

OPERATION

Cut charts

100 amp mechanized shielded consumables

- Torch-to-work distance for the following cut chart is 1/8 in (3.2 mm) for all cuts.

Shield
220047

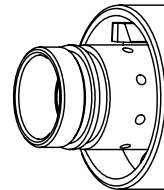
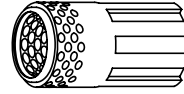
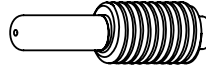
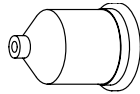
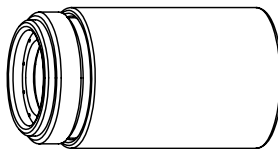
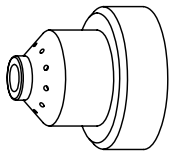
Retaining cap
220048

Nozzle
220011

Electrode
220037

Swirl ring
220051

T100M
torch



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	153	0.5	1/4"	6.4	208	5283	135	3429
	155	0.5	3/8"	9.5	119	3022	77	1955
	159	1.0	1/2"	12.7	88	2235	57	1447
	160	1.0	5/8"	15.9	61	1549	40	1016
	161	1.5	3/4"	19.0	47	1193	26	660
	163	NA	1	25.4	28	711	18	457
	167		1 1/4"	31.8	19	482	12	305

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	154	0.5	1/4"	6.4	231	5867	150	3810
	156	0.5	3/8"	9.5	122	3099	79	2006
	161	1.0	1/2"	12.7	79	2006	52	1320
	162	1.0	5/8"	15.9	52	1320	34	863
	164	1.5	3/4"	19.0	39	990	25	635
	166	NA	1"	25.4	23	584	15	381
	169		1 1/4"	31.8	14	355	9	228

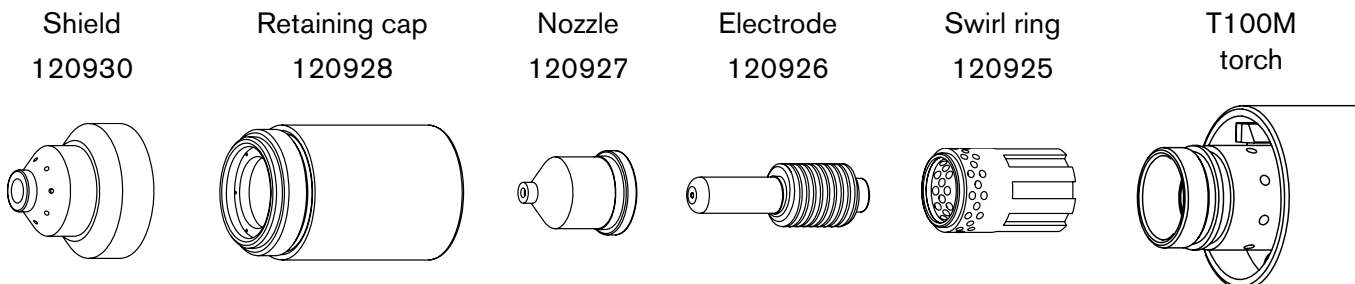
Aluminum

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	154	0.5	1/4"	6.4	253	6426	164	4165
	157	0.5	3/8"	9.5	142	3606	92	2336
	160	1.0	1/2"	12.7	108	2743	70	1778
	161	1.0	5/8"	15.9	77	1955	50	1270
	162	1.5	3/4"	19.0	57	1447	33	838
	165	NA	1"	25.4	33	838	21	533

Maximum travel speeds are the fastest speeds possible for cutting the material without regard to cut quality. Optimum travel speeds provide the best cut angle, least dross and best cut surface finish. **Remember that cut charts are intended to provide a good starting point for each different cut assignment.** Every cutting system requires "fine tuning" for each cutting application in order to obtain the desired cut quality.

80 amp mechanized shielded consumables

- Torch-to-work distance for the following cut chart is 1/16 in (1.5 mm) for all cuts.



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
80	132	0.25	3/16"	4.8	216	5486	140	3556
	134	0.50	1/4"	6.4	161	4089	105	2667
	137		3/8"	9.5	94	2388	61	1549
	140		1/2"	12.7	60	1524	39	991
	145	1.0	5/8"	15.9	40	1016	26	660
	148	N/A	3/4"	19.0	31	787	20	508
	150		7/8"	22.2	23	584	15	381
	156		1"	25.4	16	406	10	254

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
80	134	0.25	3/16"	4.8	216	5486	140	3556
	136	0.50	1/4"	6.4	158	4013	103	2616
	139	0.75	3/8"	9.5	83	2108	54	1372
	142		1/2"	12.7	50	1270	33	838
	145	1.0	5/8"	15.9	34	864	22	559
	150	N/A	3/4"	19.0	24	610	16	406
	153		1"	25.4	14	356	9	229

Aluminum

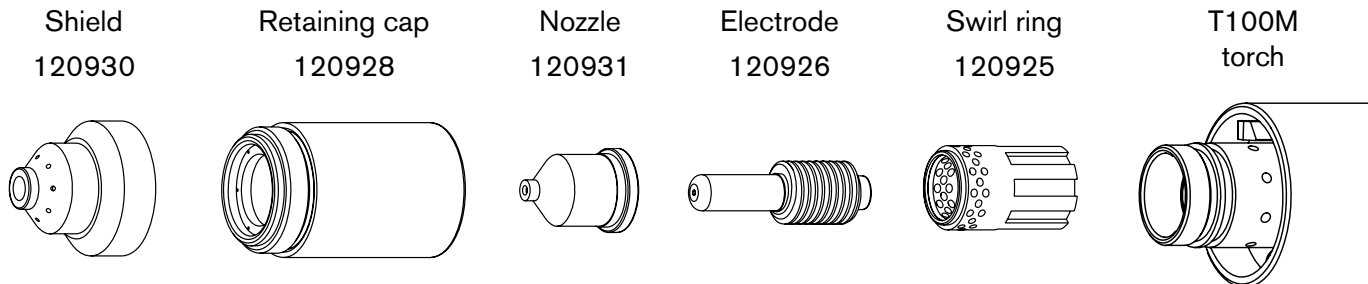
Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
80	134	0.25	1/8"	3.2	454	11532	295	7493
	139		1/4"	6.4	176	4470	114	2896
	143	0.75	3/8"	9.5	121	3073	60	1524
	146		1/2"	12.7	75	1905	37	940
	154	N/A	3/4"	19.0	37	940	19	483

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OPERATION

60 amp mechanized shielded consumables

- Torch-to-work distance for the following cut chart is 1/16 in (1.5 mm) for all cuts.



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
60	134	0	16 Ga	1.5	627	15926	502	12751
	134		10 Ga	3.4	264	6706	211	5359
	138	0.25	1/4"	6.4	132	3353	86	2184
	141	0.75	3/8"	9.5	63	1600	41	1041
	141	1.50	1/2"	12.7	42	1067	27	686
	147		5/8"	15.9	31	787	20	512
	153		3/4"	19.0	22	559	14	363

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
60	134	0	16 Ga	1.5	625	15875	406	10312
	136	0.25	10 Ga	3.4	244	6198	159	4039
	139	0.50	1/4"	6.4	110	2794	72	1829
	145	0.75	3/8"	9.5	53	1346	34	864
	146	2.00	1/2"	12.7	35	889	23	584
	149		5/8"	15.9	26	660	17	429
	154		3/4"	19.0	18	457	12	297

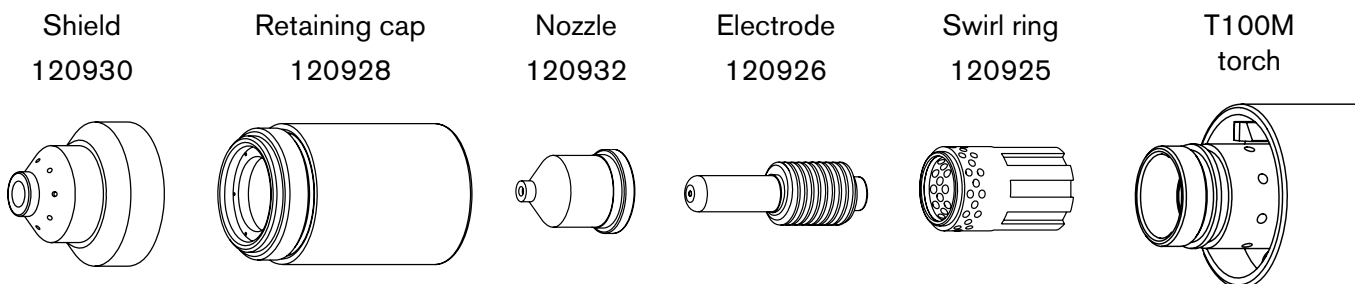
Aluminum

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
60	135	0	1/16"	1.6	666	16916	433	10995
	138	0.25	1/8"	3.2	400	10160	260	6604
	141		1/4"	6.4	145	3683	94	2388
	146	0.75	3/8"	9.5	74	1880	48	1219
	149	1.50	1/2"	12.7	51	1295	30	762
	153		5/8"	15.9	33	838	21	545

Maximum travel speeds are the fastest speeds possible for cutting the material without regard to cut quality. Optimum travel speeds provide the best cut angle, least dross and best cut surface finish. **Remember that cut charts are intended to provide a good starting point for each different cut assignment.** Every cutting system requires "fine tuning" for each cutting application in order to obtain the desired cut quality.

40 amp mechanized shielded consumables

- Torch-to-work distance for the following cut chart is 1/16 in (1.5 mm) for all cuts.



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	147		26 GA	0.5	638	16205	415	10541
	148		22 GA	0.8	500	12700	325	8255
	149		18 GA	1.3	312	7925	203	5156
	152		16 GA	1.5	176	4470	114	2896
40	144	0.25	14 GA	1.9	640	16256	221	5613
	146	0.50	10 GA	3.4	151	3835	98	2489
	147	0.75	3/16"	4.7	97	2464	63	1600
	149	1.00	1/4"	6.4	74	1880	48	1219

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	139		26 GA	0.5	631	16027	410	10414
	139		22 GA	0.8	496	12598	322	8179
40	142	0.25	18 GA	1.3	592	15037	335	8509
	144	0.25	16 GA	1.5	374	9500	243	6172
	144	0.25	14 GA	1.9	221	5613	144	3658
	147	0.50	10 GA	3.4	107	2718	70	1778
	149	0.75	3/16"	4.7	67	1702	44	1118
	149	1.00	1/4"	6.4	47	1194	31	787

Aluminum

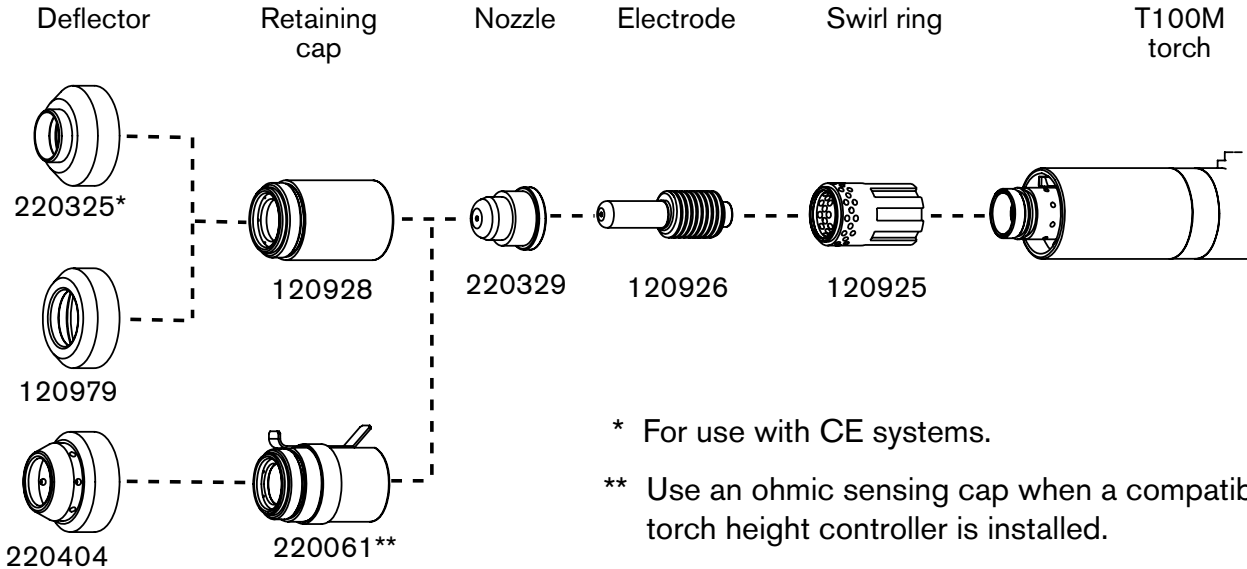
Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	150		1/32"	0.8	610	15494	397	10084
	152		1/16"	1.5	268	6807	174	4420
40	146	0.25	3/32"	2.4	293	7442	190	4826
	149	0.50	1/8"	3.2	204	5182	133	3378
	151	1.00	1/4"	6.4	76	1930	49	1245

Maximum travel speeds are the fastest speeds possible for cutting the material without regard to cut quality. Optimum travel speeds provide the best cut angle, least dross and best cut surface finish. **Remember that cut charts are intended to provide a good starting point for each different cut assignment.** Every cutting system requires "fine tuning" for each cutting application in order to obtain the desired cut quality.

OPERATION

FineCut consumables

- Torch-to-work distance for the following cut chart is 0.08 inches (2.032 mm) for mild steel and 0.010 inches (0.254 mm) for stainless steel.



Mild steel

Arc current	Arc voltage	Material thickness		Approximate travel speeds	
		Inches	mm	IPM	mm/min
50	76	10 Ga	3.4	90	2286
40	83	10 Ga	3.4	50	1270
45	77	12 Ga	2.7	120	3048
40	81	12 Ga	2.7	70	1778
	79	14 Ga	1.9	135	3810
	79	16 Ga	1.5	150	3810
	79	18 Ga	1.2	150	2540
	78	20 Ga	0.9	120	2540
30	80	24 Ga	0.6	150	3174

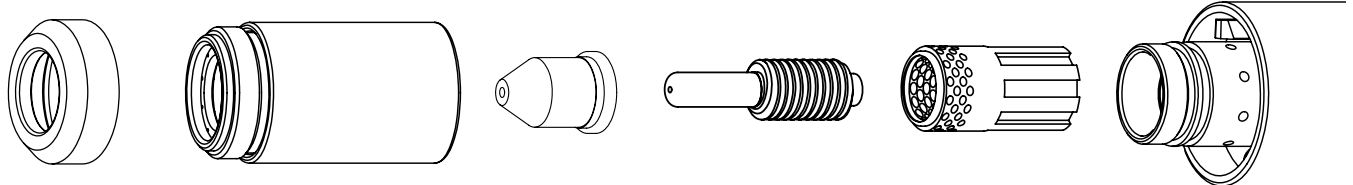
Stainless steel

Arc current	Arc voltage	Material thickness		Approximate travel speeds	
		Inches	mm	IPM	mm/min
50	63	10 Ga	3.4	80	1905
40	73	10 Ga	3.4	60	1524
45	63	12 Ga	2.7	100	3174
40	72	12 Ga	2.7	80	1905
	65	14 Ga	1.9	150	3810
	64	16 Ga	1.5	150	3810
	64	18 Ga	1.2	150	3810
	65	20 Ga	0.9	150	3810
30	66	24 Ga	0.6	150	3810

100 amp mechanized unshielded consumables

- Torch-to-work distance for the following cut chart is 3/16 in (4.8 mm) for all cuts.

Deflector 120979 Retaining cap 220048 Nozzle 220064 Electrode 220037 Swirl ring 220051 T100M torch



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	136	0.5	1/4"	6.4	210	5334	137	3479
	139	0.5	3/8"	9.5	122	3098	79	2006
	142	1.0	1/2"	12.7	91	2311	59	1498
	146	1.0	5/8"	15.9	57	1447	37	939
	150	1.5	3/4"	19.0	43	1092	28	711
	155	NA	1"	25.4	26	660	17	431
	160		1 1/4"	31.8	16	406	10	254

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	136	0.5	1/4"	6.4	241	6121	157	3987
	139	0.5	3/8"	9.5	131	3327	85	2159
	142	1.0	1/2"	12.7	81	2057	53	1346
	146	1.0	5/8"	15.9	51	1295	33	838
	150	1.5	3/4"	19.0	33	838	22	558
	155	NA	1"	25.4	22	558	14	355
	161		1 1/4"	31.8	11	279	7	177

Aluminum

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
100	137	0.5	1/4"	6.4	255	6477	166	4216
	139	0.5	3/8"	9.5	153	3886	99	2514
	142	1.0	1/2"	12.7	107	2717	70	1778
	147	1.0	5/8"	15.9	77	1955	50	1270
	150	1.5	3/4"	19.0	51	1295	33	838
	154	NA	1"	25.4	31	787	20	508

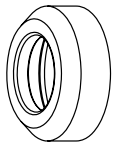
Maximum travel speeds are the fastest speeds possible for cutting the material without regard to cut quality. Optimum travel speeds provide the best cut angle, least dross and best cut surface finish. **Remember that cut charts are intended to provide a good starting point for each different cut assignment.** Every cutting system requires "fine tuning" for each cutting application in order to obtain the desired cut quality.

OPERATION

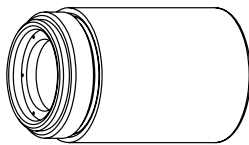
40 to 60 amp mechanized unshielded consumables

- Torch-to-work distance for the following cut chart is 1/16 inch (1.5 mm) for all cuts.

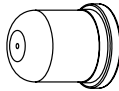
Deflector
120979



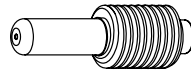
Retaining cap
120928



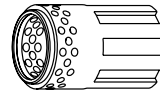
Nozzle
220006



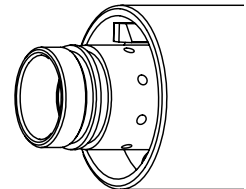
Electrode
120926



Swirl ring
120925



T100M
torch



Mild steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	125		26 GA	0.5	550	13970	353	8966
	128		22 GA	0.8	484	12294	315	8001
	130		18 GA	1.3	238	6045	155	3937
	131		16 GA	1.5	167	4242	109	2769
40	129	0.25	14 GA	1.9	326	8280	212	5385

Stainless steel

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	127		26 GA	0.5	561	14249	365	9271
	127		22 GA	0.8	453	11506	295	7493
40	123	0.25	18 GA	1.3	500	12700	325	8255
	127	0.25	16 GA	1.5	367	9322	239	6071
	128	0.25	14 GA	1.9	220	5588	143	3632

Aluminum

Arc current	Arc voltage	Pierce delay	Material thickness		Maximum travel speed		Optimum travel speed	
			Inches	mm	IPM	mm/min	IPM	mm/min
25	125		1/32"	0.8	564	14326	366	9296
	127		1/16"	1.5	236	5994	153	3886
40	127	0.25	3/32"	2.4	261	6629	170	4318

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