

Cut charts

The following *Cut charts* show the consumable parts, cutting speeds and the gas and torch settings required for each process.

The numbers shown in the *Cut charts* are recommended to provide high-quality cuts with minimal dross. Because of differences between installations and material composition, adjustments may be required to obtain desired results.

Bevel cutting

See *Appendix C* in this manual for cut charts and consumables.

Marking

Any of the consumable sets can also be used for marking. Marking parameters are shown at the bottom of each cut chart. The quality of the markings will vary depending on the cut process, material type, and material thickness combination. Marking is not possible for every combination (very thin materials). Poor quality marking or burn-through may occur with material less than 1.5 mm (0.060 in or 16 gauge).

Consumables for mirror-image cutting

See the *Parts List* section in this manual for part numbers.

Estimated kerf-width compensation

The widths in the chart below are for reference. Differences between installations and material composition may cause actual results to vary from those shown in the table.

Metric

Process	Thickness (mm)								
	1.5	3	6	10	12	20	25	32	38
MS									
260A O ₂ / Air				2.54	2.79	3.43	3.81	4.32	4.45
200A O ₂ / Air				2.18	2.26	2.95			
130A O ₂ / Air			1.803	2.032	2.108	2.642	3.429		
80A O ₂ / Air		1.372	1.727	1.905					
50A O ₂ / O ₂	1.516	1.740	1.854						
30A O ₂ / O ₂	1.346	1.448							
SS									
260A N ₂ / Air					2.54	3.08	3.30		
260A H35 / N ₂					3.81	4.06	4.32		
200A N ₂ / N ₂				2.16	2.29	2.92			
200A H35 / N ₂				3.68	3.81	3.94			
130A H35 / N ₂				2.718	2.769	2.896			
130A N ₂ / N ₂			1.829	1.879	2.413				
80A F5 / N ₂			1.194						
45A F5 / N ₂	0.584	0.381	0.533						
45A N ₂ / N ₂	0.483	0.229	0.152						
AL									
260A N ₂ / Air					3.05	3.05	3.30		
260A H35 / N ₂					2.79	3.30	3.56		
200A N ₂ / N ₂				2.03	2.58	3.01			
200A H35 / N ₂				2.67	2.92	3.30			
130A H35 / N ₂				2.718	2.769	2.896			
130A Air / Air			2.083	2.083	2.184				
45A Air / Air	1.067	1.092	1.245						

OPERATION

Estimated kerf-width compensation - continued

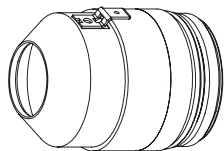
English

Process	Thickness (in)								
	0.060"	0.135"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"
MS									
260A O ₂ / Air				0.100	0.110	0.135	0.150	0.170	0.175
200A O ₂ / Air				0.086	0.089	0.116			
130A O ₂ / Air			0.071	0.080	0.083	0.104	0.135		
80A O ₂ / Air		0.054	0.068	0.075					
50A O ₂ / O ₂	0.060	0.073	0.073						
30A O ₂ / O ₂	0.053	0.057							
SS									
260A N ₂ / Air					0.100	0.120	0.130		
260A H35 / N ₂					0.150	0.160	0.170		
200A N ₂ / N ₂				0.085	0.090	0.115			
200A H35 / N ₂				0.145	0.150	0.155			
130A H35 / N ₂				0.107	0.109	0.114			
130A N ₂ / N ₂			0.072	0.074	0.095				
80A F5 / N ₂			0.047						
45A F5 / N ₂	0.023	0.015	0.021						
45A N ₂ / N ₂	0.019	0.009	0.006						
AL									
260A N ₂ / Air					0.120	0.120	0.130		
260A H35 / N ₂					0.110	0.130	0.140		
200A N ₂ / N ₂				0.080	0.090	0.105			
200A H35 / N ₂				0.105	0.115	0.130			
130A H35 / N ₂				0.107	0.109	0.114			
130A Air / Air			0.082	0.082	0.086				
45A Air / Air	0.042	0.043	0.049						

Mild steel
O₂ Plasma / O₂ Shield
30 A Cutting

Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	46 / 97
Cutflow	22 / 46	0 / 0

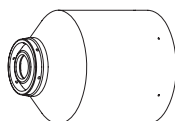
Note: Air must be connected to use this process. It is used as the preflow gas



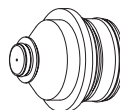
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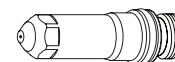
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
O ₂	O ₂	80	15	92	15	0.5	114	1.3	5355	2.3	180	0.1
						0.8	115		4225			0.2
						1	116		3615			0.3
						1.2	117		2865			
						1.5	119		2210			
		35	5	2	120	1.5	1490	2.7	0.4			
				2.5	122		1325					
				3*	123		1160		0.5			
				4*	125		905		0.7			
				6*	128		665		1.0			
75	5	92	15	15	0.18	114	0.050	215	0.090	180	0.1	
					0.24	115		200			0.2	
					0.30	116		170			0.3	
					0.36	117		155				
					0.48	119		110				
35	5	92	15	15	0.075	120	0.060	85	0.110	180	0.4	
					0.105	122		60				
					0.135*	123		50			0.5	
					3/16*	128		40			0.7	
					1/4*	128		30			1.0	
75	5	92	15	15	0.075	120	0.060	60	0.110	180	0.4	
					0.105	122		50				
					0.135*	123		40			0.5	
					3/16*	128		30			0.7	
					1/4*	128		25			1.0	

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in
O ₂	O ₂	80	15	92	15	.018	114	0.050	215	0.090	180	0.1	
						.024			200			0.2	
						.030			115			170	0.3
						.036			116			155	
						.048			117			110	
		35	5	92	15	15	.075	120	0.060	85	0.110	180	0.4
							.105	122		60			
							.135*	123		50			0.5
							3/16*	128		40			0.7
							1/4*	128		30			1.0
75	5	92	15	15	.075	120	0.060	60	0.110	180	0.4		
					.105	122		50					
					.135*	123		40			0.5		
					3/16*	128		30			0.7		
					1/4*	128		25			1.0		

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	105

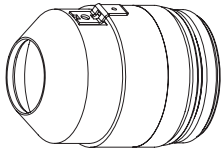
*Pierce complete is recommended for these thicknesses

OPERATION

Mild steel O₂ Plasma / O₂ Shield 50 A Cutting

Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	43 / 90
Cutflow	25 / 52	0 / 0

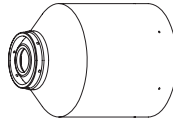
Note: Air must be connected to use this process. It is used as the preflow gas



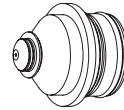
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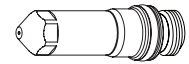
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
O ₂	O ₂	70	30	75	15	0.8	110	1.0	6500	2.0	200	0.0
						1	111		5000			
						1.2	112		4150			
						1.5	114	1.3	3200	2.6		
						2	115		2700			
						2.5	117		2200			
						3	119	1.5	1800	3.0		
						4	121		1400			
						5	122		1200			
						6	126	2.0	950	4.0		
						7	128		780			
						8	130		630			

English

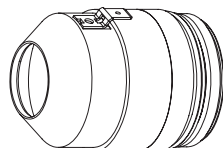
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O ₂	O ₂	70	30	75	15	.030	110	0.04	270	0.08	200	0.0
						.036			210			
						.048			160			
						.060	114	0.05	125	0.10		
						.075	115		110			
						.105	118		80			
						.135	120	0.06	60	0.12		
						3/16	121		50			
						1/4	125	0.08	35	0.16		
						5/16	130		25			

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	118

Mild steel
O₂ Plasma / Air Shield
80 A Cutting

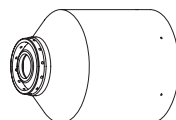
Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



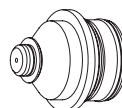
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts		mm
O ₂	Air	50	30	72	30	2	112	2.5	9810	3.8	150	0.1	
						2.5	115		7980				
						3	117		6145				
						4	120		4300				
						6	123		3045				
						10	127		1810				
					15	20	12	130	1410	4.0	200	0.2	
							15	133	1030				
							20	135	545				
							5.0	250	0.7				
							6.3	250					0.8
							6.3	250					

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in
O ₂	Air	50	30	72	30	.075	112	0.100	400	0.150	150	0.1	
						.105	115		290				
						.135	117		180				
						3/16	120		155				
						1/4	123		110				
						3/8	127		75				
					15	20	1/2	130	50	0.080	200	0.3	
							5/8	133	37				
							3/4	135	25				
							0.200	250	0.5				
							0.250	250					0.7
							0.250	250					
0.250	250	0.9											

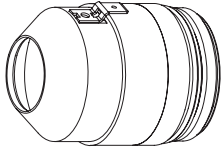
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂	10	10	10	10		Amps	mm	in	mm/min	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	130

OPERATION

Mild steel O₂ Plasma / Air Shield 130 A Cutting

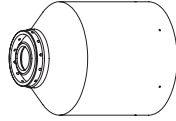
Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	102 / 215
Cutflow	33 / 70	45 / 96



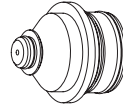
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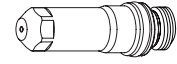
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
O ₂	Air	35	40	80	35	3	124	2.5	6505	5.0	200	0.1
						4	126	2.8	5550	5.6		0.2
						6	127		4035	0.3		
					28	10	130	3.0	2680	6.0		0.5
						12	132	3.3	2200	6.6		0.7
						15	135	3.8	1665	7.6		1.0
			20		138	4.0	1050	190	1.8			
			25		141	4.5	550	Edge start	255			
			32		160		375					
			38		167							

English

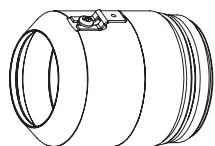
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O ₂	Air	35	40	80	35	.135	124	0.100	240	0.200	200	0.1
						3/16	126	0.110	190	0.220		0.2
						1/4	127		150	0.3		
					28	3/8	130	0.120	110	0.240		0.5
						1/2	132	0.130	80	0.260		0.7
						5/8	135	0.150	60	0.300		1.0
			3/4		138	45	190		1.8			
			1		141	0.160	20	Edge start	15			
			1-1/4		160	0.180	15					
			1-1/2		167			10				

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂						mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	130

Mild steel
O₂ Plasma / Air Shield
200 A Cutting

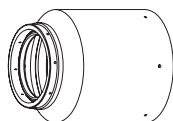
Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	128 / 270
Cutflow	39 / 82	48 / 101



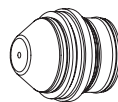
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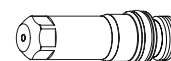
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
O ₂	Air	24	65	69	28	6	124	3.3	5250	6.6	200	0.2
						10	126		3460			0.3
						12	128		3060			0.5
						15	131	4.1	2275	8.2		0.6
						20	133		1575			0.8
						25	143	5.1	1165	10.2		1.0
						32	145		750			Edge start
						38	152		510			
						50	163		255			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O ₂	Air	24	65	69	28	3/16	124	0.130	230	0.260	200	0.2
						1/4			200			0.3
						3/8			140			0.5
						1/2	128	0.160	115	0.320		0.6
						5/8	131		80			0.8
						3/4	133	0.200	65	0.400		1.0
						1	143		45			Edge start
						1-1/4	145		30			
						1-1/2	152		20			
						2	163		10			

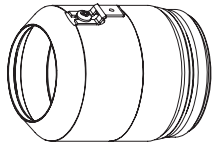
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂						mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	130

OPERATION

Mild steel O₂ Plasma / Air Shield 260 A Cutting

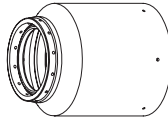
Flow rates - lpm/scfh @ 3/4" setting		
	O ₂	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220



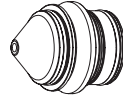
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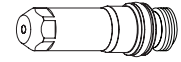
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
O ₂	Air	24	75	70	70	6	150	2.8	6500	8.5	300	0.3
						10			4440			
						12			3850			
				75	75	3.6	15	155	3130	9.0	250	0.5
							20	159	2170			0.6
							22	166	1930			0.7
							25	171	1685			0.8
							28	170	1445			0.9
							32	172	1135			1.0
				80	75	4.8	38	174	895	9.5	200	1.2
							44	185	580			Edge start
							50	188	405			
							58	193	290			
							64	202	195			

English

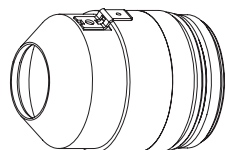
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O ₂	Air	24	75	70	70	1/4	150	0.110	245	0.330	300	0.3
						3/8			180			
						1/2			145			
				75	75	0.140	5/8	155	115	0.350	250	0.5
							3/4	159	90			0.6
							7/8	166	75			0.7
							1	171	65			0.8
							1-1/8	170	55			0.9
							1-1/4	172	45			1.0
				80	75	0.190	1-1/2	174	35	0.380	200	1.2
							1-3/4	185	22			Edge start
							2	188	15			
							2-1/4	193	12			
							2-1/2	202	8			

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂	10	10	10	10		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	135

Stainless steel
N₂ Plasma / N₂ Shield
45 A Cutting

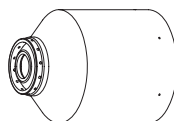
Flow rates - lpm/scfh	
N ₂	
Preflow	24 / 51
Cutflow	75 / 159



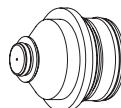
220173



220202



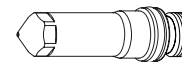
220304



220201



220180



220308

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
N ₂	N ₂	35	5	55	60	0.8	94	2.5	6380	3.8	150	0.0
						1			5880			0.1
						1.2			5380			0.2
						1.5	4630					
						2	3935					
						2.5	3270					
						3	2550					
						4	1580		0.3			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N ₂	N ₂	35	5	55	60	.036	94	0.100	240	0.150	150	0.0
						.048			210			0.1
						.060	95		180			0.2
						.075	97		160			
						.105	101		120			
						.135	103		75			

Marking

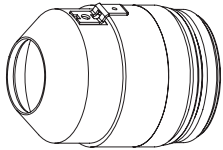
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	85

Note: This process produces a darker cut edge than the 45 A, F5/N₂ stainless steel process

OPERATION

Stainless steel F5 Plasma / N₂ Shield 45 A Cutting

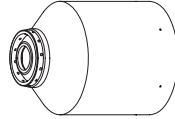
Flow rates - lpm/scfh		
	F5	N ₂
Preflow	0 / 0	43 / 91
Cutflow	8 / 17	65 / 138



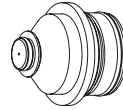
220173



220202



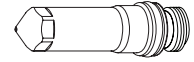
220304



220201



220180



220308

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	Volts	mm	mm/m	mm	factor %	seconds
F5	N ₂	35	25	55	60	0.8	99	2.5	6570	3.8	150	0.2
						1			5740			
						1.2			4905			
						1.5			3890			
						2	101		3175			
						2.5	102		2510			
						3	103		2010			
					4	104	1435					
				15	6	110	2.0	845		190	0.5	

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
F5	N ₂	35	25	55	60	.036	99	0.100	240	0.150	150	0.2
						.048			190			
						.060			150			
						.075			100			
						.105	102		90			
						.135	104		65			
						3/16	108		45			
					1/4	110	30					
				15		110	0.080			190	0.4	
											0.5	

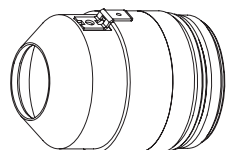
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	85

Note: This process produces a shinier cut edge than the 45 A, N₂/N₂ stainless steel process

Stainless steel
F5 Plasma / N₂ Shield
80 A Cutting

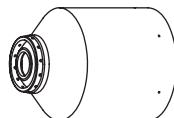
Flow rates - lpm/scfh		
	F5	N ₂
Preflow	0 / 0	67 / 142
Cutflow	31 / 65	55 / 116



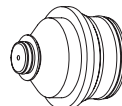
220173



220338



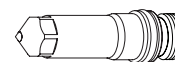
220304



220337



220179



220339

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
F5	N ₂	35	30	60	45	4	108	3.0	2180	4.5	150	0.2
						6	112	2.5	1225	3.8		0.3
						10	120	3.0	560	4.5		0.5

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
F5	N ₂	35	30	60	45	.135	108	0.120	105	0.180	150	0.2
						3/16	110	0.110	60	0.170		0.3
						1/4	112	0.100	45	0.150		
						3/8	120	0.120	25	0.180		0.5

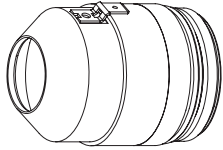
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂	10	10	10	10		Amps	mm	in	mm/min	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	95

OPERATION

Stainless steel N₂ Plasma / N₂ Shield 130 A Cutting

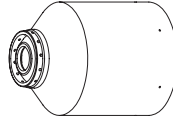
Flow rates - lpm/scfh	
N ₂	
Preflow	97 / 205
Cutflow	79 / 168



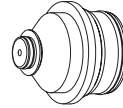
220173



220198



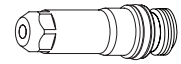
220176



220197



220179



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
N ₂	N ₂	20	65	70	30	6	153	3.0	1960	6.0	200	0.3
						10	156		1300			0.5
						12	162	3.5	900	7.0	0.8	
						15	167	3.8	670	Edge start		
						20	176	4.3	305			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N ₂	N ₂	20	65	70	30	1/4	153	0.120	75	0.240	200	0.3
						3/8	156		55			0.5
						1/2	162	0.140	30	0.280	0.8	
						5/8	167	0.150	25	Edge start		
						3/4	176	0.170	15			

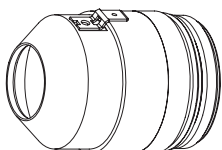
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

Note: This process produces a rougher, darker cut edge with more dross, and the cut edges are closer to perpendicular than the 130 A, H35/N₂ process

Stainless steel
H35 Plasma / N₂ Shield
130 A Cutting

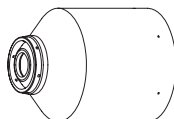
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



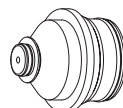
220173



220198



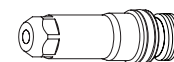
220304



220197



220179



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N ₂	20	40	70	60	10	154	4.5	980	7.7	170	0.3
					45	12	158		820			0.5
					30	15	162		580			0.8
					20	20	165		360			1.3
					20	25	172		260			Edge start

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
H35	N ₂	20	40	70	60	3/8	154	0.180	40	0.310	170	0.3
					45	1/2	158		30			0.5
					30	5/8	162		20			0.8
					30	3/4	165		15			1.3
					20	1	172		10			Edge start

Marking

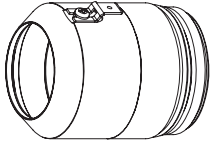
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	130

Note: This process produces a smoother, shinier cut edge with less dross, and the cut edges are less perpendicular than the 130 A, N₂/N₂ process

OPERATION

Stainless steel H35 Plasma / N₂ Shield 200 A Cutting

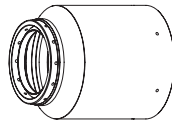
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	116 / 245
Cutflow	30 / 63	104 / 220



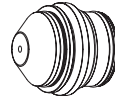
220398



220345



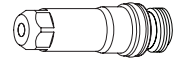
220344



220343



220342



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N ₂	21	65	82	75	10	175	9.0	1620	9.0	100	0.5
						12	170					1450
						15	173	7.5	1200	0.7		
						20	177		820	0.8		

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N ₂	21	65	82	75	3/8	175	0.350	65	0.350	100	0.5
						1/2	170					55
						5/8	173	0.300	45	0.7		
						3/4	177		35	0.8		

Marking

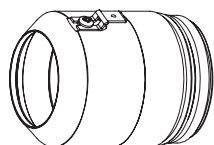
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂	10	10	10	10		Amps	mm	in	mm/min	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

Stainless steel

N₂ Plasma / N₂ Shield

200 A Cutting

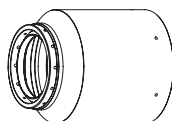
Flow rates - lpm/scfh	
N ₂	
Preflow	111 / 235
Cutflow	137 / 290



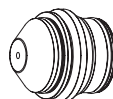
220398



220345



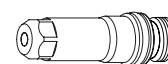
220344



220343



220342



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
N ₂	N ₂	21	65	82	65	10	160	3.8	2700	7.6	200	0.5
						12	161		2400			0.6
						15	163		1800			0.8
						20	167		1000			1.0

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N ₂	N ₂	21	65	82	65	3/8	160	0.150	110	0.300	200	0.5
						1/2	161		90			0.6
						5/8	163		65			0.8
						3/4	167		45			1.0

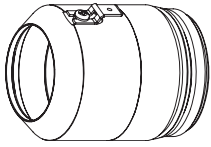
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

OPERATION

Stainless steel H35 Plasma / N₂ Shield 260 A Cutting

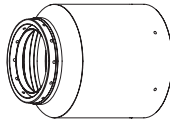
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	127 / 270
Cutflow	40 / 84	122 / 260



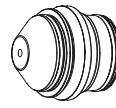
220398



220407



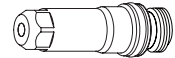
220344



220406



220405



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N ₂	11	75	80	88	10	185	11.0	1870	12.5	100	0.3
						12	173	9.0	1710	9.0		0.4
						15	171	7.5	1465		120	0.5
						20	175		1085	0.6		
						25	180		785	0.7		
						32	185		630	1.0		
						38	186		510	Edge start		
						44	189		390			
						50	200		270			

English

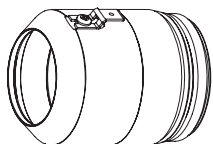
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N ₂	11	75	80	88	3/8	185	0.450	75	0.450	100	0.3
						1/2	173	0.350	65	0.350		0.4
						5/8	171	0.300	55	0.360	120	0.5
						3/4	175		45			0.6
						1	180		30			0.7
						1-1/4	185		25			1.0
						1-1/2	186		20			Edge start
						1-3/4	189		15			
						2	200		10			

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	120

Stainless steel
N₂ Plasma / Air Shield
260 A Cutting

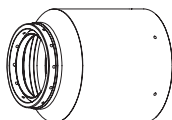
Flow rates - lpm/scfh		
	N ₂	Air
Preflow	127 / 270	0 / 0
Cutflow	54 / 114	116 / 245



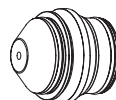
220398



220407



220344



220406



220405



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time					
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts		mm	mm	factor %	seconds	
N ₂	Air	11	75	75	82	6	160	3.8	6375	7.5	200	0.3					
						10	157		3440				0.4				
						12	161		2960					0.5			
						15	163		2520						0.6		
						20	164		1590							0.8	
						25	168		1300								1.0
						32	171		875								
						38	179		515			Edge start					
						44	190		365								
						50	195		180								

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time					
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	ipm	in	factor %	seconds
N ₂	Air	11	75	75	82	1/4	160	0.150	240	0.300	200	0.3					
						3/8	157		140				0.4				
						1/2	161		110					0.5			
						5/8	163		95						0.6		
						3/4	164		70							0.8	
						1	168		50								1.0
						1-1/4	171		35								
						1-1/2	179		20			Edge start					
						1-3/4	190		14								
						2	200		6								

Marking

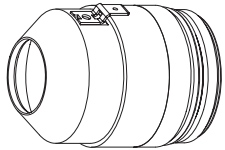
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	120

OPERATION

Aluminum

Air Plasma / Air Shield
45 A Cutting

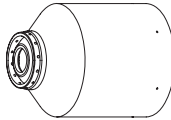
Flow rates - lpm/scfh	
Air	
Preflow	45 / 95
Cutflow	78 / 165



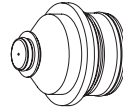
220173



220202



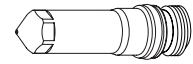
220176



220201



220180



220308

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	35	25	55	60	1.2	130	2.5	4750	3.8	150	0.2
						1.5	115		4160			
						2	113		3865			
					40	2.5	110	3675				
						3	107	2850				
						4	102	1.8	2660	2.7		
6	117	3.0	1695	4.5	0.3							
											0.6	

English

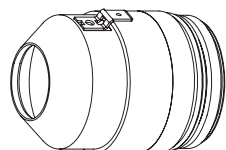
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	35	25	55	60	.040	130	0.100	220	0.150	150	0.2
						.051	115		170			
						.064	113		160			
					40	.102	110	140	0.110			
						.125	102	0.070		110		
						3/16	114	0.120		90		
1/4	117	60	0.3									
												0.4
												0.6

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	85

Aluminum
Air Plasma / Air Shield
130 A Cutting

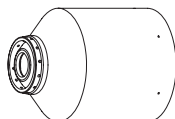
Flow rates - lpm/scfh	
Air	
Preflow	73 / 154
Cutflow	78 / 165



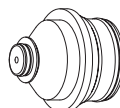
220173



220198



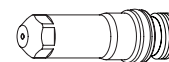
220176



220197



220179



220181

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	20	40	70	30	6	153	2.8	2370	5.6	200	0.2
						10	154					3.0
						12	156	3.3	1225	0.5		
						15	158		3.5	1050		0.8
						20	162	4.0		725		1.3
						25	172		N/A			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	20	40	70	30	1/4	153	0.110	90	0.220	200	0.2
						3/8	154					0.120
						1/2	156	0.130	45	0.260		
						5/8	158					0.140
						3/4	162	0.160	30	N/A		
						1	172					N/A

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	120

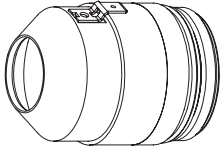
Note: This process produces a rougher cut edge that is less perpendicular than the 130 A, H35/N₂ process

OPERATION

Aluminum

H35 Plasma / N₂ Shield
130 A Cutting

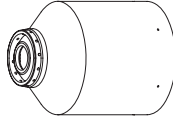
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



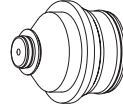
220173



220198



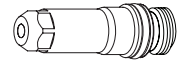
220304



220197



220179



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N ₂	20	40	70	60	10	158	5.0	1615	6.5	130	0.3
					45	12	156		1455			0.5
					30	15		4.5	1305	7.7	170	0.8
						20	157		940			1.3
					25	176	540	Edge start				

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
H35	N ₂	20	40	70	60	3/8	158	0.200	65	0.260	130	0.3
					45	1/2	156		55			0.5
					30	5/8		0.180	50	0.310	170	0.8
						3/4	157		40			1.3
					1	176	20	Edge start				

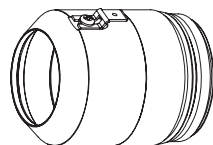
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N ₂	N ₂	10	10	10	10	Amps	mm	in	mm/min	ipm	Volts
						18	2.5	0.100	6350	250	130

Note: This process produces a smoother cut edge that is more perpendicular than the 130 A, Air/Air process

Aluminum
H35 Plasma / N₂ Shield
200 A Cutting

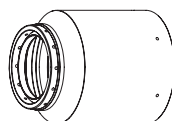
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	113 / 240
Cutflow	34 / 72	90 / 190



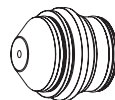
220398



220345



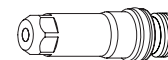
220347



220346



220342



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N ₂	21	65	70	65	10	152	6.4	4400	9.0	140	0.3
						12	150		3800			0.4
						15			3000			0.5
						20	159		1450			0.6

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N ₂	21	65	70	65	3/8	152	0.250	180	0.350	140	0.3
						1/2	150		140			0.4
						5/8			110			0.5
						3/4	159		70			0.6

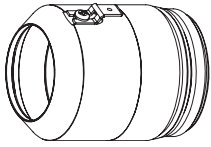
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

OPERATION

Aluminum N₂ Plasma / N₂ Shield 200 A Cutting

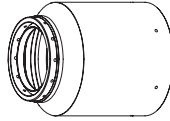
Flow rates - lpm/scfh	
N ₂	
Preflow	113 / 240
Cutflow	135 / 287



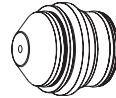
220398



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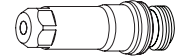
220347



220346



220342



220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	Volts	mm	mm/m	mm	factor %	seconds
N ₂	N ₂	21	65	70	65	10	158	6.4	4750	9.0	140	0.4
						12			3500			0.5
						15			2350			0.6
						20			1000			0.8

English

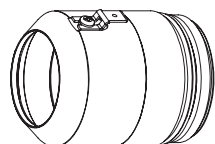
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
N ₂	N ₂	21	65	70	65	3/8	158	0.250	200	0.350	140	0.4
						1/2			120			0.5
						5/8			80			0.6
						3/4			50			0.8

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield	Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

Aluminum
H35 Plasma / N₂ Shield
260 A Cutting

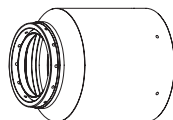
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	127 / 270
Cutflow	33 / 70	118 / 250



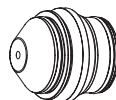
220398



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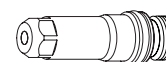
220344



220406



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220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N ₂	11	75	70	85	6	170	11.0	7200	11.0	100	0.2
						10		10.0	6120	10.0		
						12	162	7.6	5160	8.5	110	0.5
						15	163		3720			
						20	166		2230	11.0	150	0.8
						25	174		1930			
						32	175		1510	Edge start		
						38	176		1150			
						44	183		670			
						50	190		390			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N ₂	11	75	70	85	1/4	170	0.450	280	0.450	100	0.2
						3/8		0.400	250	0.400		
						1/2	162	0.300	190	0.330	110	0.5
						5/8	163		130			
						3/4	166		90	0.450	150	0.8
						1	174		75			
						1-1/4	175		60	Edge start		
						1-1/2	176		45			
						1-3/4	183		25			
						2	190		14			

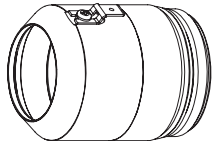
Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	120

OPERATION

Aluminum N₂ Plasma / Air Shield 260 A Cutting

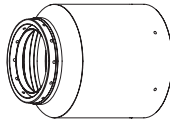
Flow rates - lpm/scfh		
	N ₂	Air
Preflow	125 / 265	0 / 0
Cutflow	50 / 105	113 / 240



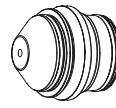
220398



220407



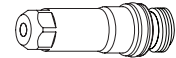
220344



220406



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220307

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time								
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts		mm	mm/m	mm	factor %	seconds			
N ₂	Air	11	75	70	82	6	172	6.4	7900	9.0	140	0.2								
						10	171		4930			0.4								
						12	164		4290			0.5								
												15	165	4.0	3330	8.0	200	0.6		
												20	171		1940					
												25	177		1440			11.0	260	0.8
												32	191		940			Edge start		
												38	195		520					
												44	202	320						
												50	205	215						

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time								
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	ipm	in	factor %	seconds			
N ₂	Air	11	75	70	82	1/4	172	0.250	300	0.350	140	0.2								
						3/8	171		200			0.4								
						1/2	164		160			0.5								
												5/8	165	0.160	120	0.320	200	0.6		
												3/4	171		80					
												1	177		55			0.420	260	0.8
												1-1/4	191		40			Edge start		
												1-1/2	195		20					
												1-3/4	202	12						
												2	205	8						

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	120