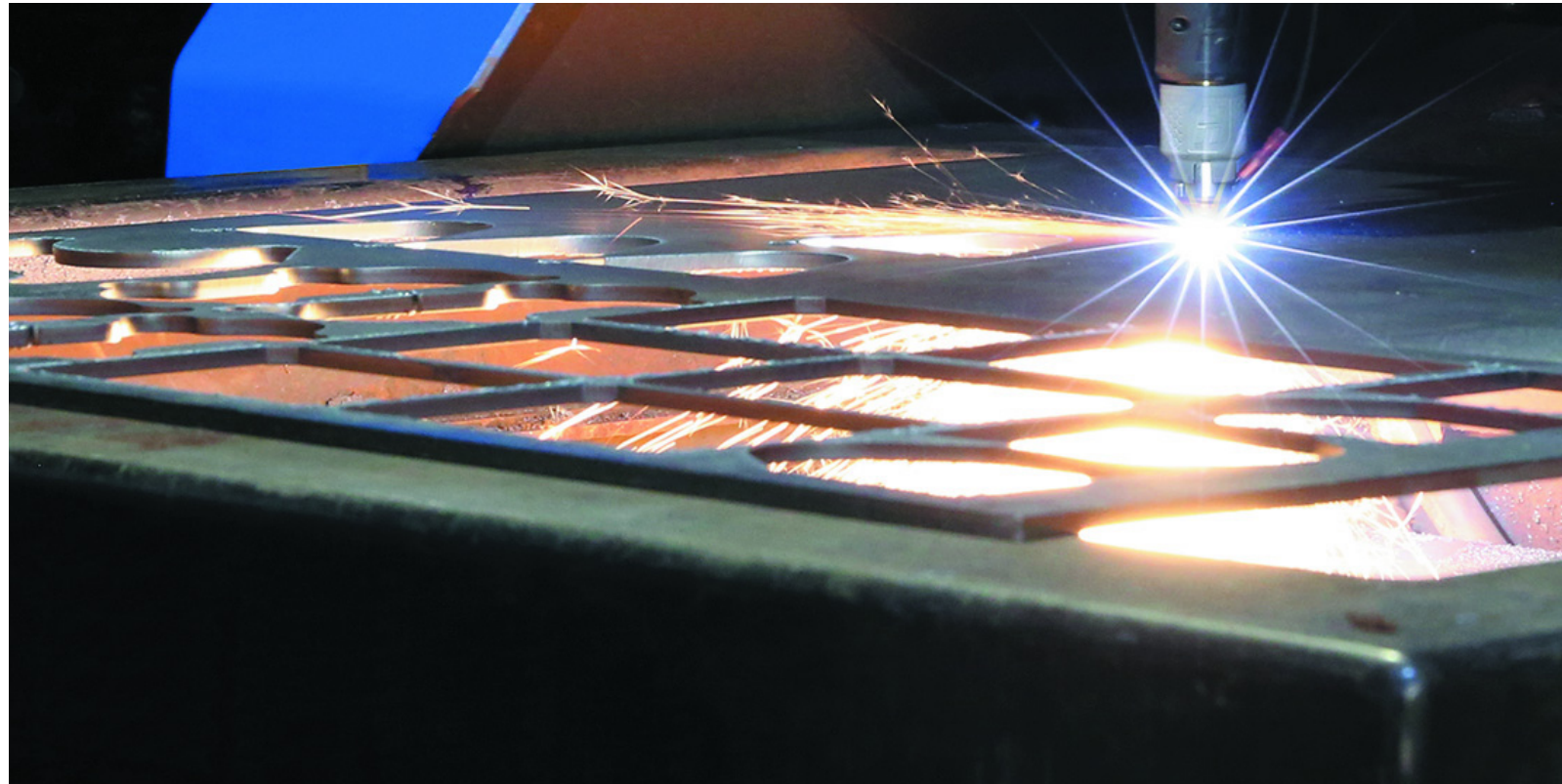
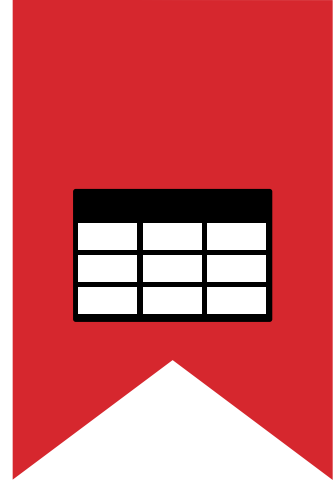




Powermax45/65/85/105 SYNC®

Cut Charts Guide



810500MU – REVISION 4

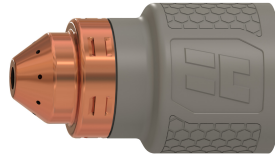
MULTILINGUAL



Mild Steel – 45 A – Air (Powermax65/85/105 SYNC)



428895
ohmic sensing ring



428925

Metric

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
0.5	3.2	3.8	120	0.0	8890	137	12500	135	1.1
1	3.2	3.8	120	0.1	8890	138	10670	138	1.4
1.5	3.2	3.8	120	0.1	8890	138	10190	139	1.5
2	3.2	3.8	120	0.2	6600	139	7620	140	1.7
3	3.2	3.8	120	0.4	3630	141	4830	139	1.8
4	3.2	3.8	120	0.4	2260	142	3400	138	1.9
6	3.2	3.8	120	0.6	1240	141	2010	140	1.9

English

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

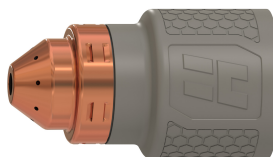
Gas flow rate – slpm / scfh

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

Stainless Steel – 45 A – Air (Powermax65/85/105 SYNC)



428895
ohmic sensing ring



428925

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
0.5	3.2	3.8	120	0.0	8890	127	12700	125	1.1
1	3.2	3.8	120	0.1	8890	134	10770	132	0.8
1.5	3.2	3.8	120	0.1	8890	138	10110	137	0.7
2	3.2	3.8	120	0.2	6220	140	8990	139	0.8
3	3.2	3.8	120	0.4	3230	141	4620	140	1.4
4	3.2	3.8	120	0.5	1960	140	2410	139	2.2
6	3.2	3.8	120	0.6	860	142	970	141	2.4

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
26 GA	0.125	0.150	120	0.0	350	127	501	125	0.045
22 GA	0.125	0.150	120	0.0	350	131	445	130	0.035
18 GA	0.125	0.150	120	0.1	350	136	408	135	0.027
16 GA	0.125	0.150	120	0.1	350	138	401	137	0.026
14 GA	0.125	0.150	120	0.2	248	140	357	139	0.030
12 GA	0.125	0.150	120	0.4	145	141	214	140	0.048
10 GA	0.125	0.150	120	0.4	94	141	124	140	0.072
3/16	0.125	0.150	120	0.5	55	139	63	138	0.102
1/4	0.125	0.150	120	0.6	30	144	35	144	0.082

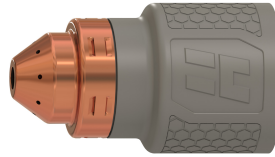
Gas flow rate – slpm / scfh

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

Aluminum – 45 A – Air (Powermax65/85/105 SYNC)



428895
ohmic sensing ring



428925

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	3.2	3.8	120	0.1	5970	140	9040	137	1.8
3	3.2	3.8	120	0.1	3350	146	6400	143	1.9
4	3.2	3.8	120	0.1	2210	150	4600	146	1.9
6	3.2	3.8	120	0.2	1240	151	2570	145	2.0

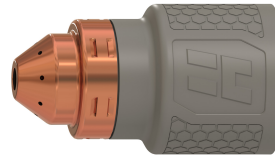
English

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	0.125	0.150	120	0.0	325	137	406	134	0.069
3/32	0.125	0.150	120	0.1	183	143	312	140	0.073
1/8	0.125	0.150	120	0.1	121	147	238	144	0.074
1/4	0.125	0.150	120	0.2	46	150	93	143	0.081

Gas flow rate – slpm / scfh

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

Mild Steel – 45 A – Air (Powermax45 SYNC)

428895
ohmic sensing ring

428925

Metric

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		mm	%		seconds	Cut Speed	Arc Voltage	Cut Speed	
0.5	3.2	3.8	120	0.0	8900	137	12500	136	1.1
1	3.2	3.8	120	0.1	8900	136	10800	137	0.8
1.5	3.2	3.8	120	0.1	8900	137	10100	137	0.6
2	3.2	3.8	120	0.2	6700	133	7700	133	0.6
3	3.2	3.8	120	0.4	3500	137	5100	136	0.8
4	3.2	3.8	120	0.4	2300	138	3900	137	1
6	3.2	3.8	120	0.6	1390	140	2150	139	1.2
8	3.2	3.8	120	0.7	1000	141	1400	141	1.3
10	3.2	3.8	120	0.8	780	143	910	142	1.4
12	3.2	3.8	120	1	540	149	690	144	1.6
16	3.2	Edge Start			325	153	400	151	1.6
20	3.2				170	160	170	160	2
25	3.2				110	166	110	166	2.2

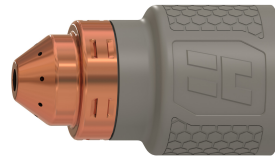
English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		seconds	Cut Speed	Arc Voltage	Cut Speed	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches
26 GA	0.125	0.150	120	0.0	350	137	501	136	0.045
22 GA	0.125	0.150	120	0.0	350	137	445	136	0.037
18 GA	0.125	0.150	120	0.1	350	136	408	137	0.026
16 GA	0.125	0.150	120	0.1	350	137	398	137	0.023
14 GA	0.125	0.150	120	0.2	278	132	318	132	0.022
12 GA	0.125	0.150	120	0.4	173	136	219	136	0.024
10 GA	0.125	0.150	120	0.4	95	138	181	137	0.043
3/16	0.125	0.150	120	0.5	85	139	122	138	0.039
1/4	0.125	0.150	120	0.6	46	140	74	139	0.052
3/8	0.125	0.150	120	0.8	33	142	38	142	0.052
1/2	0.125	0.150	120	1	18	151	24	145	0.067
5/8	0.125	Edge Start			13	153	16	151	0.064
3/4	0.125				7	159	7	159	0.082
7/8	0.125				6	163	6	163	0.076
1	0.125				4	167	4	167	0.087

Gas flow rate - slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Stainless Steel – 45 A – Air (Powermax45 SYNC)

428895
ohmic sensing ring

428925

Metric

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
0.5	3.2	3.8	120	0.0	8900	128	12500	127	1
1	3.2	3.8	120	0.1	8900	136	10800	135	0.7
1.5	3.2	3.8	120	0.1	8900	134	10200	135	0.4
2	3.2	3.8	120	0.2	5900	136	8600	135	0.5
3	3.2	3.8	120	0.4	3100	139	4500	141	0.9
4	3.2	3.8	120	0.4	2050	139	2800	142	1.2
6	3.2	3.8	120	0.6	900	143	1550	143	1.5
8	3.2	3.8	120	0.7	710	144	1100	144	1.6
10	3.2	3.8	120	0.8	610	146	700	145	1.6
12	3.2	4.6	150	1	380	149	540	147	1.7
16	3.2	Edge Start			250	152	330	151	1.7
20	3.2				160	157	210	154	2

English

Material Thickness	Cut Height	Initial Pierce Height		Pierce Delay	Best Quality		Highest Production		Kerf Width
		inches	%		seconds	Cut Speed	Arc Voltage	Cut Speed	
inches	inches	inches	%	seconds	in/min	volts	in/min	volts	inches
26 GA	0.125	0.15	120	0.0	350	127	501	126	0.041
22 GA	0.125	0.150	120	0.0	350	136	445	135	0.032
18 GA	0.125	0.150	120	0.1	350	136	408	135	0.024
16 GA	0.125	0.150	120	0.1	350	134	401	135	0.017
14 GA	0.125	0.150	120	0.2	248	135	357	134	0.019
12 GA	0.125	0.150	120	0.4	145	141	214	140	0.025
10 GA	0.125	0.150	120	0.4	94	137	134	142	0.044
3/16	0.125	0.150	120	0.5	55	142	70	143	0.05
1/4	0.125	0.150	120	0.6	30	143	59	143	0.062
3/8	0.125	0.150	120	0.8	26	145	29	144	0.062
1/2	0.125	0.18	150	1	12	150	19	148	0.068
5/8	0.125	Edge Start			10	152	13	151	0.066
3/4	0.125				7	156	9	153	0.082
7/8	0.125				5	158	6	157	0.073

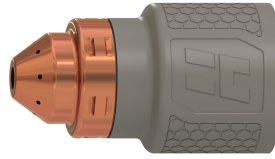
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Aluminum – 45 A – Air (Powermax45 SYNC)



428895
ohmic sensing ring



428925

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	8300	140	11100	138	1.5
2	3.2	3.8	120	0.1	6400	139	9100	137	1.2
3	3.2	3.8	120	0.1	4400	142	7000	140	1.1
4	3.2	3.8	120	0.1	3650	143	5600	141	1.1
6	3.2	3.8	120	0.2	2050	146	3100	144	1
8	3.2	3.8	120	0.5	1330	147	1820	146	1.2
10	3.2	3.8	120	0.8	860	148	1010	148	1.3
12	3.2	Edge Start			620	153	750	152	1.2
16	3.2				350	159	375	159	1.1

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	142	449	139	0.061
1/16	0.125	0.150	120	0.0	325	136	406	135	0.046
3/32	0.125	0.150	120	0.1	183	141	312	138	0.048
1/8	0.125	0.150	120	0.1	170	142	263	140	0.043
1/4	0.125	0.150	120	0.2	70	146	104	145	0.041
3/8	0.125	0.150	120	0.7	36	147	42	147	0.053
1/2	0.125	Edge Start			21	155	26	153	0.045
5/8	0.125				14	159	15	159	0.044
3/4	0.125				8	163	9	162	0.033

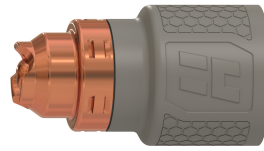
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Mild Steel – FineCut High Speed – Air (Powermax45 SYNC)



428895
ohmic sensing ring



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	0.9
0.6	40	3.5	3.5	100	0.0	8900	91	0.8
0.8	40	3.5	3.5	100	0.0	8900	91	0.7
1	40	3.5	3.5	100	0.0	8900	91	0.6
1.5	45	3.5	3.5	100	0.2	6500	87	0.7
2	45	3.5	3.5	100	0.3	5200	89	0.6
3	45	3.5	3.5	100	0.4	2750	87	0.8
4	45	3.5	3.5	100	0.6	2250	91	0.6

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	0.035
24 GA	40	0.14	0.14	100	0.0	350	91	0.033
22 GA	40	0.14	0.14	100	0.0	350	90	0.030
20 GA	40	0.14	0.14	100	0.0	350	92	0.025
18 GA	45	0.14	0.14	100	0.1	350	89	0.021
16 GA	45	0.14	0.14	100	0.2	250	87	0.027
14 GA	45	0.14	0.14	100	0.3	220	90	0.020
12 GA	45	0.14	0.14	100	0.4	115	86	0.034
10 GA	45	0.14	0.14	100	0.5	100	89	0.029

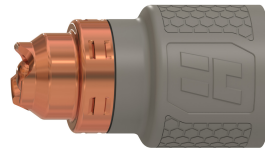
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Mild Steel – FineCut Low Speed – Air (Powermax45 SYNC)



428895
ohmic sensing ring



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	30	3.5	3.5	100	0.0	3800	96	1
0.6	30	3.5	3.5	100	0.0	3800	95	1
0.8	35	3.5	3.5	100	0.0	3800	93	1
1	40	3.5	3.5	100	0.0	3800	93	1
1.5	40	3.5	3.5	100	0.2	3800	89	0.9
2	40	3.5	3.5	100	0.3	2370	91	1.1
3	45	3.5	3.5	100	0.4	2750	87	0.8
4	45	3.5	3.5	100	0.6	2250	91	0.6

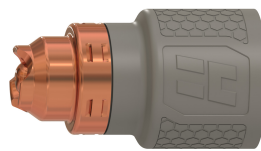
English

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	96	0.040
24 GA	30	0.14	0.14	100	0.0	150	95	0.039
22 GA	35	0.14	0.14	100	0.0	150	93	0.039
20 GA	35	0.14	0.14	100	0.0	150	94	0.038
18 GA	35	0.14	0.14	100	0.1	150	92	0.036
16 GA	40	0.14	0.14	100	0.2	150	89	0.036
14 GA	40	0.14	0.14	100	0.3	90	92	0.043
12 GA	45	0.14	0.14	100	0.4	115	86	0.034
10 GA	45	0.14	0.14	100	0.5	100	89	0.029

Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Stainless Steel – FineCut High Speed – Air (Powermax45 SYNC)

428895
ohmic sensing ring

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	0.5	3.5	700	0.0	8900	69	0.6
0.6	40	0.5	3.5	700	0.0	8900	63	0.6
0.8	40	0.5	3.5	700	0.0	8900	64	0.5
1	40	0.5	3.5	700	0.1	8900	64	0.3
1.5	45	0.5	3.5	700	0.3	6300	62	0.4
2	45	0.5	3.5	700	0.4	4800	61	0.4
3	45	0.5	3.5	700	0.5	2550	66	0.7
4	45	0.5	3.5	700	0.7	1050	73	1.2

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	40	0.02	0.14	700	0.0	350	71	0.026
24 GA	40	0.02	0.14	700	0.0	350	63	0.023
22 GA	40	0.02	0.14	700	0.0	350	63	0.020
20 GA	40	0.02	0.14	700	0.1	350	65	0.014
18 GA	45	0.02	0.14	700	0.2	350	61	0.013
16 GA	45	0.02	0.14	700	0.3	240	62	0.015
14 GA	45	0.02	0.14	700	0.4	200	61	0.015
12 GA	45	0.02	0.14	700	0.5	120	64	0.018
10 GA	45	0.02	0.14	700	0.6	75	69	0.035

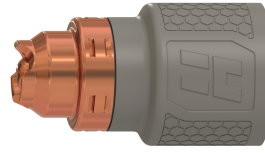
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Stainless Steel – FineCut Low Speed – Air (Powermax45 SYNC)



428895
ohmic sensing ring



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	30	0.5	3.5	700	0.0	3800	74	0.8
0.6	30	0.5	3.5	700	0.0	3800	71	0.7
0.8	30	0.5	3.5	700	0.0	3800	68	0.6
1	40	0.5	3.5	700	0.1	3800	68	0.6
1.5	40	0.5	3.5	700	0.3	3600	65	0.5
2	40	0.5	3.5	700	0.4	2850	64	0.5
3	45	0.5	3.5	700	0.5	2550	66	0.7
4	45	0.5	3.5	700	0.7	1050	73	1.2

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	0.02	0.14	700	0.0	150	75	0.032
24 GA	30	0.02	0.14	700	0.0	150	71	0.029
22 GA	30	0.02	0.14	700	0.0	150	67	0.025
20 GA	30	0.02	0.14	700	0.1	150	69	0.022
18 GA	40	0.02	0.14	700	0.2	145	65	0.023
16 GA	40	0.02	0.14	700	0.3	140	65	0.020
14 GA	40	0.02	0.14	700	0.4	110	64	0.021
12 GA	45	0.02	0.14	700	0.5	120	64	0.018
10 GA	45	0.02	0.14	700	0.6	75	69	0.035

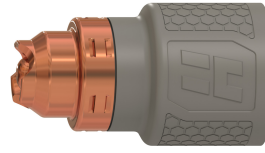
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Mild Steel / Stainless Steel / Aluminum – Marking - 45 A – Air (Powermax45 SYNC)



428895
ohmic sensing ring



428926

Metric

	Current	Torch-to-work distance	Initial Marking Height	Delay Time	Marking Speed	Arc Voltage
	A	mm	mm	seconds	mm/min	volts
Mild Steel	9	3.5	3.5	0	3800	128
Stainless Steel	9	3.5	3.5	0	3800	117
Aluminum	9	3.5	3.5	0	3800	120

English

	Current	Torch-to-work distance	Initial Marking Height	Delay Time	Marking Speed	Arc Voltage
	A	in	in	seconds	in/min	volts
Mild Steel	9	0.14	0.14	0	150	128
Stainless Steel	9	0.14	0.14	0	150	117
Aluminum	9	0.14	0.14	0	150	120

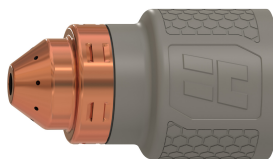
Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)

Stainless Steel – 45 A – F5 (Powermax65/85/105 SYNC)



428895
ohmic sensing ring



428925

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
6	3.2	4.8	150	0.6	1200	154	1200	154	0.8
7	3.2	4.8	150	0.6	1100		1100		

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
1/4	0.125	0.18	150	0.6	46	154	46	154	0.030

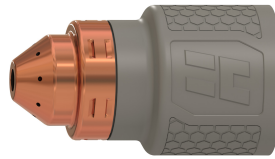
Gas flow rate – slpm / scfh

176 / 374	Hot (cutflow)
222 / 470	Cold (postflow)

Stainless Steel – 45 A – F5 (Powermax45 SYNC)



428895
ohmic sensing ring



428925

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
6	3.2	4.8	150	0.6	1200	151	1200	151	1.4
7	3.2	4.8	150	0.6	1000	154	1000	154	1.5
8	3.2	4.8	150	0.7	790	156	790	156	1.7
10	3.2	4.8	150	0.8	435	161	435	161	1.9
12	3.2	Edge Start			340	164	340	164	1.9

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
1/4	0.125	0.18	150	0.6	45	152	45	152	0.056
3/8	0.125	0.18	150	0.8	18	160	18	160	0.074
1/2	0.125	Edge Start			12	165	12	165	0.073

Gas flow rate – slpm / scfh

192 / 406	Hot (cutflow)
226 / 479	Cold (postflow)