

### 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
<b>MS</b>									
260A O <sub>2</sub> / Air				2.54	2.79	3.43	3.81	4.32	4.45
200A O <sub>2</sub> / Air				2.18	2.26	2.95			
130A O <sub>2</sub> / Air			1.803	2.032	2.108	2.642	3.429		
80A O <sub>2</sub> / Air		1.372	1.727	1.905					
50A O <sub>2</sub> / O <sub>2</sub>	1.516	1.740	1.854						
30A O <sub>2</sub> / O <sub>2</sub>	1.346	1.448							
<b>SS</b>									
260A N <sub>2</sub> / Air					2.54	3.08	3.30		
260A H35 / N <sub>2</sub>					3.81	4.06	4.32		
200A N <sub>2</sub> / N <sub>2</sub>				2.16	2.29	2.92			
200A H35 / N <sub>2</sub>				3.68	3.81	3.94			
130A H35 / N <sub>2</sub>				2.718	2.769	2.896			
130A N <sub>2</sub> / N <sub>2</sub>			1.829	1.879	2.413				
80A F5 / N <sub>2</sub>			1.194						
45A F5 / N <sub>2</sub>	0.584	0.381	0.533						
45A N <sub>2</sub> / N <sub>2</sub>	0.483	0.229	0.152						
<b>AL</b>									
260A N <sub>2</sub> / Air					3.05	3.05	3.30		
260A H35 / N <sub>2</sub>					2.79	3.30	3.56		
200A N <sub>2</sub> / N <sub>2</sub>				2.03	2.58	3.01			
200A H35 / N <sub>2</sub>				2.67	2.92	3.30			
130A H35 / N <sub>2</sub>				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

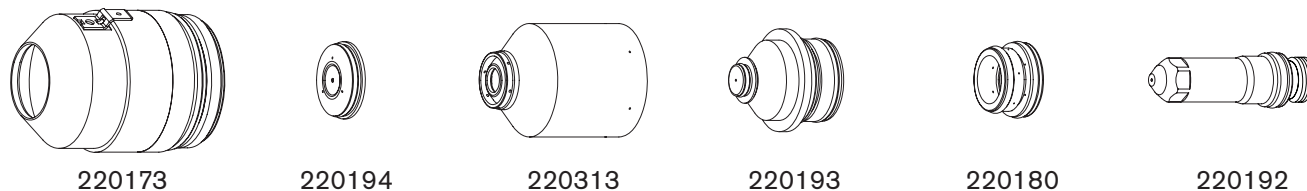
#### English

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

Flow rates - lpm/scfh		
	O <sub>2</sub>	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



**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 <sub>2</sub>	O <sub>2</sub>	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		7	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

**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 <sub>2</sub>	O <sub>2</sub>	78	17	94	17	.018	114	0.050	215	0.090	180	0.1	
						.024			200				0.2
						.030	115		170				
						.036	116		155				
						.048	117		110			0.3	
			.060		119	85							
			35		7	.075	120	0.060	60				0.110
						.105	122		50				
						.135*	123		40			0.5	
						3/16*	128		30				
1/4*	25	1.0											

**Marking**

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

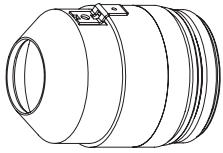
\*Pierce complete is recommended for these thicknesses

## OPERATION

### Mild steel O<sub>2</sub> Plasma / O<sub>2</sub> Shield 50 A Cutting

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

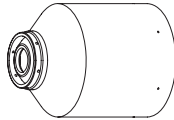
Note: Air must be connected to use this process. It is used as the preflow gas



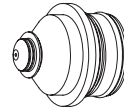
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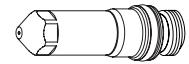
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### Metric

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 <sub>2</sub>	O <sub>2</sub>	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			
						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

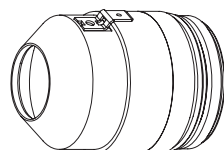
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	O <sub>2</sub>	70	30	81	14	.030	110	0.04	270	0.08	200	0.0
						.036			210			
						.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 <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.100	6350	250	118

**Mild steel**  
**O<sub>2</sub> Plasma / Air Shield**  
**80 A Cutting**

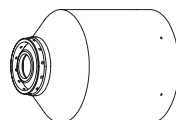
Flow rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



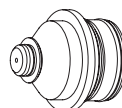
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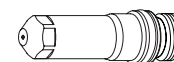
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**Metric**

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
O <sub>2</sub>	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					
						10	127		1810					
		12	130	10	1410	5.0	250	0.3						
		15	133		1030									
		20	135		545									
									2.5	545	6.3			0.5
														0.7
														0.8
												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
O <sub>2</sub>	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					
						3/8	127		75					
		1/2	130	10	50	0.200	250	0.3						
		5/8	133		37									
		3/4	135		25									
									0.100	25	0.250			0.5
														0.7
														0.8
												0.9		

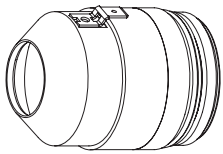
**Marking**

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

# OPERATION

## Mild steel O<sub>2</sub> Plasma / Air Shield 130 A Cutting

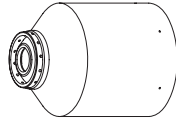
Flow rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	102 / 215
Cutflow	33 / 70	45 / 96



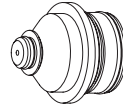
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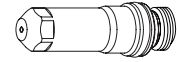
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### Metric

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
O <sub>2</sub>	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	
					52	22	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		1050	1.8						
			25	141		4.0	550	190		Edge start			
			32	4.5		375	255						
					38	167							

### English

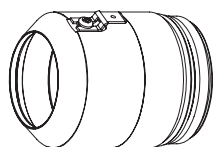
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in
O <sub>2</sub>	Air	32	32	84	28	.135	124	0.100	240	0.200	200	0.1	
						3/16	126	0.110	190	0.220		0.2	
						1/4	127		150			0.3	
					52	22	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	1.8						
			1	141		0.160	20	190		Edge start			
			1-1/4	0.180		160	15						
					1-1/2	167	10						

### Marking

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

**Mild steel**  
O<sub>2</sub> Plasma / Air Shield  
200 A Cutting

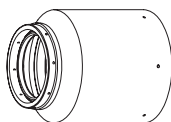
Flow rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	128 / 270
Cutflow	39 / 82	48 / 101



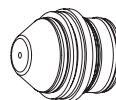
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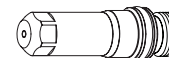
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**Metric**

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 <sub>2</sub>	Air	23	42	74	18	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 <sub>2</sub>	Air	23	42	74	18	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**

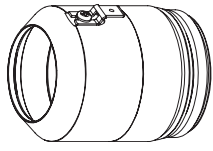
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.100	6350	250	130



# OPERATION

## Mild steel O<sub>2</sub> Plasma / Air Shield 260 A Cutting

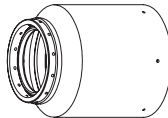
Flow rates - lpm/scfh @ 3/4" setting		
	O <sub>2</sub>	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220



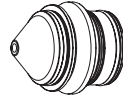
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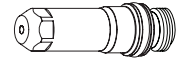
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### Metric

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		mm	mm/m	mm
O <sub>2</sub>	Air	22	49	76	46	6	150	2.8	6500	8.5	300	0.3			
						10							3850	0.4	
						12									
				80	49	15	155	3.6	3130	9.0	250	0.5			
							20						159	1930	0.6
							22						166		
							25						171		
				84	49	28	170	4.8	1445	9.5	200	0.9			
							32						172	1135	1.0
							38						174		
							44						185	580	Edge start
							50						188		
							58						193		
							64						202		

### English

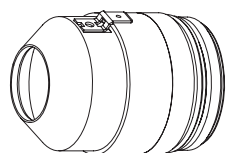
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time			
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	mm/m	in
O <sub>2</sub>	Air	22	49	76	46	1/4	150	0.110	250	0.330	300	0.3			
						3/8							180	0.4	
						1/2									
				80	49	5/8	155	0.140	115	0.350	250	0.5			
							3/4						159	90	0.6
							7/8						166		
							1						171		
				84	49	1-1/8	170	0.190	55	0.380	200	0.9			
							1-1/4						172	45	1.0
							1-1/2						174		
							1-3/4						185	22	Edge start
							2						188		
							2-1/4						193		
							2-1/2						202		

### Marking

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

**Stainless steel**  
N<sub>2</sub> Plasma / N<sub>2</sub> Shield  
45 A Cutting

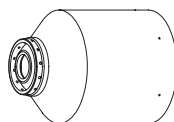
Flow rates - lpm/scfh	
N <sub>2</sub>	
Preflow	24 / 51
Cutflow	75 / 159



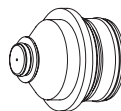
220173



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 <sub>2</sub>	N <sub>2</sub>	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	4630					
						2	3935					
						2.5	3270					
						3	2550		0.3			
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	
N <sub>2</sub>	N <sub>2</sub>	35	5	62	49	.036	94	0.100	240	0.150	150	0.0
						.048			210			0.1
						.060	180		0.2			
						.075	160					
						.105	120					
						.135	75					

**Marking**

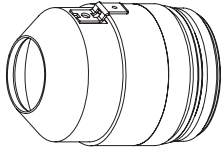
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.100	6350	250	85

Note: This process produces a darker cut edge than the 45 A, F5/N<sub>2</sub> stainless steel process.

## OPERATION

### Stainless steel F5 Plasma / N<sub>2</sub> Shield 45 A Cutting

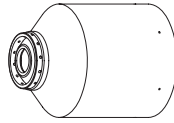
Flow rates - lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	43 / 91
Cutflow	8 / 17	65 / 138



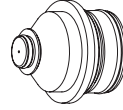
220173



220202



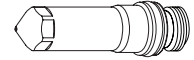
220304



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	
F5	N <sub>2</sub>	35	18	62	49	0.8	99	2.5	6570	3.8	150	0.2
						1			5740			
						1.2			4905			
						1.5			3890			
						2			3175			
						2.5			2510			
						3			2010			
					4	1435	190	0.5				
11	6	110	2.0	845								

### 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 <sub>2</sub>	35	18	62	49	.036	99	0.100	240	0.150	150	0.2
						.048			190			
						.060			150			
						.075			130			
						.105			90			
						.135			65			
						3/16			108			
					1/4	110	0.080	45	30	0.5		

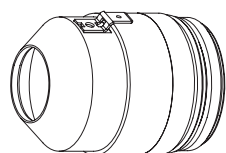
### Marking

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 <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.100	6350	250	85

Note: This process produces a shinier cut edge than the 45 A, N<sub>2</sub>/N<sub>2</sub> stainless steel process.

**Stainless steel**  
**F5 Plasma / N<sub>2</sub> Shield**  
**80 A Cutting**

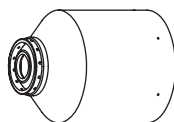
Flow rates - lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	67 / 142
Cutflow	31 / 65	55 / 116



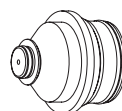
220173



220338



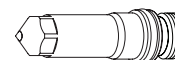
220304



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 <sub>2</sub>	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	
F5	N <sub>2</sub>	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

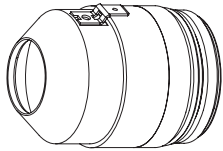
**Marking**

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

## OPERATION

### Stainless steel N<sub>2</sub> Plasma / N<sub>2</sub> Shield 130 A Cutting

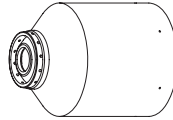
Flow rates - lpm/scfh	
N <sub>2</sub>	
Preflow	97 / 205
Cutflow	79 / 168



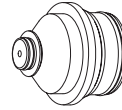
220173



220198



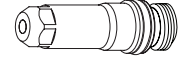
220176



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 <sub>2</sub>	N <sub>2</sub>	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
						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 <sub>2</sub>	N <sub>2</sub>	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
						5/8	167	0.150	25	Edge start		
						3/4	176	0.170	15			

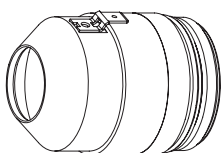
### Marking

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 <sub>2</sub>	N <sub>2</sub>	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/N<sub>2</sub> process.

**Stainless steel**  
**H35 Plasma / N<sub>2</sub> Shield**  
**130 A Cutting**

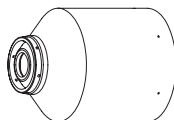
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



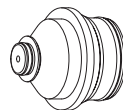
220173



220198



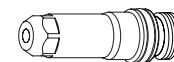
220304



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 <sub>2</sub>	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 <sub>2</sub>	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**

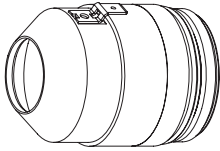
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	130

Note: This process produces a smoother, shinier cut edge with less dross, and the cut edges are less perpendicular than the 130 A, N<sub>2</sub>/N<sub>2</sub> process.

## OPERATION

### Stainless steel H35 and N<sub>2</sub> Plasma / N<sub>2</sub> Shield 130 A Cutting

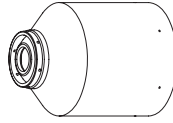
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



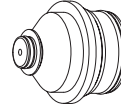
220173



220198



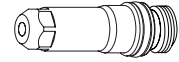
220304



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	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N <sub>2</sub>	19	51	75	38	32	18	6	150	3.0	1835	6.0	200	0.3
					10			153	1195		0.3			
					12			160	3.5	875	7.0	0.5		
					15			168	3.8	670	7.6	0.8		
					20			176	4.3	305	7.7	180		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 <sub>2</sub>	19	51	75	38	32	18	1/4	150	0.120	70	0.240	200	0.3
					3/8			153	50		0.3			
					1/2			160	0.140	30	0.280	0.5		
					5/8			168	0.150	25	0.300	0.8		
					3/4			176	0.170	15	0.310	180		1.3

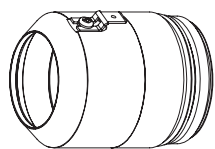
### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	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, N<sub>2</sub>/N<sub>2</sub> process. Edge color is more silver than the H35/N<sub>2</sub> process.

**Stainless steel**  
H35 Plasma / N<sub>2</sub> Shield  
200 A Cutting

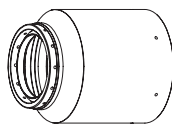
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	116 / 245
Cutflow	30 / 63	104 / 220



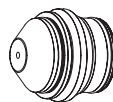
220398



220345



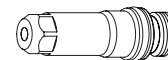
220344



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		mm
H35	N <sub>2</sub>	22	43	88	52	10	175	9.0	1620	7.5	7.5	100	0.5
						12	170		1450				0.6
						15	173	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		in
H35	N <sub>2</sub>	22	43	88	52	3/8	175	0.350	65	0.300	0.300	100	0.5
						1/2	170		55				0.6
						5/8	173	45	0.7				
						3/4	177	35	0.8				

**Marking**

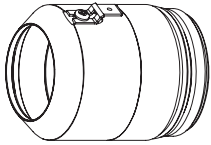
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	140



# OPERATION

## Stainless steel N<sub>2</sub> Plasma / N<sub>2</sub> Shield 200 A Cutting

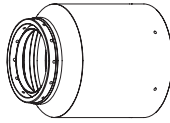
Flow rates - lpm/scfh	
N <sub>2</sub>	
Preflow	111 / 235
Cutflow	137 / 290



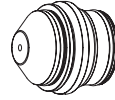
220398



220345



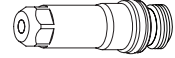
220344



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	mm	mm/m	mm	factor %	seconds
N <sub>2</sub>	N <sub>2</sub>	20	42	84	42	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

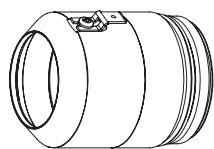
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
N <sub>2</sub>	N <sub>2</sub>	20	42	84	42	3/8	160	0.150	110	0.300	200	0.5
						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	Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	140

**Stainless steel**  
H35 and N<sub>2</sub> Plasma / N<sub>2</sub> Shield  
200 A Cutting

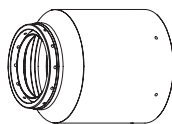
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	116 / 245
Cutflow	11 / 24	118 / 250



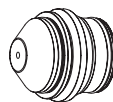
220398



220345



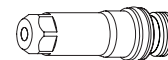
220344



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	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N <sub>2</sub>	23	41	87	41	42	20	10	161	4.0	1900	8.0	200	0.5
								12	162		1800			0.6
								15	167	4.6	1600	7.0	0.8	
								20	171	5.1	1000	7.5	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	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds
H35	N <sub>2</sub>	23	41	87	41	42	20	3/8	161	0.160	75	0.320	200	0.5
								1/2	162		70			0.6
								5/8	167	0.180	60	0.270	0.8	
								3/4	171	0.200	45	0.300	1.0	

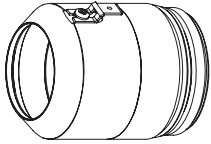
**Marking**

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

## OPERATION

### Stainless steel H35 Plasma / N<sub>2</sub> Shield 260 A Cutting

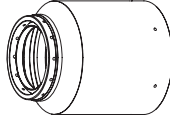
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	40 / 84	122 / 260



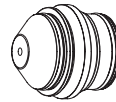
220398



220407



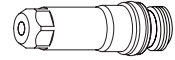
220344



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 <sub>2</sub>	12	49	85	60	10	188	11.0	1870	11.0	100	0.3
						12	173	9.0	1710	9.0		120
						15	171	7.5	1465		9.0	
						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

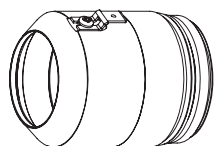
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	12	49	85	60	3/8	188	0.450	75	0.500	100	0.3
						1/2	173	0.350	65	0.350		120
						5/8	171	0.300	55	0.360	120	
						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

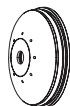
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	120

**Stainless steel**  
N<sub>2</sub> Plasma / Air Shield  
260 A Cutting

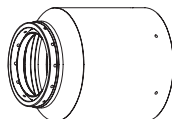
Flow rates - lpm/scfh		
	N <sub>2</sub>	Air
Preflow	127 / 270	0 / 0
Cutflow	54 / 114	116 / 245



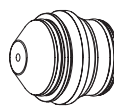
220398



220407



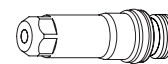
220344



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/m	mm	factor %	seconds
N <sub>2</sub>	Air	12	47	79	56	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 <sub>2</sub>	Air	12	47	79	56	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								

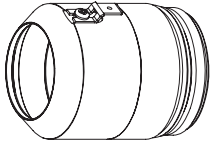
**Marking**

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 <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	120

# OPERATION

## Stainless steel H35 and N<sub>2</sub> Plasma / N<sub>2</sub> Shield 260 A Cutting

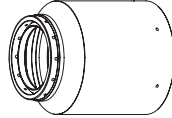
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	132 / 280
Cutflow	13 / 27	163 / 345



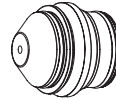
220398



220407



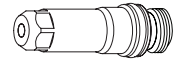
220344



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	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds	
H35	N <sub>2</sub>	12	49	87	60	60	21	6	170	4.0	3980	8.0	200	0.3	
								10	175		2190				
								12	176		1790				0.5
								15	177		1650				
								20	179		1320				
								25	182		920				
						32	186	755	1.0						
						38	189	510							
						44	195	390			Edge start				
						50	202	270							

### English

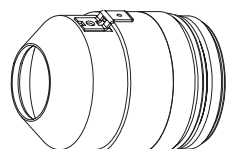
Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds	
H35	N <sub>2</sub>	12	49	87	60	60	21	1/4	170	0.160	150	0.320	200	0.3	
								3/8	175		90				
								1/2	176		65				0.5
								5/8	177		55				
								3/4	179		35				
								1	182		30				
						1-1/4	186	20	1.0						
						1-1/2	189	15							
						1-3/4	187	10			Edge start				
						2	202								

### Marking

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

**Aluminum**  
Air Plasma / Air Shield  
45 A Cutting

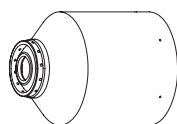
Flow rates - lpm/scfh	
Air	
Preflow	45 / 95
Cutflow	78 / 165



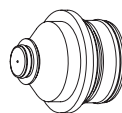
220173



220202



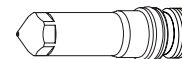
220176



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

**Marking**

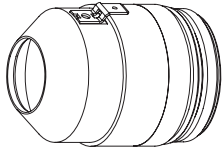
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.100	6350	250	85

## OPERATION

### Aluminum

Air Plasma / Air Shield  
130 A Cutting

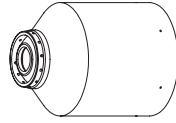
Flow rates - lpm/scfh	
Air	
Preflow	73 / 154
Cutflow	78 / 165



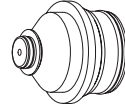
220173



220198



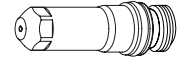
220176



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		mm
Air	Air	19	31	75	23	6	153	2.8	2370	200	6.0	0.2	
						10	154		3.0			1465	0.3
						12	156	1225				0.5	
						15	158	3.3				1050	6.6
						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
Air	Air	19	31	75	23	1/4	153	0.110	90	200	0.240	0.2	
						3/8	154		0.120			60	0.3
						1/2	156	45				0.5	
						5/8	158	0.130				40	0.260
						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
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	120

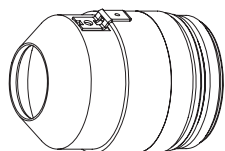
Note: This process produces a rougher cut edge that is less perpendicular than the 130 A, H35/N<sub>2</sub> process.

## Aluminum

H35 Plasma / N<sub>2</sub> Shield

130 A Cutting

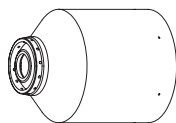
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Prewflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



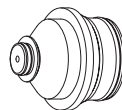
220173



220198



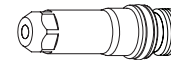
220304



220197



220179



220307

### Metric

Select Gases		Set Prewflow		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 <sub>2</sub>	19	32	75	49	<b>10</b>	158	5.0	1615	6.5	130	0.3
					37	<b>12</b>	156					4.5
					24	<b>15</b>		157	1305	7.7	170	
						<b>20</b>	940		1.3			
					16	<b>25</b>	176	Edge start				

### English

Select Gases		Set Prewflow		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 <sub>2</sub>	19	32	75	49	<b>3/8</b>	158	0.200	65	0.260	130	0.3
					37	<b>1/2</b>	156					0.180
					24	<b>5/8</b>		157	50	0.8		
						<b>3/4</b>	40		1.3			
					16	<b>1</b>	176	Edge start				

### Marking

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

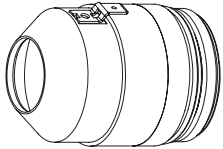
Note: This process produces a smoother cut edge that is more perpendicular than the 130 A, Air/Air process.



## OPERATION

### Aluminum H35 and N<sub>2</sub> Plasma / N<sub>2</sub> Shield 130 A Cutting

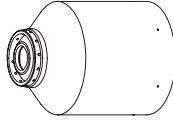
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



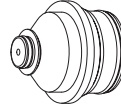
220173



220198



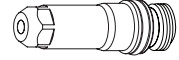
220304



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	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds	
H35	N <sub>2</sub>	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

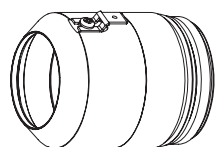
Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds	
H35	N <sub>2</sub>	19	51	75	27	32	18	1/4	156	0.140	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 <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	130

**Aluminum**  
H35 Plasma / N<sub>2</sub> Shield  
200 A Cutting

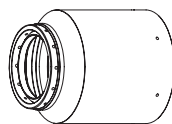
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	113 / 240
Cutflow	34 / 72	90 / 190



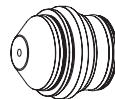
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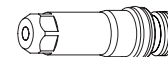
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**Metric**

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	
H35	N <sub>2</sub>	22	43	73	43	10	152	6.4	4400	9.0	140	0.3
						12	150		3800			0.4
						15	150		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 <sub>2</sub>	22	43	73	43	3/8	152	0.250	180	0.350	140	0.3
						1/2	150		140			0.4
						5/8	150		110			0.5
						3/4	159		70			0.6

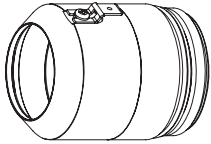
**Marking**

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

# OPERATION

## Aluminum N<sub>2</sub> Plasma / N<sub>2</sub> Shield 200 A Cutting

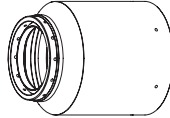
Flow rates - lpm/scfh	
N <sub>2</sub>	
Preflow	113 / 240
Cutflow	135 / 287



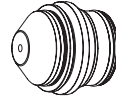
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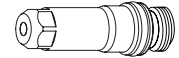
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### Metric

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
N <sub>2</sub>	N <sub>2</sub>	22	43	73	43	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
N <sub>2</sub>	N <sub>2</sub>	22	43	73	43	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

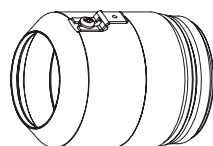
### Marking

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

## Aluminum

H35 and N<sub>2</sub> Plasma / N<sub>2</sub> Shield  
200 A Cutting

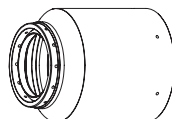
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Prewflow	0 / 0	121 / 256
Cutflow	13 / 27	126 / 267



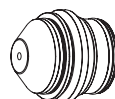
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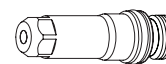
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### Metric

Select Gases		Set Prewflow		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 <sub>2</sub>	22	44	73	44	42	20	10	158	6.4	4000	9.0	140	0.3
								12			3650			0.4
								15			2450			0.5
								20			1050			0.6

### English

Select Gases		Set Prewflow		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 <sub>2</sub>	22	44	73	44	42	20	3/8	158	0.250	160	0.350	140	0.3
								1/2			140			0.4
								5/8			80			0.5
								3/4			50			0.6

### Marking

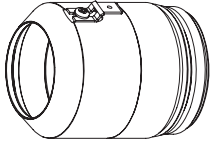
Select Gases		Set Prewflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	140

# OPERATION

## Aluminum

H35 Plasma / N<sub>2</sub> Shield  
260 A Cutting

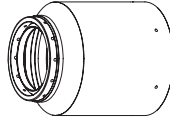
Flow rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	33 / 70	118 / 250



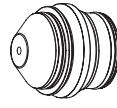
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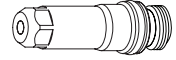
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### Metric

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	
H35	N <sub>2</sub>	12	49	76	58	6	170	11.0	7200	11.0	100	0.2
						10		10.0	6120	10.0		
						12	7.6	8.5	110	0.5		
						15				3720	0.6	
						20		2230	150	0.8		
						25		1930				
						32		175	Edge start			
						38		176				
						44		183				
						50		190				
390												

### English

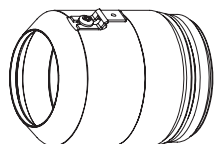
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	12	49	76	58	1/4	170	0.450	280	0.450	100	0.2
						3/8		0.400	250	0.400		
						1/2	0.300	0.330	110	0.5		
						5/8				130	0.6	
						3/4		90	150	0.8		
						1		75				
						1-1/4		60	Edge start			
						1-1/2		45				
						1-3/4		25				
						2		14				

### Marking

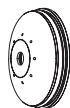
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Ar Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	120

**Aluminum**  
N<sub>2</sub> Plasma / Air Shield  
260 A Cutting

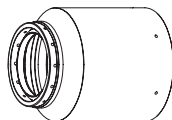
Flow rates - lpm/scfh		
	N <sub>2</sub>	Air
Preflow	125 / 265	0 / 0
Cutflow	50 / 105	113 / 240



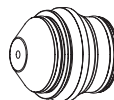
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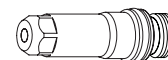
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**Metric**

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	factor %	seconds	
N <sub>2</sub>	Air	12	49	74	56	6	172	6.4	7900	9.0	140	0.2					
						10	171		4930			0.4					
						12	164		4290	8.0	200	0.5					
						15	165	3330									
						20	171	1940									
						25	177	1440	11.0			260	0.8				
												32	191	4.0	940	Edge start	
												38	195				
												44	202				
												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 <sub>2</sub>	Air	12	49	74	56	1/4	172	0.250	300	0.350	140	0.2					
						3/8	171		200			0.4					
						1/2	164	0.160	160	0.320	200	0.5					
						5/8	165		120								
						3/4	171		80			0.6					
						1	177		55	0.420	260	0.8					
												1-1/4	190	0.160	40	Edge start	
												1-1/2	195				
												1-3/4	202				
												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 <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.100	6350	250	120