

Cut chart screen

Plasma 1 Cut Chart - Rev A

HPR - Process Selection

Material Type

Process Current

Plasma / Shield

Material Thickness

	Plasma		Shield		
	Auto	Manual	Auto	Manual	
Preflow Setting	<input type="text" value="32"/>	<input type="text" value="35"/>	<input type="text" value="38"/>	<input type="text" value="40"/>	%
Cutflow Setting	<input type="text" value="84"/>	<input type="text" value="80"/>	<input type="text" value="32"/>	<input type="text" value="35"/>	%
	Gas 1	Gas 2			
Mixed Gas	<input type="text" value="0"/>	<input type="text" value="0"/>	%		
Cut Speed	<input type="text" value="240"/>		ipm		
Kerf	<input type="text" value="0"/>		in		
Set Arc Current	<input type="text" value="130"/>		amps		
Set Arc Voltage	<input type="text" value="124"/>		volts		
Cut Height	<input type="text" value="0.1"/>		in		
Pierce Height	<input type="text" value="200"/>	%	<input type="text" value="0.2"/>	in	
Pierce Time	<input type="text" value="0.1"/>		sec		
Creep Time	<input type="text" value="0"/>		sec		

Save Process

Reset Process

Save Database

Load Database

Change Consumables

Done

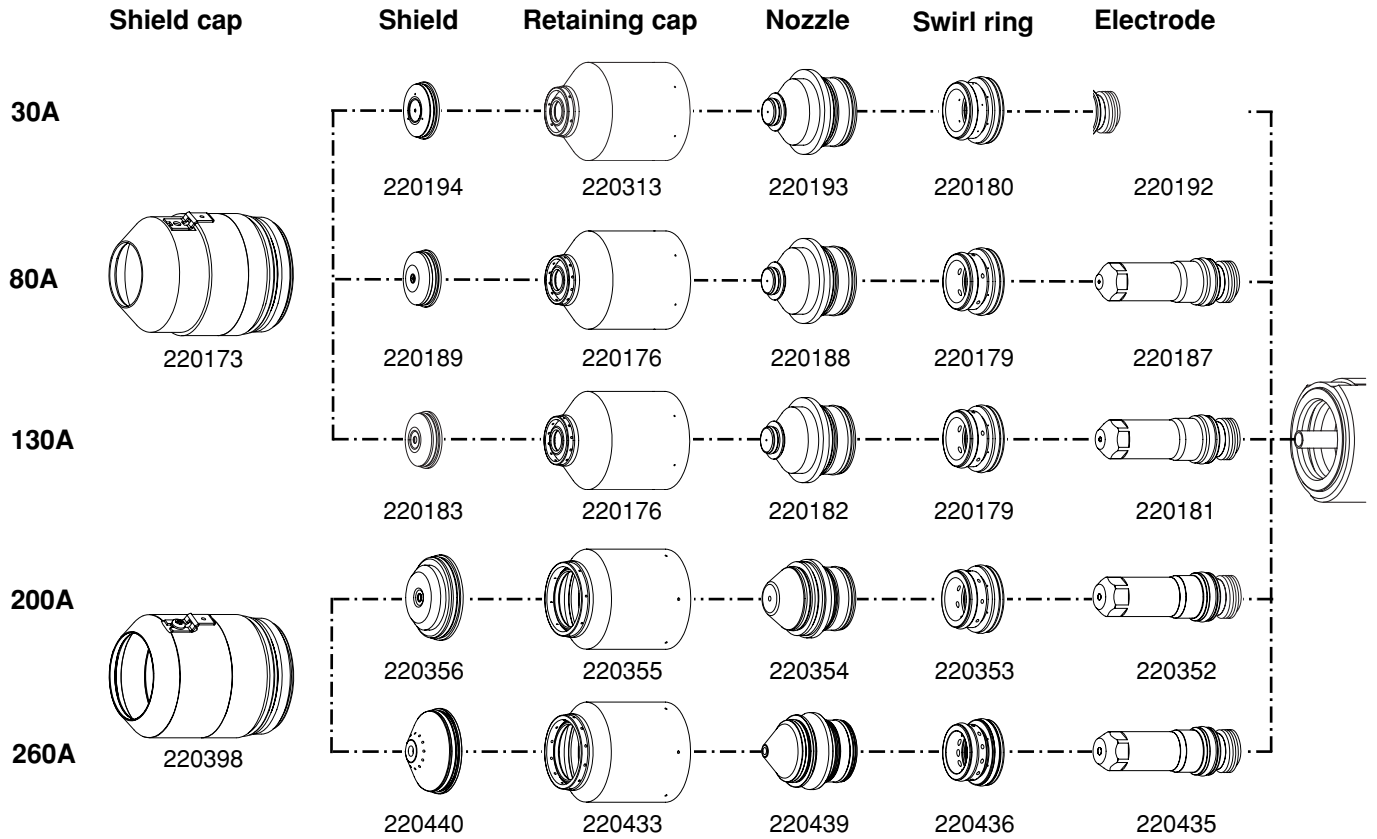
4-8

HPR260 Auto Gas Instruction Manual

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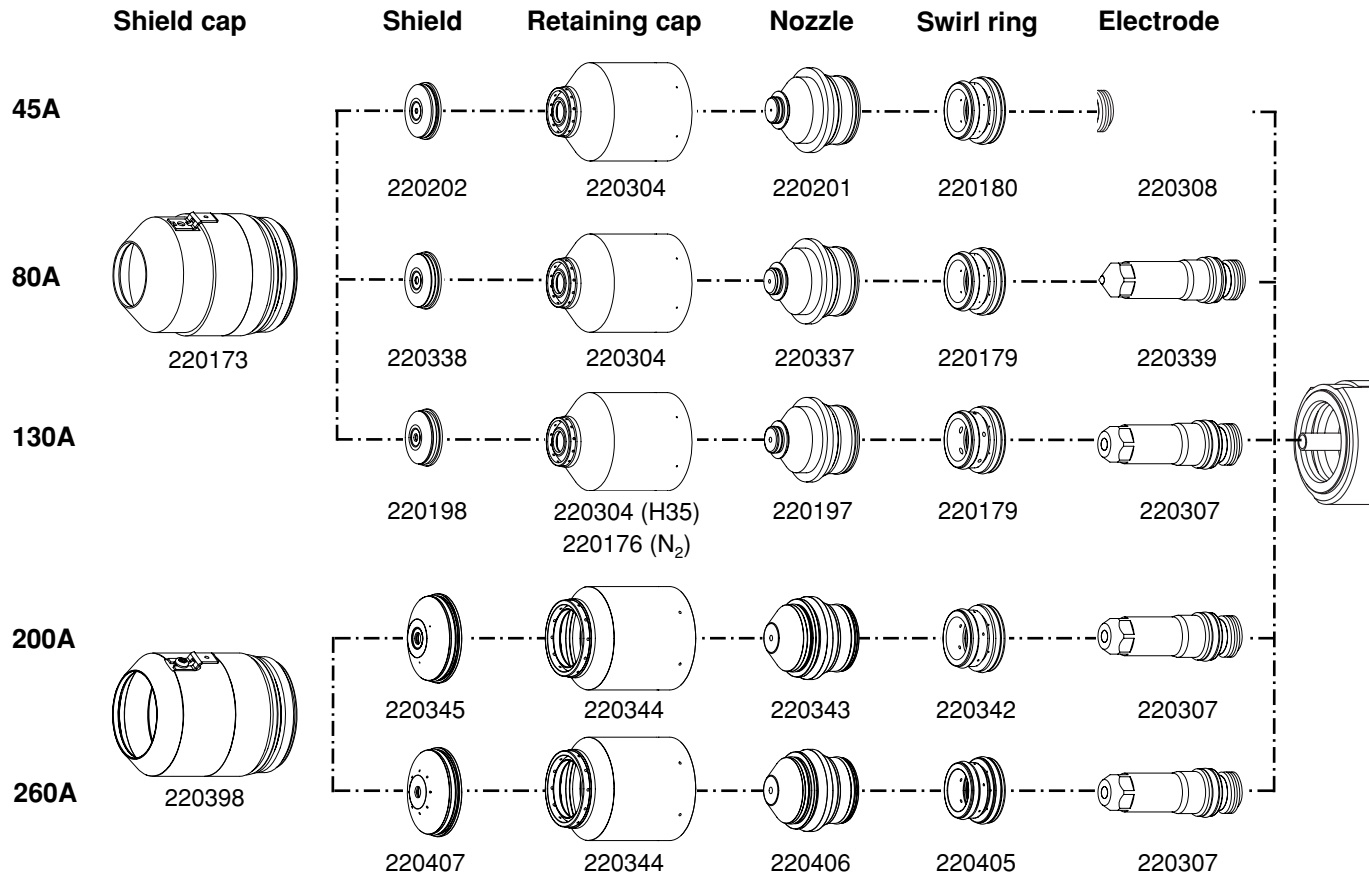
# Consumable selection

## Mild steel

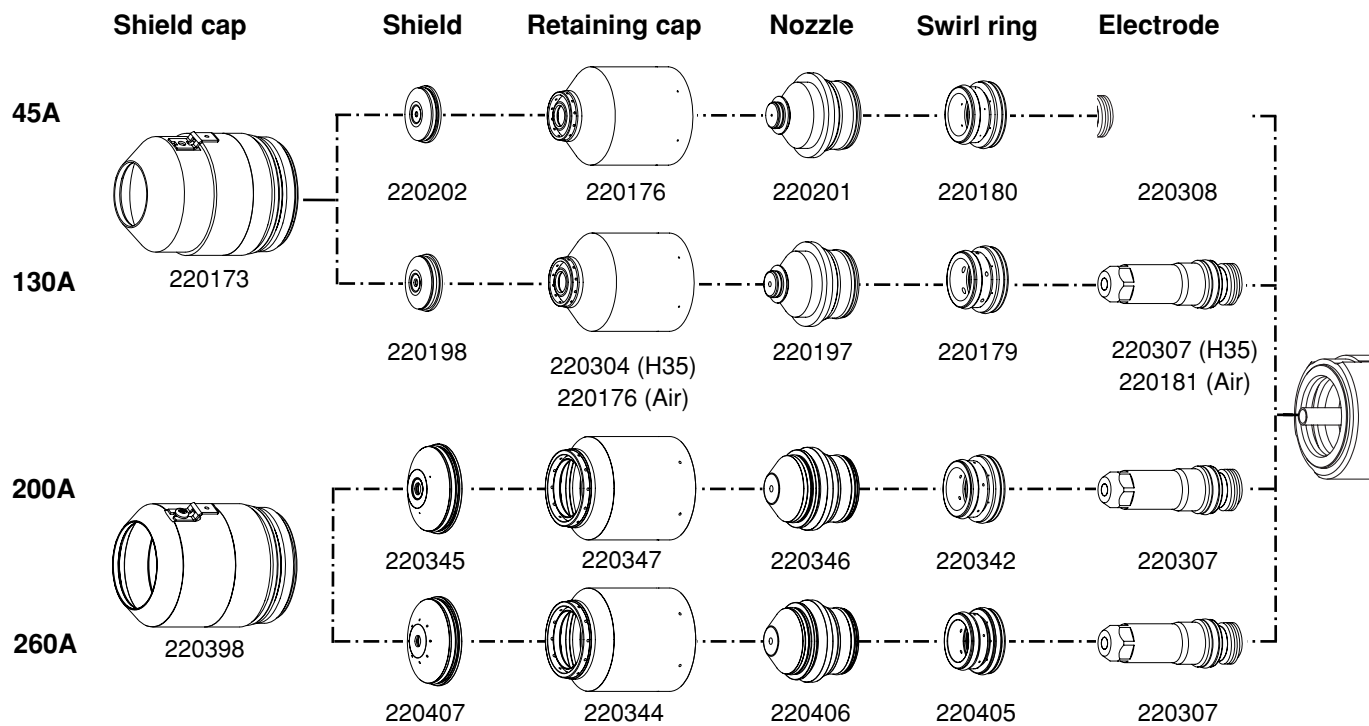


# OPERATION

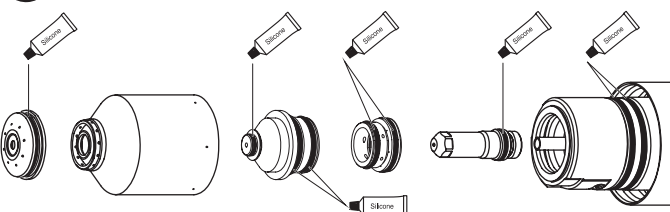
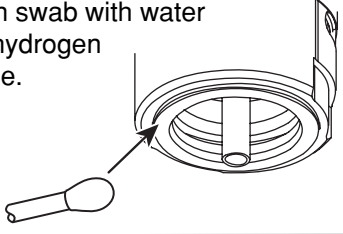
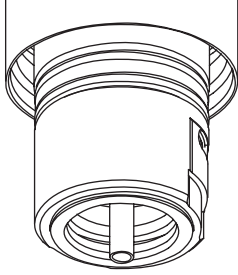
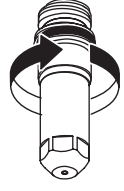

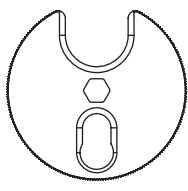

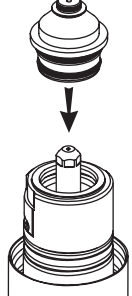
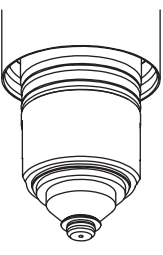
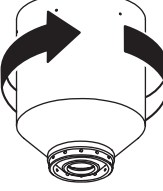

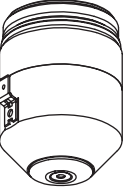
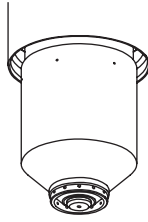
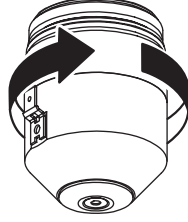
## Stainless steel



## Aluminum



### Install consumables

<p><b>1</b> Apply a thin film of silicone grease on all o-rings.</p> 		<p><b>2</b> Clean current ring using a cotton swab with water or 3% hydrogen peroxide.</p> 	
<p><b>! Do not overtighten parts! Only tighten until mating parts are seated.</b></p>			
<p><b>3</b> Install electrode</p>     <p>Tool part number 104119</p>		<p><b>4</b> Insert swirl ring</p> 	
		<p><b>5</b> Install nozzle and swirl ring</p> 	
		<p><b>6</b> Install inner retaining cap</p>  	<p><b>7</b> Insert shield</p>  
		<p><b>8</b> Install retaining cap</p>  	

### 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.

### 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" or 16 gauge).

### Consumables for mirror-image cutting

See the *Parts List* section of 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 O2-Air				2.54	2.79	3.43	3.81	4.32	4.45
200A O2-Air				2.18	2.26	2.95			
130A O2-Air			1.803	2.032	2.108	2.642	3.429		
80A O2-Air		1.372	1.727	1.905					
30A O2-O2	1.346	1.448							
<b>SS</b>									
260A N2-Air					2.54	3.08	3.30		
260A H35-N2					3.81	4.06	4.32		
200A N2-N2				2.16	2.88	2.92			
200A H35-N2				3.68	3.81	3.94			
130A H35-N2				2.718	2.769	2.896			
130A N2-N2			1.829	1.879	2.413				
80A F5-N2			1.194						
45A F5-N2	0.584	0.381	0.533						
45A N2-N2	0.483	0.229	0.152						
<b>AL</b>									
260A N2-Air					3.05	3.05	3.30		
260A H35-N2					2.79	3.30	3.56		
200A N2-N2				2.03	2.29	2.67			
200A H35-N2				2.67	2.92	3.30			
130A H35-N2				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**

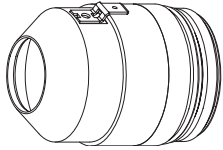
Process	Thickness (in)								
	0.060"	0.135"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"
<b>MS</b>									
260A O2-Air				0.100	0.110	0.135	0.150	0.170	0.175
200A O2-Air				0.086	0.089	0.116			
130A O2-Air			0.071	0.080	0.083	0.104	0.135		
80A O2-Air		0.054	0.068	0.075					
30A O2-O2	0.053	0.057							
<b>SS</b>									
260A N2-Air					0.100	0.120	0.130		
260A H35-N2					0.150	0.160	0.170		
200A N2-N2				0.085	0.090	0.115			
200A H35-N2				0.145	0.150	0.155			
130A H35-N2				0.107	0.109	0.114			
130A N2-N2			0.072	0.074	0.095				
80A F5-N2			0.047						
45A F5-N2	0.023	0.015	0.021						
45A N2-N2	0.019	0.009	0.006						
<b>AL</b>									
260A N2-Air					0.120	0.120	0.130		
260A H35-N2					0.110	0.130	0.140		
200A N2-N2				0.080	0.090	0.105			
200A H35-N2				0.105	0.115	0.130			
130A H35-N2				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 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	46 / 97
Cutflow	22 / 46	0/0

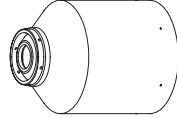
Note: Air must be connected to use this process. It is used as the preflow gas



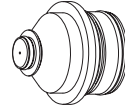
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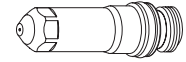
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### Metric

Select Gases		Set Preflow		Set 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	
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
						1.0	116		3615			0.3
						1.2	117		2865			
						1.5	119		2210			
						2	120		1490			
		75	35	7	7	2.5	122	1.5	1325	2.7	0.4	
						3*	123		1160		0.5	
						4*	125		905		0.7	
						6*	128		665		1.0	

### 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
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
						75			35				7	7
		.075	120	60										
		.105	122	50										
		.135*	123	40	0.5									
		3/16*	128	30			0.7							
		1/4*		25			1.0							

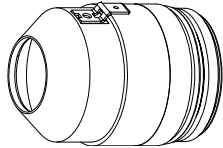
### Marking

Select Gases		Set Preflow		Set Outflow		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>	12	80	12	80	11	1.8	0.070	6350	250	110

\*Pierce complete is recommended for these thicknesses

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

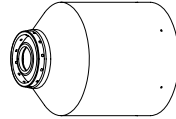
Flow Rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



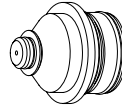
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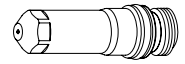
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**Metric**

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	
O <sub>2</sub>	Air	48	27	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	15	1410	5.0	250	0.7	
					15	133		1030				
					20	135		545				6.3
												2.5

**English**

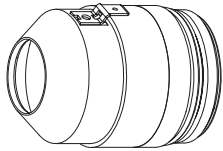
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	Air	48	27	78	23	.075	112	0.100	400	0.150	150	0.1
						.105	115		290			
						.135	117		180			
						3/16	120	0.080	155	0.160	200	0.3
						1/4	123		110			
						3/8	127		75			
					1/2	130	15	50	0.200	250	0.7	
					5/8	133		37				
					3/4	135		25				0.250
												0.100

**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>	12	80	12	80	11	1.8	0.070	6350	250	130

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

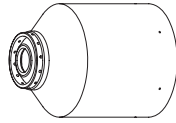
Flow Rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	102 / 215
Cutflow	33 / 70	45 / 96



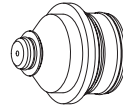
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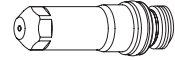
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**Metric**

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	
O <sub>2</sub>	Air	32	38	84	32	3	124	2.5	6505	5.0	200	0.1
						4	126	2.8	5550	5.6		0.2
						6	127		4035	0.3		
					27	10	130	3.0	2680	6.0		0.5
						12	132	3.8	2200	6.6		0.7
						15	135		1665	1		
		20	138	1050		7.6	190	1.8				
		25	141	550			4.5	375	N/A			
		32	160	255								
		38	167									

**English**

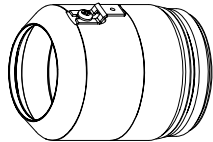
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	Air	32	38	84	32	.135	124	0.100	240	0.200	200	0.1
						3/16	126	0.110	190	0.220		0.2
						1/4	127		150	0.3		
					27	3/8	130	0.120	110	0.240		0.5
						1/2	132	0.130	80	0.260		0.7
						5/8	135		60	0.300		1
		3/4	138	0.150		45	190	1.8				
		1.0	141	0.160		20		0.180	10	N/A		
		1-1/4	160	15								
		1-1/2	167	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>	12	80	12	80	11	1.8	0.070	6350	250	130

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

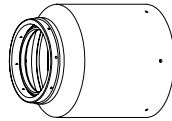
Flow Rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	128 / 270
Cutflow	39 / 82	48 / 101



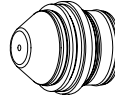
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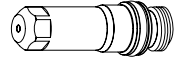
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**Metric**

Select Gases		Set Preflow		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma (1)	Shield (2)	Plasma (3)	Shield (4)	Plasma (5)	Shield (6)					mm	Volts	
O <sub>2</sub>	Air	23	49	74	20	6	124	3.3	5250	6.6	200	0.2
						10	126		3460			0.3
						12	128		3060			0.5
						15	131	4.1	2280	8.2		0.6
						20	133		1575			0.8
						25	143	5.1	1165	10.2		1.0
						32	145		750			N/A
						38	152		510			N/A
						50	163		255			N/A

**English**

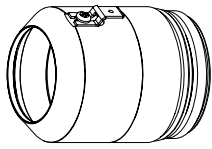
Select Gases		Set Preflow		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma (1)	Shield (2)	Plasma (3)	Shield (4)	Plasma (5)	Shield (6)					in	Volts	
O <sub>2</sub>	Air	23	49	74	20	3/16	124	0.130	230	0.260	200	0.2
						1/4	124		200			0.2
						3/8	126		140			0.3
						1/2	128	0.160	115	0.320		0.5
						5/8	131		80			0.6
						3/4	133	0.200	65	0.400		0.8
						1	143		45			1.0
						1-1/4	145		30			N/A
						1-1/2	152		20			N/A
2	163	10	N/A									

**Marking**

Select Gases		Set Preflow		Set Outflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma (1)	Shield (2)	Plasma (3)	Shield (4)	Plasma (5)	Shield (6)		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	13	1.8	0.070	6350	250	130

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

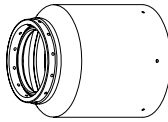
Flow Rates – lpm/scfh @ 3/4" setting		
	O <sub>2</sub>	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220



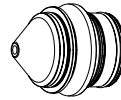
220398



220440



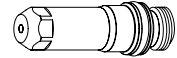
220433



220439



220436



220435

**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
O <sub>2</sub>	Air	22	58	76	54	6	150	2.8	6500	8.5	300	0.3				
						10	150		4440							
						12	150		3850							
				80	58	84	58	80	58	15	155	3.6	3130	9.0	250	0.5
										20	159		2170			0.6
										22	166		1930			0.7
										25	171		1685			0.8
										28	170		1445			0.9
										32	172		1135			1.0
				84	58	84	58	84	58	38	174	4.8	895	9.5	200	1.2
										44	185		580			N/A
										50	188		405			
										58	193		290			
										64	202		195			

**English**

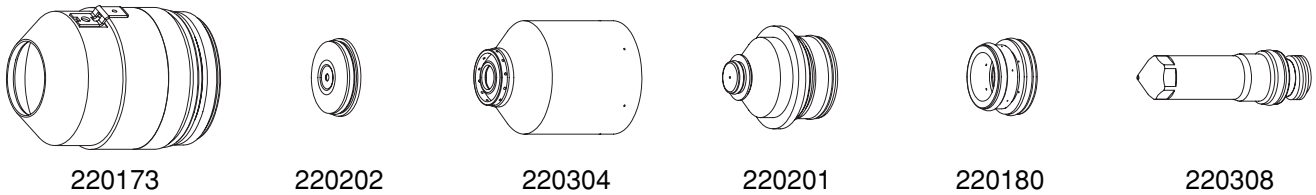
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time				
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	ipm	in	factor %
O <sub>2</sub>	Air	22	58	76	54	1/4	150	0.110	250	0.330	300	0.3				
						3/8	150		180				0.4			
						1/2	150		145							
				80	58	84	58	80	58	5/8	155	0.140	115	0.350	250	0.5
										3/4	159		90			0.6
										7/8	166		75			0.7
										1	171		65			0.8
										1-1/8	170		55			0.9
										1-1/4	172		45			1.0
				84	58	84	58	84	58	1-1/2	174	0.190	35	0.380	200	1.2
										1-3/4	185		22			N/A
										2	188		15			
										2-1/4	193		12			
										2-1/2	202		8			

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

**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



**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	55	0.8	94	2.5	6380	3.8	150	0.0
						1.0			5880			0.1
						1.2			5380			0.2
						1.5	4630					
						2.0	3935					
						2.5	3270					
						3.0	2550					
						4.0	1580		0.3			

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	35	5	62	55	.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**

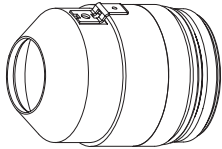
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield	Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	14	2.5	0.100	6350	250	90

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

# OPERATION

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

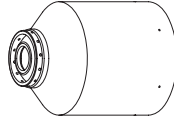
Flow Rates – lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	43 / 91
Cutflow	8 / 17	65 / 138



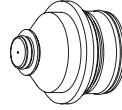
220173



220202



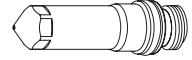
220304



220201



220180



220308

### Metric

Select Gases		Set Preflow		Set 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	
F5	N <sub>2</sub>	35	25	62	55	0.8	99	2.5	6570	3.8	150	0.2
						1.0			5740			
						1.2			4905			
						1.5			3890			
						2.0			3175			
						2.5			2510			
						3.0			2010			
					4.0	1435						
15	6.0	110	2.0	845	190	0.5						

### 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	
F5	N <sub>2</sub>	35	25	62	55	.036	99	0.100	240	0.150	150	0.2
						.048			190			
						.060			150			
						.075			100			
						.105			102			
						.135			104			
						.135			104			
					15	3/16	108	0.080	45	190	0.4	
15	1/4	110	0.080	30	190	0.5						

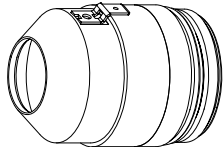
### Marking

Select Gases		Set Preflow		Set Outflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	ipm
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	14	2.5	0.100	6350	250	90

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

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

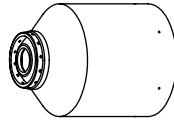
Flow Rates – lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	67 / 142
Cutflow	31 / 65	55 / 116



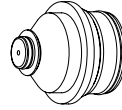
220173



220338



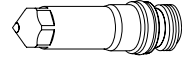
220304



220337



220179



220339

**Metric**

Select Gases		Set Preflow		Set 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	
F5	N <sub>2</sub>	33	27	65	42	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**

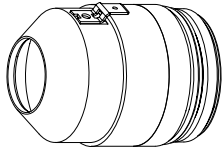
Select Gases		Set Preflow		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
F5	N <sub>2</sub>	33	27	65	42	.135	108	0.120	105	0.180	150	0.2
						3/16	110	0.110	60	0.170		0.3
						1/4	112	0.100	45	0.150		
						3/8	120	0.120	25	0.180		0.5

**Marking**

Select Gases		Set Preflow		Set Outflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

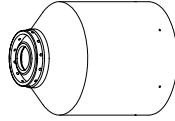
Flow Rates – lpm/scfh	
N <sub>2</sub>	
Preflow	97 / 205
Cutflow	79 / 168



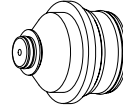
220173



220198



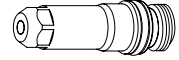
220176



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	60	75	27	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	N/A		
						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	60	75	27	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	N/A		
						3/4	176	0.170	15			

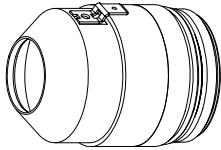
**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	13	1.8	0.070	6350	250	130

Note: This process produces a rougher, darker cut edge with more dross and less cut angle variation than the 130A, H35/N<sub>2</sub> process

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

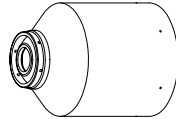
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



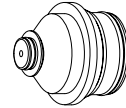
220173



220198



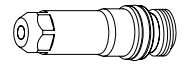
220304



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	
H35	N <sub>2</sub>	19	38	75	54	10	154	4.5	980	7.7	170	0.3
					42	12	158		820			0.5
					27	15	162		580			0.8
						20	165		360			1.3
						20	172		260			N/A

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	19	38	75	54	3/8	154	0.180	40	0.310	170	0.3
					42	1/2	158		30			0.5
					27	5/8	162		20			0.8
						3/4	165		15			1.3
						1	172		10			N/A

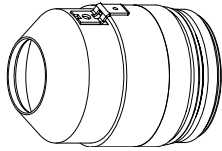
**Marking**

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>	12	80	12	80	13	1.8	0.070	6350	250	130

Note: This process produces a smoother, shinier cut edge with less dross and greater cut angle variation than the 130A, N<sub>2</sub>/N<sub>2</sub> process

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

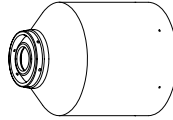
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



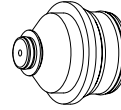
220173



220198



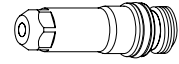
220304



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	60	75	38	32	18	6	150	3.0	1835	200	6.0	0.3	
					27			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	60	75	38	32	18	1/4	150	0.120	70	200	0.240	0.3	
					27			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

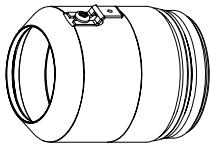
**Marking**

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>	12	80	12	80	13	1.8	0.070	6350	250	130

Note: This process produces a smoother, shinier cut edge with less dross and greater cut angle variation than the 130A, 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**

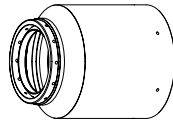
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	116 / 245
Cutflow	30 / 63	104 / 220



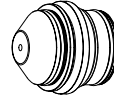
220398



220345



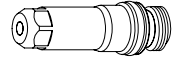
220344



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	
H35	N <sub>2</sub>	22	51	90	60	10	175	9.0	1620	9.0	100	0.5
						12	170	7.5	1450	7.5		0.6
						15	173		1200			0.7
						20	177		820			0.8

**English**

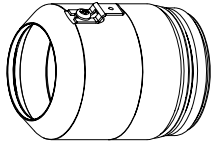
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	22	51	90	60	3/8"	175	0.350	65	0.350	100	0.5
						1/2"	170	0.300	55	0.300		0.6
						5/8"	173		45			0.7
						3/4"	177		35			0.8

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage Amps	Torch-to-Work Distance		Marking Speed		Arc Voltage Volts
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

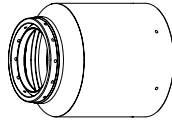
Flow Rates – lpm/scfh	
N <sub>2</sub>	
Preflow	111 / 235
Cutflow	137 / 290



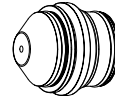
220398



220345



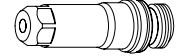
220344



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	
N <sub>2</sub>	N <sub>2</sub>	23	49	85	49	10	160	3.8	2700	7.6	200	0.5
						12	161		2400			0.6
						15	163		1800			0.8
						20	167		1000			1.0

**English**

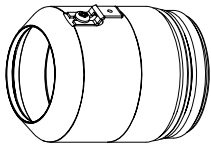
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	23	49	85	49	3/8	160	0.150	110	0.300	200	0.5
						1/2	161		90			0.6
						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	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

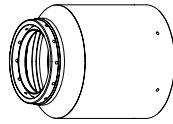
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	116 / 245
Cutflow	11 / 24	118 / 250



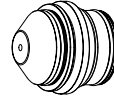
220398



220345



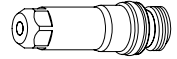
220344



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	
H35	N <sub>2</sub>	23	49	87	49	42	20	10	161	4.0	1900	8.0	200	0.5
								12	162		1800			0.6
								15	167	4.6	1600	7.0	150	0.8
								20	171	5.1	1000	7.6		1

**English**

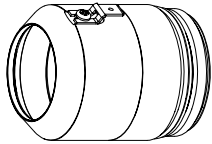
Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2					in	Volts	
H35	N <sub>2</sub>	23	49	87	49	42	20	3/8	161	0.160	75	0.320	200	0.5
								1/2	162		70			0.6
								5/8	167	0.180	60	0.270	150	0.8
								3/4	171	0.200	45	0.300		1

**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>	12	80	12	80	15	1.8	0.070	6350	250	130

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

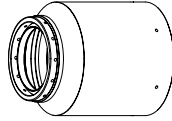
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	40 / 84	122 / 260



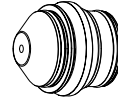
220398



220407



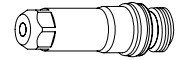
220344



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		mm
H35	N <sub>2</sub>	12	59	85	71	10	188	11.0	1870	11.0	100	0.3	
						12	173	9.0	1710	9.0		120	0.4
						15	171	7.5	1465				0.5
						20	175		1085		0.6		
						25	180		785		0.7		
						32	185		630		1.0		
						38	186		510		N/A		
						44	189		390				
						50	200		270				

**English**

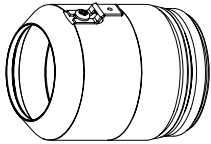
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time		
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	ipm
H35	N <sub>2</sub>	12	59	85	71	3/8	188	0.450	75	0.500	100	0.3		
						1/2	173	0.350	65	0.350		0.360	120	0.4
						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		N/A			
						1-3/4	189		15					
						2	200		10					

**Marking**

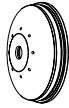
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80		Amps	mm	in	mm/min	ipm
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

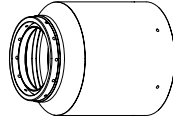
Flow Rates – lpm/scfh		
	N <sub>2</sub>	Air
Preflow	127 / 270	0 / 0
Cutflow	54 / 114	116 / 245



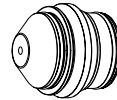
220398



220407



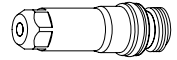
220344



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
N <sub>2</sub>	Air	12	60	78	69	6	160	3.8	6375	7.5	200	0.3	
						10	157		3440				
						12	161		2960				0.4
						15	163		2520				
						20	164		1590				0.5
						25	168		1300				
						32	171		875				0.6
						38	179		515				
						44	190		365			0.8	
						50	195		180				
						N/A							

**English**

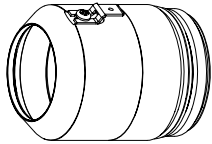
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in
N <sub>2</sub>	Air	12	60	78	69	1/4	160	0.150	240	0.300	200	0.3	
						3/8	157		140				
						1/2	161		110				0.4
						5/8	163		95				
						3/4	164		70				0.5
						1	168		50				
						1-1/4	171		35				0.6
						1-1/2	179		20				
						1-3/4	190		14			0.8	
						2	200		6				
						N/A							

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield	Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

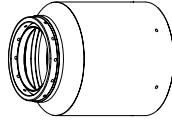
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	132 / 280
Cutflow	13 / 27	163 / 345



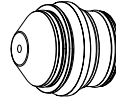
220398



220407



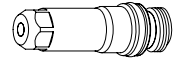
220344



220406



220405



220307

**Metric**

Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	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
H35	N <sub>2</sub>	12	59	87	71	60	21	6	170	4.0	3980	8.0	200	0.3	
								10	175		2190				
								12	176		1790				0.5
								15	177		1650				0.7
								20	179		1320				0.8
								25	182		920				1.0
								32	186		755				1.2
						40	26	38	189		510	N/A			
								44	195		390				
								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
H35	N <sub>2</sub>	12	59	87	71	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		65				0.7
								3/4	179		55				0.8
								1	182		35				1.0
								1-1/4	186		30				1.2
						40	26	1-1/2	189		20	N/A			
								1-3/4	187		15				
								2	202		10				

**Marking**

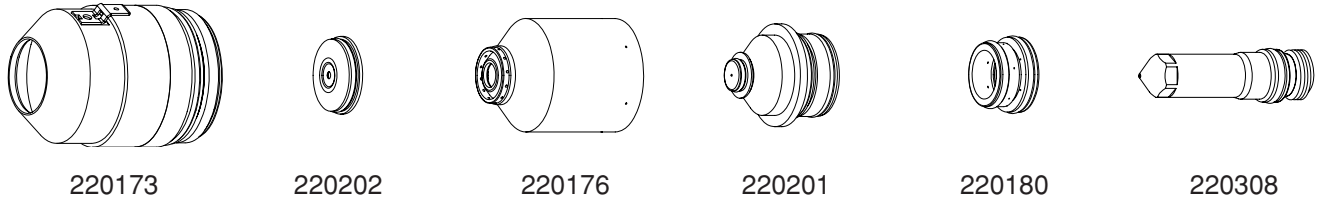
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

## Aluminum

### Air Plasma / Air Shield

### 45 A Cutting

Flow Rates – lpm/scfh	
Air	
Preflow	45 / 95
Cutflow	78 / 165



#### Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	35	25	62	55	1.2	130	2.5	5670	3.8	150	0.2
						1.5	115		4420			
						2.0	113		4000			
						2.5	110		3665			
						3.0	107		3225			
					38	4.0	102	1.8	2575	2.7	0.3	
6.0	117	3.0	1690	4.5	0.6							

#### English

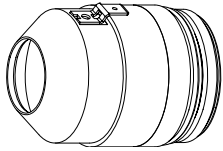
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	35	25	62	55	.048	130	0.100	220	0.150	150	0.2
						.060	115		170			
						.075	113		160			
						.105	110		140			
						.135	102		0.070			
					38	3/16	114	0.120	90	0.180	0.3	
1/4	117	60	60	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	14	2.5	0.100	6350	250	90

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

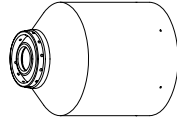
Flow Rates – lpm/scfh	
Air	
Preflow	73 / 154
Cutflow	78 / 165



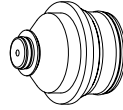
220173



220198



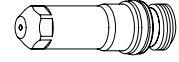
220176



220197



220179



220181

**Metric**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	19	38	75	27	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	N/A		

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	19	38	75	27	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	N/A		

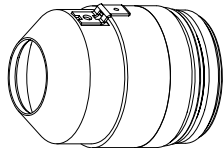
**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage Amps	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	13	1.8	0.070	6350	250	130

Note: This process produces a rougher cut edge with larger average angles than the 130A, H35/N<sub>2</sub> process

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

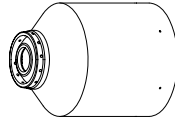
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



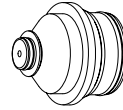
220173



220198



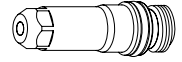
220304



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	38	75	54	10	158	5.0	1615	6.5	130	0.3
					42	12	156	4.5	1455	7.7	170	0.5
					27	15	156		1305			0.8
					20	20	157		940			1.3
					20	25	176		540			N/A

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
H35	N <sub>2</sub>	19	38	75	54	3/8	158	.200	65	0.260	130	0.3
					42	1/2	156	.180	55	0.310	170	0.5
					27	5/8	156		50			0.8
					20	3/4	157		40			1.3
					20	1	176		20			N/A

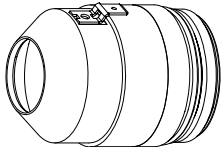
**Marking**

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>	12	80	12	80	13	1.8	0.070	6350	250	130

Note: This process produces a smoother cut edge with smaller average angles than the 130A, Air/Air process

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

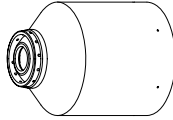
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	97 / 205
Cutflow	13 / 28	71 / 150



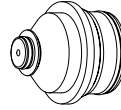
220173



220198



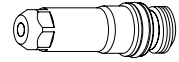
220304



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	60	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**

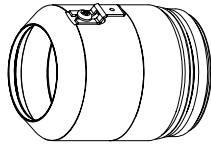
Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds	
H35	N <sub>2</sub>	19	60	75	27	32	18	1/4	156	0.140	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>	12	80	12	80	13	1.8	0.070	6350	250	130

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

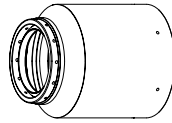
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	113 / 240
Cutflow	34 / 72	90 / 190



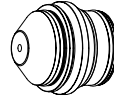
220398



220345



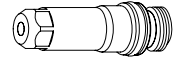
220347



220346



220342



220307

**Metric**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N <sub>2</sub>	22	53	73	53	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**

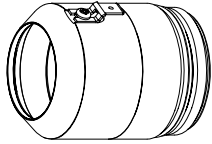
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	22	53	73	53	3/8	152	0.250	180	0.350	140	0.3
						1/2	150		140			0.4
						5/8	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
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

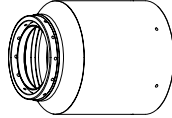
Flow Rates – lpm/scfh	
N <sub>2</sub>	
Preflow	113 / 240
Cutflow	135 / 287



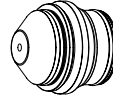
220398



220345



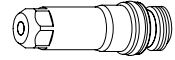
220347



220346



220342



220307

**Metric**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
N <sub>2</sub>	N <sub>2</sub>	22	53	73	53	10	158	6.4	4750	9.0	140	0.4
						12	158		3500			0.5
						15	166		2350			0.6
						20	165		1000			0.8

**English**

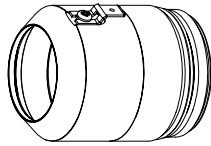
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	22	53	73	53	3/8	158	0.250	200	0.350	140	0.4
						1/2	158		120			0.5
						5/8	166		80			0.6
						3/4	165		50			0.8

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

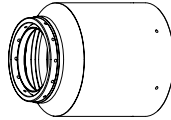
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	121 / 256
Cutflow	13 / 27	126 / 267



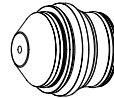
220398



220345



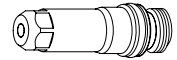
220347



220346



220342



220307

**Metric**

Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	mm	Volts	mm	mm/m	mm	factor %	seconds
H35	N <sub>2</sub>	22	53	73	53	42	20	10	158	6.4	4000	9.0	140	0.3
								12	158		3650			0.4
								15	162		2450			0.5
								20	170		1050			0.6

**English**

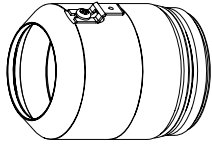
Select Gases		Set Preflow		Set Cutflow				Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	Mix Gas 1	Mix Gas 2	in	Volts	in	ipm	in	factor %	seconds
H35	N <sub>2</sub>	22	53	73	53	42	20	3/8	158	0.250	160	0.350	140	0.3
								1/2	158		140			0.4
								5/8	162		80			0.5
								3/4	170		50			0.6

**Marking**

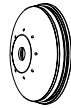
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

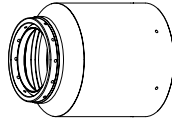
Flow Rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	33 / 70	118 / 250



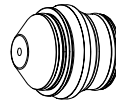
220398



220407



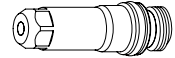
220344



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	60	76	69	6	170	11.0	7200	11.0	100	0.2
						10	170	10.0	6120	10.0	100	0.4
						12	162	7.6	5160	8.5	110	0.5
						15	163		3720			0.6
						20	166		2230	0.6		
						25	174		1930	11.0	150	0.8
						32	175	1510	N/A			
						38	176	1150				
						44	183	670				
						50	190	390				

**English**

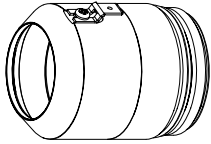
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
H35	N <sub>2</sub>	12	60	76	69	1/4	170	0.450	280	0.450	100	0.2
						3/8	170	0.400	250	0.400	100	0.4
						1/2	162	0.300	190	0.330	110	0.5
						5/8	163		130			0.6
						3/4	166		90	0.6		
						1	174		75	0.450	150	0.8
						1-1/4	175	60	N/A			
						1-1/2	176	45				
						1-3/4	183	25				
						2	190	14				

**Marking**

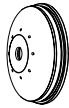
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	15	1.8	0.070	6350	250	130

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

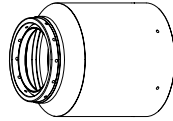
Flow Rates – lpm/scfh		
	N <sub>2</sub>	Air
Preflow	125 / 265	0 / 0
Cutflow	50 / 105	113 / 240



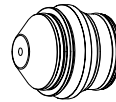
220398



220407



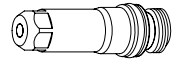
220344



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	
N <sub>2</sub>	Air	12	60	74	69	6	172	6.4	7900	9.0	140	0.2
						10	171		4930			0.4
						12	164		4290	0.5		
						15	165	4.0	3330	8.0	200	0.6
						20	171		1940			
						25	177		1440	12.0	300	0.8
						32			940			N/A
						38	195	520				
						44	202	320				
						50	205	215				

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	Air	12	60	74	69	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			0.6
						3/4	171		80	0.420	300	0.8
						1	177		55			
						1-1/4	190	40	N/A			
						1-1/2	195	20				
						1-3/4	202	12				
						2	205	8				

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield	Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	12	80	12	80	18	1.8	0.070	6350	250	130