

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

	Thickness (mm)						
Process	1.5	3	6	10	12	20	25
MS							
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							
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							
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				

English

	Thickness (in)						
Process	0.060"	0.135"	1/4"	3/8"	1/2"	3/4"	1"
MS							
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							
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							
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				

OPERATION

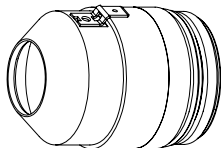
Mild steel

O₂ Plasma / O₂ Shield

30 A Cutting

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

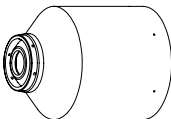
Note: Air must be connected to use this process. It is used as the preflow gas



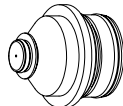
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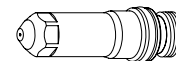
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Metric

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	mm	mm/m	mm	factor %	seconds
O ₂	O ₂	78	17	94	17	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	94	7	2	120	1.5	1490	2.7	180	0.4
						2.5	122		1325			
						3*	123		1160			0.5
						4*	125		905			0.7
						6*	128		665			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	ipm	in	factor %	seconds
O ₂	O ₂	78	17	94	17	.018	114	0.050	215	0.090	180	0.1
						.024			200			
						.030	115		170			0.2
						.036	116		155			
						.048	117		110			0.3
						.060	119		85			
			35	94	7	.075	120	0.060	60	0.110		0.4
						.105	122		50			
			75	94	7	.135*	123		40			0.5
						3/16*	128		30			0.7
						1/4*			25			1.0

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	105

*Pierce complete is recommended for these thicknesses

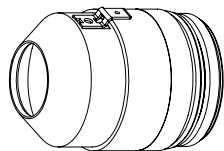
Mild steel

O₂ Plasma / O₂ Shield

50 A Cutting

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

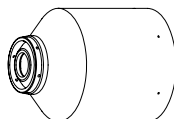
Note: Air must be connected to use this process. It is used as the preflow gas



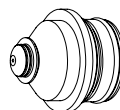
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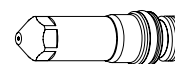
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Metric

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	mm	mm/m	mm	factor %	seconds	
O ₂	O ₂	70	30	81	14	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	1.5		1800	3.0
						3	119	1400	0.2				
						4	121	1200	0.3				
						5	122	2.0	950	4.0		0.5	
						6	126		780				
						7	128		630				
						8	130						

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
O ₂	O ₂	70	30	81	14	.030	110	0.04	270	0.08	200	0.0
						.036			210			
						.048	112		160			
						.060	114	0.05	125	0.10		
						.075	115		110			
						.105	118		80	0.12		
						.135	120	0.06	60			0.16
						3/16	121		50			
						1/4	125	0.08	35			
						5/16	130		25	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	118

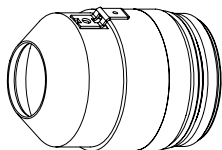
OPERATION

Mild steel

O₂ Plasma / Air Shield

80 A Cutting

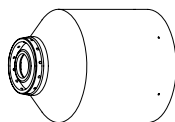
Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



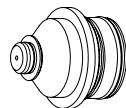
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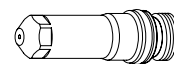
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Metric

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	mm/m	mm	factor %	seconds
O ₂	Air	48	23	78	23	2	112	2.5	9810	3.8	150	0.1
						2.5	115		7980			
						3	117		6145			
						4	120	2.0	4300	4.0	200	0.2
						6	123		3045			0.3
						10	127		1810			0.5
					10	12	130		1410	5.0	250	0.7
						15	133		1030			0.8
						20	135	2.5	545			0.9

English

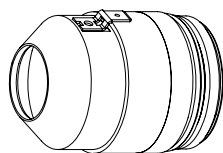
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
O ₂	Air	48	23	78	23	.075	112	0.100	400	0.150	150	0.1
						.105	115		290			
						.135	117		180			
						3/16	120	0.080	155	0.160	200	0.2
						1/4	123		110			0.3
						3/8	127		75			0.5
					10	1/2	130		50	0.200	250	0.7
						5/8	133		37			0.8
						3/4	135	0.100	25			0.9

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	130

Mild steel
O₂ Plasma / Air Shield
130 A Cutting

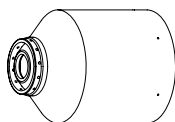
Flow rates - lpm/scfh		
	O ₂	Air
Preflow	0 / 0	102 / 215
Cutflow	33 / 70	45 / 96



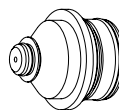
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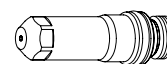
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Metric

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	mm	mm/m	mm	factor %	seconds	
O ₂	Air	32	32	84	28	3	124	2.5	6505	5.0	200	0.1	
						4	126	2.8	5550	5.6		0.2	
						6	127		4035			0.3	
					22	10	130	3.0	2680	6.0		7.6	0.5
						12	132	3.3	2200	6.6			0.7
						15	135	3.8	1665	1050			190
			20			138	550		1.8				
			25			141	4.0	4.5	375	Edge start			
			32			160	255						
			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	in	ipm	in	factor %	seconds	
O ₂	Air	32	32	84	28	.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	
					22	3/8	130	0.120	110	0.240		0.300	0.5
						1/2	132	0.130	80	0.260			0.7
						5/8	135	0.150	60	190			1.0
			3/4			138	45		1.8				
			1			141	0.160	20	Edge start				
			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
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	130

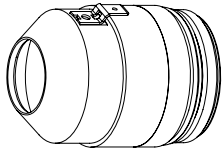
OPERATION

Stainless steel

N₂ Plasma / N₂ Shield

45 A Cutting

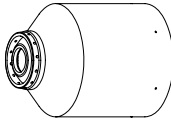
Flow rates - lpm/scfh	
	N ₂
Preflow	24 / 51
Cutflow	75 / 159



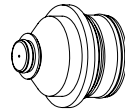
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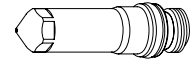
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Metric

Select Gases		Set Preflow		Set Outflow		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	35	5	62	49	0.8	94	2.5	6380	3.8	150	0.0
						1			5880			0.1
						1.2			5380			0.2
						1.5	95		4630			
						2	97		3935			
						2.5	101		3270			
						3	103		2550			
						4			1580			

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	35	5	62	49	.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			0.3

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

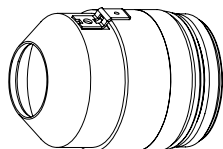
Note: This process produces a darker cut edge than the 45 A, F5/N₂ stainless steel process

Stainless steel

F5 Plasma / N₂ Shield

45 A Cutting

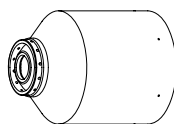
Flow rates - lpm/scfh		
	F5	N ₂
Preflow	0 / 0	43 / 91
Cutflow	8 / 17	65 / 138



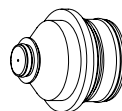
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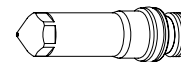
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Metric

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	mm	mm/m	mm	factor %	seconds
F5	N ₂	35	18	62	49	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			0.3
					11	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	18	62	49	.036	99	0.100	240	0.150	150	0.2
						.048			190			
						.060			150			
						.075	100		130			
						.105	102		90			
						.135	104		65			0.3
						3/16	108	0.080	45		190	0.4
					11	1/4	110		30			0.5

Marking

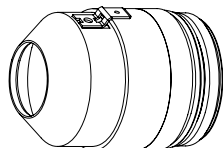
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	85

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

OPERATION

Stainless steel F5 Plasma / N₂ Shield 80 A Cutting

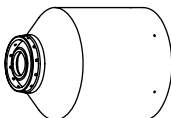
Flow rates - lpm/scfh		
	F5	N ₂
Preflow	0 / 0	67 / 142
Cutflow	31 / 65	55 / 116



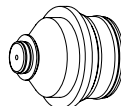
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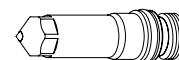
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Metric

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	mm	mm/m	mm	factor %	seconds
F5	N ₂	33	23	65	37	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	in	ipm	in	factor %	seconds
F5	N ₂	33	23	65	37	.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

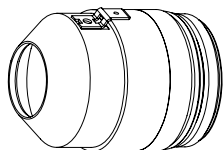
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	95

Stainless steel

N₂ Plasma / N₂ Shield

130 A Cutting

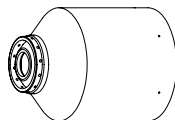
Flow rates - lpm/scfh	
N ₂	
Preflow	97 / 205
Cutflow	79 / 168



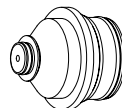
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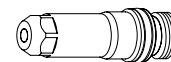
220176



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220307

Metric

Select Gases		Set Preflow		Set Outflow		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	19	51	75	23	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	in	ipm	in	factor %	seconds
N ₂	N ₂	19	51	75	23	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

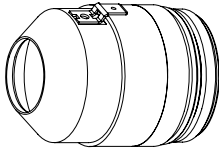
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	140

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

OPERATION

Stainless steel H35 Plasma / N₂ Shield 130 A Cutting

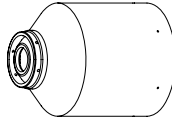
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



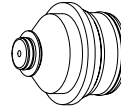
220173



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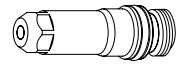
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Metric

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	mm	mm/m	mm	factor %	seconds
H35	N ₂	19	32	75	49	10	154	4.5	980	7.7	170	0.3
					37	12	158		820			0.5
					24	15	162		580			0.8
						20	165		360			1.3
					16	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	19	32	75	49	3/8	154	0.180	40	0.310	170	0.3
					37	1/2	158		30			0.5
					24	5/8	162		20			0.8
						3/4	165		15			1.3
					16	1	172		10			Edge start

Marking

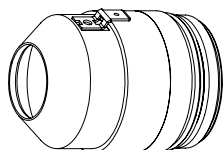
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	130

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

Stainless steel

H35 and N₂ Plasma / N₂ Shield
130 A Cutting

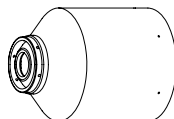
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



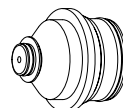
220173



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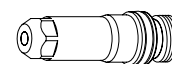
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Metric

Select Gases		Set Preflow		Set Outflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N ₂	19	51	75	38	32	18	6	150	3.0	1835	6.0	200	0.3
					10			153	1195		0.5			
					27			12	160	3.5	875	7.0		0.8
								15	168	3.8	670	7.6		1.3
					20			176	4.3	305	7.7	180	1.3	

English

Select Gases		Set Preflow		Set Outflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds
H35	N ₂	19	51	75	38	32	18	1/4	150	0.120	70	0.240	200	0.3
					3/8			153	50		0.5			
					27			1/2	160	0.140	30	0.280		0.8
					5/8			168	0.150	25	0.300	1.3		
					3/4			176	0.170	15	0.310	180	1.3	

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

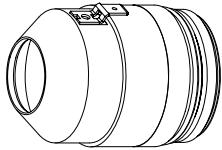
Note: This process produces a smoother, shinier cut edge with less dross, and the cut edges are less perpendicular than the 130 A, N₂/N₂ process. Edge color is more silver than the H35/N₂ process.

OPERATION

Aluminum

Air Plasma / Air Shield
45 A Cutting

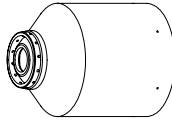
Flow rates - lpm/scfh	
	Air
Preflow	45 / 95
Cutflow	78 / 165



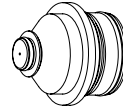
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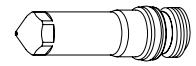
220176



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	mm	mm/m	mm	factor %	seconds
Air	Air	35	19	62	49	1.2	130	2.5	4750	3.8	150	0.2
						1.5	115		4160			
						2	113		3865			
						2.5	110		3675			
						3	107		2850			
				33		4	102	1.8	2660	2.7		0.3
						6	117	3.0	1695	4.5		0.6

English

Select Gases		Set Preflow		Set Outflow		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	
Air	Air	35	19	62	49	.040	130	0.100	220	0.150	150	0.2	
						.051	115		170				
						.064	113		160				
						.102	110		140				
					33	.125	102	0.070	110	0.110		0.3	
						3/16	114	0.120	90	0.180			0.4
						1/4	117		60				0.6

Marking

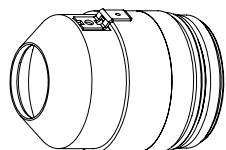
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	15	2.5	0.100	6350	250	85

Aluminum

Air Plasma / Air Shield

130 A Cutting

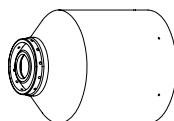
Flow rates - lpm/scfh	
	Air
Preflow	73 / 154
Cutflow	78 / 165



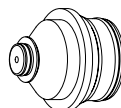
220173



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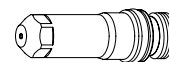
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220181

Metric

Select Gases		Set Preflow		Set Outflow		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
Air	Air	19	31	75	23	6	153	2.8	2370	5.6	200	0.2
						10	154	3.0	1465	6.0		0.3
						12	156		1225			0.5
						15	158	3.3	1050	6.6		0.8
						20	162	3.5	725	7.0		1.3
						25	172	4.0	525	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
Air	Air	19	31	75	23	1/4	153	0.110	90	0.220	200	0.2
						3/8	154	0.120	60	0.240		0.3
						1/2	156		45			0.5
						5/8	158	0.130	40	0.260		0.8
						3/4	162	0.140	30	0.280		1.3
						1	172	0.160	20	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	120

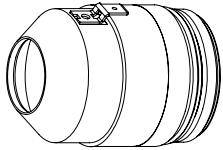
Note: This process produces a rougher cut edge that is less perpendicular than the 130 A, H35/N₂ process

OPERATION

Aluminum

H35 Plasma / N₂ Shield
130 A Cutting

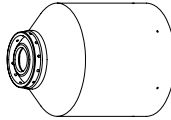
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



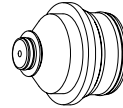
220173



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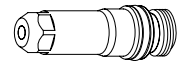
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Metric

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	mm	mm/m	mm	factor %	seconds
H35	N ₂	19	32	75	49	10	158	5.0	1615	6.5	130	0.3
					37	12	156	4.5	1455	7.7	170	0.5
					24	15			1305			0.8
						20	157		940			1.3
					16	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	19	32	75	49	3/8	158	0.200	65	0.260	130	0.3
					37	1/2	156	0.180	55	0.310	170	0.5
					24	5/8			50			0.8
						3/4	157		40			1.3
					16	1	176		20			Edge start

Marking

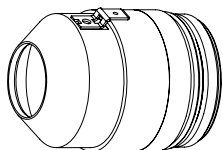
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N ₂	N ₂	10	10	10	10	18	2.5	0.100	6350	250	130

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

Aluminum

H35 and N₂ Plasma / N₂ Shield
130 A Cutting

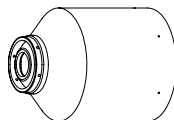
Flow rates - lpm/scfh		
	H35	N ₂
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



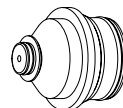
220173



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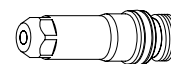
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220307

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	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N ₂	19	51	75	27	32	18	6	156	3.5	2215	7.0	200	0.3
								10	158		1615			
								12	159	3.0	1455	6.0		0.5
								15	160		1215			0.8
								20	163		815			1.3

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	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds
H35	N ₂	19	51	75	27	32	18	1/4	156	0.140	85	0.280	200	0.3
								3/8	158		65			
								1/2	159	0.120	55	0.240		0.5
								5/8	160		45			0.8
								3/4	163		35			1.3

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 cut edge that is more perpendicular than the 130 A, Air/Air process