance between the tip of the cartridge and the workpiece during cutting.

**Initial Pierce Height** = Distance between the tip of the cartridge and the workpiece when the torch is fired, prior to descending to the cut height.

**Pierce Delay** = Length of time the plasma arc remains stationary at the pierce height while it cuts through the workpiece.

**Best Quality (Cut Speed and Arc 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 cutting system to get the desired result.

**Highest Production (Cut Speed and Arc Voltage\*)** = Settings that increase cut speeds 20% – 30%. These speeds give an increased number of cut parts but not necessarily the best possible cut quality.

**Kerf Width** = Width of material removed by the cutting process. The kerf widths are for reference only. Hypertherm got them using the “Best Quality” settings. Differences between installations and material composition can cause actual results to vary from those shown in the tables.

\* For information on how to use arc voltage to control cut height, refer to the *Powermax65/85/105 SYNC Mechanized Cutting Guide* (810480).

**4** Each cut chart lists hot and cold gas flow rates.

- slpm = Standard liter per minute
- scfh = Standard cubic feet per hour

**Hot (cutflow)** = Plasma arc is on, and there is a steady flow of gas while cutting.

**Cold (postflow)** = Plasma arc is off, and there is a steady flow of gas for several seconds after the cut completes. This flow rate also applies for gas test mode.



# 1 Mild Steel - 105 A - Air



428895  
ohmic sensing ring



428936

## Metric

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		mm/min	volts	mm/min	volts	
6	3.2	6.4	200	0.5	3960	143	4880	143	2.2
8					3020	144	3730	144	2.3
10				0.8	2240	145	2740	145	2.4
12					1700	146	2080	146	2.5
16				1.0	1090	149	1320	149	2.7
20					790	153	940	152	2.8
25		Edge Start			530	157	580	156	2.9
30			380	162	410	161	3.3		
32			330	164	360	163	3.6		
35			280	167	300	166	4.0		
40			200	172	250	170	5.1		

## English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		in/min	volts	in/min	volts	
1/4	0.125	0.250	200	0.5	156	143	192	143	0.086
3/8					94	145	116	145	0.095
1/2				0.8	61	147	75	146	0.101
5/8					43	149	53	149	0.105
3/4				1.0	33	152	40	151	0.108
7/8					26	155	30	154	0.111
1		Edge Start			20	158	22	157	0.117
1-1/8			16	161	18	160	0.126		
1-1/4			13	164	14	163	0.139		
1-1/2			9	170	10	168	0.183		

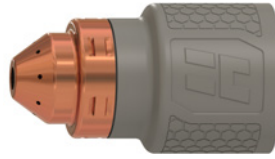
## Gas flow rate - slpm / scfh

236 / 500	Hot (cutflow)
311 / 660	Cold (postflow)

**1**  
Stainless Steel – 105 A – Air



428895  
ohmic sensing ring



428936

**2**  
Metric

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		mm/min	volts	mm/min	volts	
6	3.2	6.4	200	0.5	4700	139	5690	139	1.9
8					3250	142	3890	142	2.1
10					2180	144	2620	144	2.2
12					1550	147	1880	146	2.4
16		7.9	250	0.8	940	151	1120	150	2.6
20					660	155	790	154	2.8
25		Edge Start			460	159	530	158	2.9
30		Edge Start			330	162	360	162	2.8
32		Edge Start			300	163	330	163	2.8

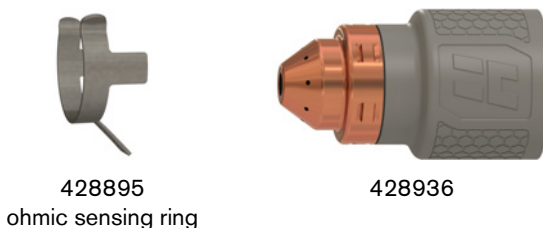
**2**  
English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		in/min	volts	in/min	volts	
1/4	0.125	0.250	200	0.5	185	140	224	140	0.075
3/8					94	144	112	143	0.086
1/2					55	148	67	147	0.096
5/8					37	151	45	150	0.103
3/4		0.310	250	1.3	28	154	34	153	0.109
7/8					Edge Start			22	157
1		Edge Start			17	160	20	159	0.114
1-1/8		Edge Start			14	161	16	161	0.113
1-1/4		Edge Start			12	163	13	163	0.110

**4**  
Gas flow rate – slpm / scfh

236 / 500	Hot (cutflow)
311 / 660	Cold (postflow)

**1**  
Aluminum - 105 A - Air



**Metric**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
6	3.2	6.4	200	0.5	5660	146	6730	146	2.3
8					3760	148	4500	147	2.4
10				0.8	2590	149	3230	148	2.4
12					1930	151	2490	149	2.5
16				1.0	1320	156	1650	153	2.5
20				1.3	1020	160	1190	157	2.6
25		Edge Start			660	166	810	163	2.7
30		430	172	560	168	3.0			
32	380	174	510	170	3.1				

**3**

**English**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
1/4	0.125	0.250	200	0.5	223	146	265	146	0.093
3/8					110	149	136	148	0.096
1/2				1.0	70	152	91	150	0.098
5/8					52	155	66	153	0.100
3/4				1.3	43	159	50	156	0.102
7/8				Edge Start			34	162	40
1		26	166	31	163	0.109			
1-1/8		19	170	24	167	0.114			
1-1/4	15	174	20	170	0.122				

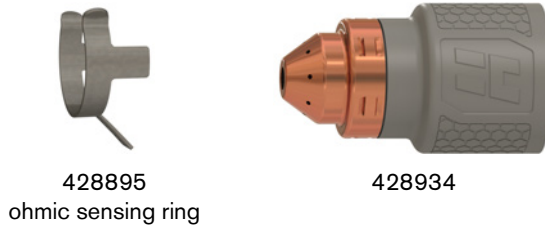
**3**

**Gas flow rate - slpm / scfh**

**4**

236 / 500	Hot (cutflow)
311 / 660	Cold (postflow)

**1**  
Mild Steel - 85 A - Air



**Metric**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
3	3.2	3.8	120	0.0	6930	134	9580	131	1.5
4				0.2	5560	134	7140	132	1.7
6					3560	135	4220	134	1.9
8				0.5	2360	136	2820	135	2.1
10		4.8	150		1630	137	2030	137	2.3
12					1240	138	1520	138	2.4
16		840	142		970	142	2.6		
20		6.4	200	1.5	580	147	660	145	2.8
25		Edge Start			360	153	430	150	3.0
30					200	159	300	155	3.4

**3**

**English**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches
10 GA	0.125	0.150	120	0.2	250	134	334	132	0.063
3/16					185	134	226	133	0.070
1/4				0.5	130	135	153	134	0.077
3/8					70	136	86	136	0.088
1/2		0.188	150	1.0	46	139	55	139	0.096
5/8					34	142	39	142	0.103
3/4		0.250	200	1.5	25	146	28	144	0.108
7/8		Edge Start			19	150	22	147	0.114
1					13	153	17	150	0.120
1-1/8					9	157	13	153	0.128
1-1/4					6	161	10	157	0.139

**3**

**Gas flow rate - slpm / scfh** **4**

212 / 450	Hot (cutflow)
264 / 560	Cold (postflow)

**1**  
Stainless Steel - 85 A - Air



428895  
ohmic sensing ring



428934

**Metric**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
3	3.2	3.8	120	0.2	8100	132	9860	131	1.3
4					6220	133	7570	132	1.6
6					3630	135	4470	134	2.0
8					2260	137	2790	136	2.3
10		4.8	150	0.5	1500	139	1880	138	2.4
12					1040	142	1350	140	2.5
16					690	147	790	144	2.5
20					Edge Start		480	151	530
25	Edge Start		300	155	380	152	3.5		

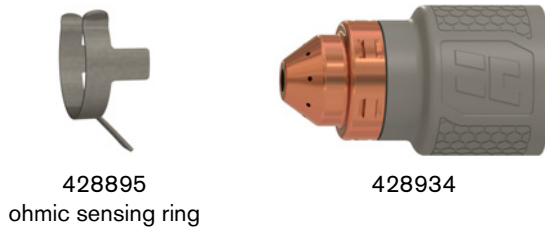
**English**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width		
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage			
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches		
10 GA	0.125	0.150	120	0.2	275	133	335	131	0.060		
3/16					199	134	243	133	0.071		
1/4					131	135	161	134	0.082		
3/8					65	139	81	137	0.094		
1/2		0.188	150	1.0	36	142	47	141	0.098		
5/8					27	146	32	144	0.098		
3/4					Edge Start		21	150	23	147	0.102
7/8					Edge Start		16	153	18	150	0.114
1	Edge Start		11	155	15	152	0.141				

**Gas flow rate - slpm / scfh**

212 / 450	Hot (cutflow)
264 / 560	Cold (postflow)

**1**  
Aluminum - 85 A - Air



**Metric**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
3	3.2	3.8	120	0.2	7980	137	9520	135	1.9
4					6050	138	7470	136	2.0
6					3630	140	4750	138	2.2
8					2440	142	3250	141	2.4
10		4.8	150	0.5	1780	145	2390	143	2.5
12					1400	148	1850	146	2.6
16					940	154	1190	150	2.7
20					Edge Start			580	158
25	Edge Start			380	162	530	159	3.0	

**3**

**English**

**2**

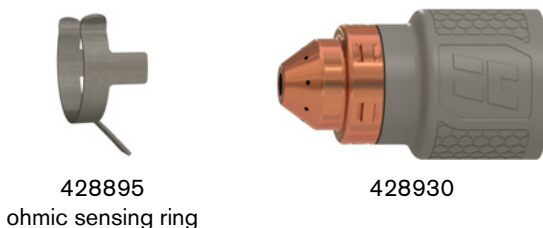
Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width			
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage				
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches			
1/8	0.125	0.150	120	0.2	300	137	360	136	0.076			
1/4					133	140	174	139	0.089			
3/8					75	144	101	143	0.097			
1/2					51	149	68	146	0.102			
5/8		0.188	150	1.0	38	153	48	150	0.106			
3/4					Edge Start			26	157	37	154	0.109
7/8					Edge Start			19	160	29	157	0.113
1					Edge Start			15	162	20	159	0.119

**3**

**Gas flow rate - slpm / scfh** **4**

212 / 450	Hot (cutflow)
264 / 560	Cold (postflow)

**1**  
Mild Steel – 65 A – Air



**Metric**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		mm/min	volts	mm/min	volts	
3	3.2	3.8	120	0.1	5330	133	6250	132	1.3
4					4220	133	5000	131	1.4
6					2570	133	3200	132	1.5
8					1550	135	2130	133	1.7
10					1040	137	1500	135	1.9
12		840	139	1120	137	2.0			
16		6.4	200	2.0	560	145	660	143	2.3
20		Edge Start			380	151	430	148	2.5
25	Edge Start			200	155	280	153	2.8	

**3**

**English**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		in/min	volts	in/min	volts	
10 GA	0.125	0.150	120	0.1	191	133	225	132	0.053
3/16					138	133	166	131	0.057
1/4					93	133	117	132	0.062
3/8					44	136	64	134	0.072
1/2					30	140	40	138	0.081
5/8		0.250	200	2.0	22	145	27	143	0.089
3/4		Edge Start			16	150	19	147	0.097
7/8		Edge Start			11	153	14	151	0.104
1	Edge Start			8	155	10	153	0.110	

**3**

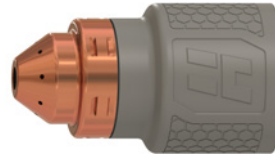
**Gas flow rate – slpm / scfh** **4**

193 / 410	Hot (cutflow)
243 / 515	Cold (postflow)

**1**  
Stainless Steel - 65 A - Air



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428930

**Metric**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
2	3.2	3.8	120	0.1	8760	132	10820	131	0.8
3					7650	132	9730	131	1.1
4				5160	133	6120	131	1.3	
6				2440	133	2720	132	1.6	
8		1350	135	1550	134	1.8			
10		4.8	150	0.7	940	137	1120	136	2.0
12				1.2	740	139	890	138	2.1
16		Edge Start				480	144	510	143
20	Edge Start				330	149	360	148	2.5

**English**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width	
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage		
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches	
10 GA	0.125	0.150	120	0.1	241	132	295	131	0.047	
3/16				0.2	150	133	171	132	0.055	
1/4				0.5	86	134	95	133	0.064	
3/8				0.7	40	136	47	135	0.075	
1/2		0.188	150	1.2	27	140	31	139	0.082	
5/8				Edge Start				19	144	21
3/4		Edge Start				14	148	15	147	0.096

**Gas flow rate - slpm / scfh**

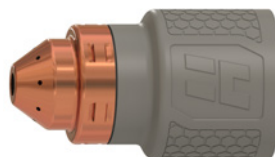
193 / 410	Hot (cutflow)
243 / 515	Cold (postflow)



# 1 Aluminum - 65 A - Air



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428930

## Metric

2 Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		seconds	Cut Speed	Arc Voltage	Cut Speed	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
2	3.2	3.8	120	0.1	9270	134	10800	133	1.4
3					7540	134	8920	133	1.5
4					5380	135	6880	133	1.5
6				0.2	2900	137	4110	135	1.6
8		0.5	1780	139	2590	137	1.7		
10		4.8	150	0.7	1220	142	1750	139	1.8
12				1.2	940	145	1320	142	1.9
16				Edge Start			610	151	810
20		Edge Start			380	157	530	153	2.4

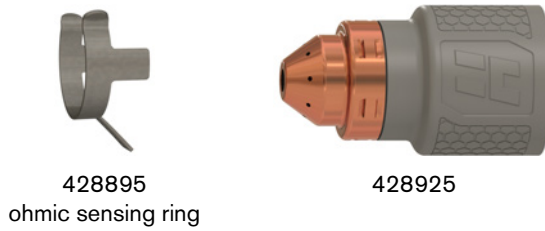
## English

2 Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width		
		inches	%		seconds	Cut Speed	Arc Voltage	Cut Speed		Arc Voltage	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches		
1/16	0.125	0.150	120	0.1	365	134	428	133	0.056		
1/8					280	134	337	133	0.059		
1/4					104	137	149	135	0.064		
3/8				0.7	52	141	75	138	0.069		
1/2		0.188	150	1.2	34	146	48	143	0.076		
5/8				Edge Start			25	151	33	147	0.083
3/4				Edge Start			17	155	23	152	0.092

## Gas flow rate - slpm / scfh

193 / 410	Hot (cutflow)
243 / 515	Cold (postflow)

**1**  
Mild Steel – 45 A – Air



**Metric**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
0.5	3.2	3.8	120	0.0	8890	137	12500	135	1.1
1				0.1	8890	138	10670	138	1.4
1.5					8890	138	10190	139	1.5
2				0.2	6600	139	7620	140	1.7
3				0.4	3630	141	4830	139	1.8
4					2260	142	3400	138	1.9
6				0.6	1240	141	2010	140	1.9

**3**

**English**

**2**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches
26 GA	0.125	0.150	120	0.0	350	137	501	135	0.044
22 GA					350	137	445	137	0.049
18 GA				0.1	350	138	408	138	0.057
16 GA					350	138	398	139	0.061
14 GA				0.2	278	139	318	140	0.065
12 GA				0.4	173	140	219	140	0.071
10 GA					115	141	162	139	0.073
3/16				0.5	68	142	107	138	0.074
1/4				0.6	46	141	74	141	0.075

**3**

**Gas flow rate – slpm / scfh**

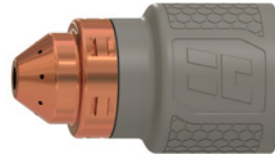
**4**

182 / 385	Hot (cutflow)
217 / 460	Cold (postflow)

**1**  
Stainless Steel - 45 A - Air



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428925

**2**  
Metric

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
0.5	3.2	3.8	120	0.0	8890	127	12700	125	1.1
1				0.1	8890	134	10770	132	0.8
1.5					8890	138	10110	137	0.7
2				0.2	6220	140	8990	139	0.8
3				0.4	3230	141	4620	140	1.4
4				0.5	1960	140	2410	139	2.2
6				0.6	860	142	970	141	2.4

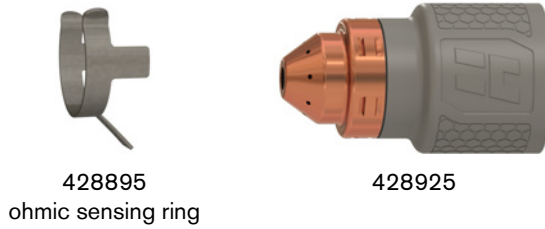
**2**  
English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
26 GA	0.125	0.150	120	0.0	350	127	501	125	0.045
22 GA					350	131	445	130	0.035
18 GA				0.1	350	136	408	135	0.027
					16 GA	350	138	401	137
14 GA				0.2	248	140	357	139	0.030
12 GA				0.4	145	141	214	140	0.048
					10 GA	94	141	124	140
3/16				0.5	55	139	63	138	0.102
1/4				0.6	30	144	35	144	0.082

**4**  
Gas flow rate - slpm / scfh

182 / 385	Hot (cutflow)
217 / 460	Cold (postflow)

**1**  
Aluminum - 45 A - Air



**Metric**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
mm	mm	mm	%	seconds	mm/min	volts	mm/min	volts	mm
1	3.2	3.8	120	0.0	8260	131	11400	128	1.6
2				0.1	5970	140	9040	137	1.8
3				0.1	3350	146	6400	143	1.9
4				0.1	2210	150	4600	146	1.9
6				0.2	1240	151	2570	145	2.0

**English**

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
					Cut Speed	Arc Voltage	Cut Speed	Arc Voltage	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches
1/32	0.125	0.150	120	0.0	325	129	449	126	0.062
1/16					325	137	406	134	0.069
3/32				0.1	183	143	312	140	0.073
1/8					121	147	238	144	0.074
1/4				0.2	46	150	93	143	0.081

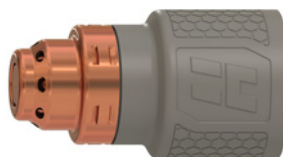
**Gas flow rate - slpm / scfh**

182 / 385	Hot (cutflow)
217 / 460	Cold (postflow)

**1**  
Mild Steel – FineCut High Speed – Air



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428926

**Metric**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width			
						Cut Speed	Arc Voltage				
mm	A	mm	mm	%	seconds	mm/min	volts	mm			
0.5	40	3.5	3.5	100	0.0	8900	90	0.8			
0.6						8900	90	0.8			
0.8						8900	90	0.6			
1						8890	90	0.6			
1.5	45				3.5	3.5	100	0.2	6550	88	0.5
2								0.3	5260	88	0.5
3								0.4	2750	90	0.8
4								0.6	2250	88	0.8

**English**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width			
						Cut Speed	Arc Voltage				
inches	A	inches	inches	%	seconds	in/min	volts	inches			
26 GA	40	0.14	0.14	100	0.0	350	90	0.033			
24 GA						350	90	0.032			
22 GA						350	90	0.026			
20 GA						350	90	0.024			
18 GA	45				0.14	0.14	100	0.1	350	89	0.020
16 GA								0.2	250	88	0.021
14 GA								0.3	220	88	0.021
12 GA								0.4	115	91	0.032
10 GA		0.14	0.14	100				0.5	100	89	0.031

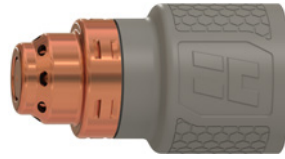
**Gas flow rate – slpm / scfh**

162 / 343	Hot (cutflow)
180 / 382	Cold (postflow)

**1**  
Stainless Steel – FineCut High Speed – Air



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**Metric**

**2**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
			mm	%		Cut Speed	Arc Voltage	
mm	A	mm	mm	%	seconds	mm/min	volts	mm
0.5	40	0.5	3.5	700	0.0	8900	64	0.7
0.6						8900	65	0.6
0.8						8900	65	0.5
1	45				0.1	8890	64	0.4
1.5					0.3	6320	64	0.4
2					0.4	4830	65	0.4
3					0.5	2550	71	0.6
4	0.7				1050	71	0.5	

**3**

**English**

**2**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
			inches	%		Cut Speed	Arc Voltage	
inches	A	inches	inches	%	seconds	in/min	volts	inches
26 GA	40	0.02	0.14	700	0.0	350	64	0.028
24 GA						350	65	0.024
22 GA						350	65	0.020
20 GA	45				0.1	350	65	0.016
18 GA					0.2	350	62	0.012
16 GA					0.3	240	64	0.017
14 GA					0.4	200	65	0.017
12 GA	0.5				120	71	0.026	
10 GA	0.6	75	71	0.023				

**3**

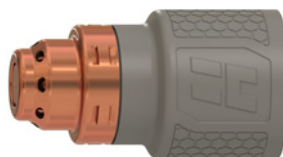
**Gas flow rate – slpm / scfh** **4**

162 / 343	Hot (cutflow)
180 / 382	Cold (postflow)

**1**  
Mild Steel – FineCut Low Speed – Air



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**2**  
Metric

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
						Cut Speed	Arc Voltage	
mm	A	mm	mm	%	seconds	mm/min	volts	mm
0.5	30	3.5	3.5	100	0.0	3800	98	1.0
0.6						3800	97	1.0
0.8						35	3800	95
1	3800						95	0.9
1.5	40				0.2	3800	94	1.0
2					0.3	2370	93	1.1
3	45				0.4	2750	90	0.8
4					0.6	2250	88	0.8

**2**  
English

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
						Cut Speed	Arc Voltage	
inches	A	inches	inches	%	seconds	in/min	volts	inches
26 GA	30	0.14	0.14	100	0.0	150	98	0.042
24 GA						150	97	0.039
22 GA						35	150	95
20 GA	150						95	0.038
18 GA	40				0.1	150	94	0.035
16 GA					0.2	150	94	0.038
14 GA					0.3	90	93	0.042
12 GA	45				0.4	115	91	0.032
10 GA		0.5	100	89	0.031			

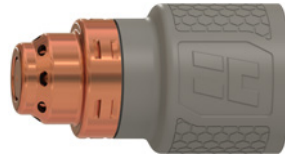
**4**  
Gas flow rate – slpm / scfh

162 / 343	Hot (cutflow)
180 / 382	Cold (postflow)

**1**  
Stainless Steel – FineCut Low Speed – Air



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**Metric**

**2**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
						Cut Speed	Arc Voltage	
mm	A	mm	mm	%	seconds	mm/min	volts	mm <b>3</b>
0.5	30	0.5	3.5	700	0.0	3800	74	0.9
0.6						3800	73	0.8
0.8						3800	71	0.7
1	40				0.1	3770	71	0.7
1.5					0.3	3570	71	0.6
2					0.4	2830	71	0.7
3	45				0.5	2550	71	0.6
4					0.7	1050	71	0.5

**English**

**2**

Material Thickness	Current	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Kerf Width
						Cut Speed	Arc Voltage	
inches	A	inches	inches	%	seconds	in/min	volts	inches <b>3</b>
26 GA	30	0.02	0.14	700	0.0	150	74	0.035
24 GA						150	73	0.033
22 GA						150	71	0.030
20 GA	40				0.1	150	71	0.026
18 GA					0.2	145	71	0.026
16 GA					0.3	140	71	0.025
14 GA	45				0.4	110	71	0.028
12 GA					0.5	120	71	0.026
10 GA					0.6	75	71	0.023

**Gas flow rate – slpm / scfh **4****

162 / 343	Hot (cutflow)
180 / 382	Cold (postflow)