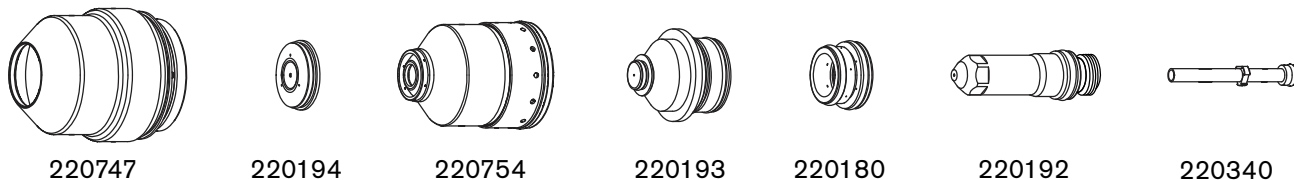


**Mild steel**  
O<sub>2</sub> Plasma / O<sub>2</sub> Shield  
30 A Cutting

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



**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>	80	15	92	15	0.5	114	1.3	5355	2.3	180	0.1
						0.8	115		4225			0.2
						1	116		3615			0.3
						1.2	117		2865			
						1.5	119		2210			
		35	5	2	120	1.5	1490	2.7	0.4			
				2.5	122		1325					
				3*	123		1160		0.5			
				4*	125		905		0.7			
				6*	128		665		1.0			
75	5	92	15	15	0.018	114	0.050	215	0.090	180	0.1	
					0.024			200			0.2	
					0.030			115			170	0.3
					0.036			116			155	
					0.048			117			110	
35	5	92	15	15	0.060	119	0.060	85	0.110	180	0.4	
					0.075			120			60	
					0.105			122			50	
					0.135*			123			40	0.5
					3/16*			128			30	0.7
1/4*	25	1.0										

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time		
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in	ipm
O <sub>2</sub>	O <sub>2</sub>	80	15	92	15	0.018	114	0.050	215	0.090	180	0.1		
						0.024			200			0.2		
						0.030			115			170	0.3	
						0.036			116			155		
						0.048			117			110		
		35	5	92	15	15	0.060	119	0.060	85	0.110	180	0.4	
							0.075			120			60	
							0.105			122			50	
							0.135*			123			40	0.5
							3/16*			128			30	0.7
1/4*	25	1.0												

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
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	0.10	6350	250	105
Ar	Air	90	10	90	10	9	2.5	0.10	2540	100	80

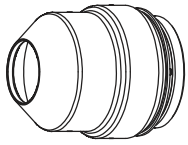
\* Pierce complete is recommended for these thicknesses

# 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

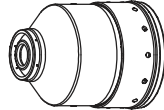
Note: Air must be connected to use this process. It is used as the preflow gas



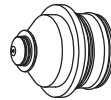
220747



220555



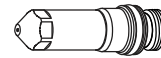
220754



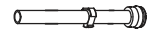
220554



220553



220552



220340

### 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	75	15	0.8	110	1.0	6500	2.0	200	0.0
						1	111		5000			
						1.2	112		4150			
						1.5	114	1.3	3200	2.6		
						2	115		2700			
						2.5	117		2200			
						3	119	1.5	1800	3.0		
						4	121		1400			
						5	122		1200			
						6	126	2.0	950	4.0		
						7	128		780			
8	130	630										

### English

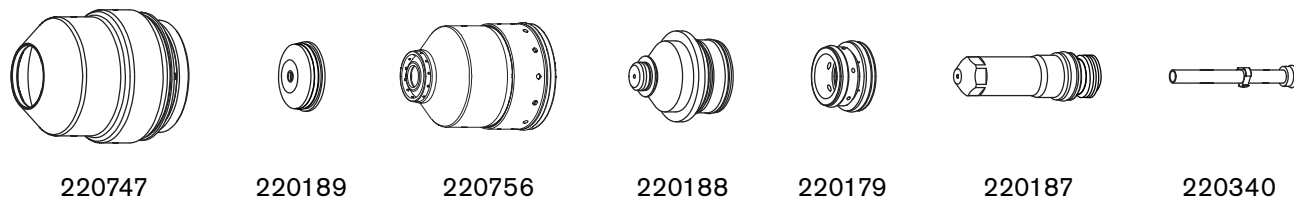
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	O <sub>2</sub>	70	30	75	15	0.030	110	0.04	270	0.08	200	0.0
						0.036			210			
						0.048			160			
						0.060	114	0.05	125	0.10		
						0.075	115		110			
						0.105	118		80			
						0.135	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
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	118
Ar	Air	90	10	90	10	9	2.5	0.10	2540	100	77

**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



**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	50	30	72	30	2	112	2.5	9810	3.8	150	0.1
						2.5	115		7980			
						3	117		6145			
						4	120		4300			
						6	123		3045			
						10	127		1810			
					15	12	130	2.0	1410	4.0	200	0.2
						15	133		1030			
						20	135		545			
						20	135		545			
								2.5	545	6.3	250	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	
O <sub>2</sub>	Air	50	30	72	30	0.075	112	0.100	400	0.150	150	0.1
						0.105	115		290			
						0.135	117		180			
						3/16	120		155			
						1/4	123		110			
						3/8	127		75			
					15	1/2	130	0.080	50	0.160	200	0.2
						5/8	133		37			
						3/4	135		25			
						3/4	135		25			
								0.100	25	0.250	250	0.9

**Marking**

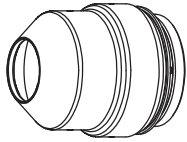
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	78

# OPERATION

## Mild steel bevel cutting

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

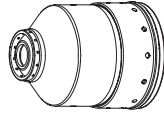
Flow rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	47 / 100
Cutflow	23 / 48	47 / 100



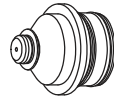
220747



220189



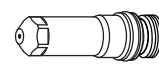
220756



220188



220179



220187



220340

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds
O <sub>2</sub>	Air	50	48	72	48	2.0	2	2.5 – 8.6	9810	3.8	150	0.1
							2.5		7980			
							3		6145			
							4		4300			
							6		3045			
					24		10	2.0 – 8.6	1810	4.0	200	0.3
							12		1410			
							15		1030			
							20		545			
							2.5 – 8.6		545			
											0.9	

### English

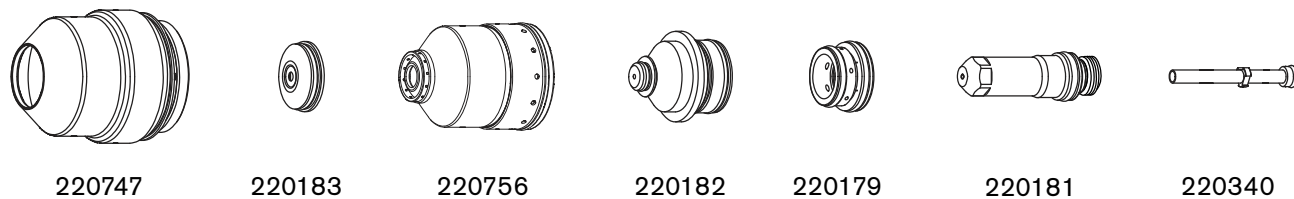
Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds
O <sub>2</sub>	Air	50	48	72	48	0.08	0.75	0.1 – 0.34	400	0.150	150	0.1
							0.105		290			
							0.135		180			
							3/16		155			
							1/4		110			
					24		3/8	0.08 – 0.34	75	0.160	200	0.3
							1/2		50			
							5/8		37			
							3/4		25			
							0.1 – 0.34		25			
											0.9	

### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	78

**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



**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	35	40	80	35	3	124	2.5	6505	5.0	200	0.1
						4	126	2.8	5550	5.6		0.2
						6	127		4035			0.3
					28	10	130	3.0	2680	6.0		0.5
						12	132	3.3	2200	6.6		0.7
						15	135	3.8	1665	7.6		1.0
			65	20	138	4.0	1050	190	1.8			
				25	141		4.5		550	Edge start		
				32	160	375		255				
			38	167	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	35	40	80	35	0.135	124	0.100	240	0.200	200	0.1
						3/16	126	0.110	190	0.220		0.2
						1/4	127		150			0.3
					28	3/8	130	0.120	110	0.240		0.5
						1/2	132	0.130	80	0.260		0.7
						5/8	135	0.150	60	0.300		1.0
			65	3/4	138	0.160	45		190		1.8	
				1	141		0.180	20		Edge start		
				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
N <sub>2</sub>	N <sub>2</sub>						Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

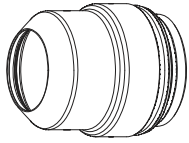
# OPERATION

## Mild steel bevel cutting

O<sub>2</sub> Plasma / Air Shield

130 A

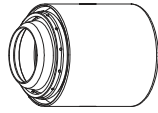
Flow rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	64 / 135
Cutflow	33 / 70	45 / 96



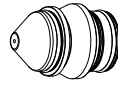
220637



220742



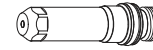
220740



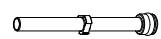
220646



220179



220649



220700

Note: Bevel angle range is 0° to 45°

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds	
O <sub>2</sub>	Air	15	33	80	30	2.0	3	2.5 – 8.6	6505	5.0	200	0.1	
							4	2.8 – 8.6	5550			0.2	
							6	3.0 – 8.6	4035			0.3	
							10	3.3 – 8.6	2680			6.0	
							12	3.8 – 8.6	2200			6.6	
			23		15		3.8 – 8.6	1665	7.6	0.5			
					20		4.0 – 8.6	1050		1.0			
					25		4.5 – 8.6	550		1.8			
					32*		5.0 – 8.6	375		10.2		190	1.8
					38		5.0 – 8.6	255		10.2		220	4.0
											Edge start		

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds	
O <sub>2</sub>	Air	15	33	80	30	0.080	0.135	0.100 – 0.340	240	0.200	200	0.1	
							3/16	0.110 – 0.340	190			0.220	0.2
							1/4	0.120 – 0.340	150			0.240	0.3
							3/8	0.130 – 0.340	110			0.260	0.5
							1/2	0.150 – 0.340	80			0.300	0.7
			23		5/8		0.160 – 0.340	60	0.300	1.0			
					3/4		0.180 – 0.340	45		1.8			
					1		0.180 – 0.340	20		190		1.8	
					1-1/4*		0.180 – 0.340	15		0.4		220	4.0
					1-1/2		0.180 – 0.340	10		Edge start			

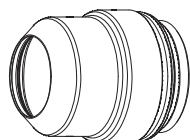
### Marking

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	15	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

\* Suggestions for piercing 32 mm (1-1/4 in) mild steel: 1. Turn preflow on during IHS, 2. Use ohmic contact during IHS, 3. Use pierce complete when piercing

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

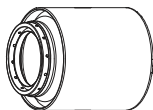
Flow rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	128 / 270
Cutflow	39 / 82	48 / 101



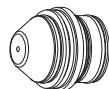
220637



220761



220757



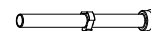
220354



220353



220352



220340

**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	24	65	69	28	6	124	3.3	5250	6.6	200	0.2
						10	126		3460			0.3
						12	128		3060			0.5
						15	131	4.1	2275	8.2		0.6
						20	133		1575			0.8
						25	143	5.1	1165	10.2		1.0
						32	145		750			Edge start
						38	152		510			
						50	163		255			

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	Air	24	65	69	28	3/16	124	0.130	230	0.260	200	0.2
						1/4			200			0.3
						3/8			126			140
						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				

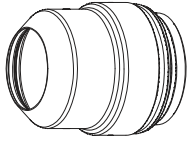
**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	130
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

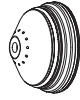
# OPERATION

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

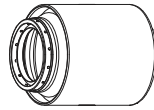
Flow rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220



220637



220764



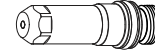
220760



220439



220436



220435



220340

### 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
O <sub>2</sub>	Air	24	75	70	70	6	150	2.8	6500	8.5	300	0.3		
						10							3850	0.4
						12								
				75	75	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		
				80	75	80	75	4.8	895	9.5	200	Edge start		
									38				174	580
									44				185	405
									50				188	290
									58				193	195
									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	ipm	in
O <sub>2</sub>	Air	24	75	70	70	1/4	150	0.110	245	0.330	300	0.3			
						3/8							145	0.4	
						1/2									
				75	75	75	75	0.140	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
				80	75	80	75	0.190	1-1/2	174	0.190	35	0.380	200	Edge start
									1-3/4	185		22			
									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>	10	10	10	10		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	135
Ar	Air	30	20	30	20	24	3.0	0.12	2540	100	68

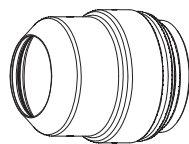


**Mild steel bevel cutting (standard)**

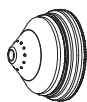
O<sub>2</sub> Plasma / Air Shield

260 A

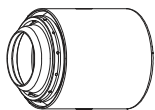
Flow rates – lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220



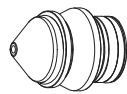
220637



220741



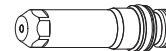
220740



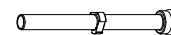
220542



220436



220541



220571

**Metric**

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds
O <sub>2</sub>	Air	24	75	70	70	2.0	6	2.8 – 7.6	6500	8.5	300	0.3
							10		4440			
							12		3850			
				75	75		15	3.6 – 7.6	3130	9.0	250	0.5
							20		2170			0.6
							22		1930			0.7
				80	75		75	4.8 – 7.6	25	1685	0.8	
									28	1445	0.9	
									32	1135	1.0	
									38*	895	2.0	
									44	580	Edge start	
									50	405		
				58	290							
				64	195							

**English**

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time		
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds		
O <sub>2</sub>	Air	24	75	70	70	0.080	1/4	0.110 – 0.300	245	0.330	300	0.3		
							3/8		180				0.4	
							1/2		145				0.5	
				75	75		75	0.140 – 0.300	5/8	115	0.350	250	0.6	
									3/4	90			0.7	
									7/8	75			0.8	
				80	75		75	0.190 – 0.300	1	65	0.380	200	0.9	
									1-1/8	55			1.0	
									1-1/4	45			2.0	
									1-1/2*	35			Edge start	
									1-3/4	22				
									2	15				
				2-1/4	12									
				2-1/2	8									

**Marking**

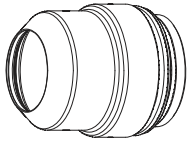
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	135
Ar	Air	30	20	30	20	24	3.0	0.12	2540	100	68

\* See the alternate, thick metal piercing, cut chart if you have a problem with excessive slag or problems with the torch misfiring.

## OPERATION

### Mild steel bevel cutting (alternate) thick metal piercing O<sub>2</sub> Plasma / Air Shield 260 A

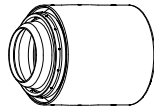
Flow rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	85 / 180
Cutflow	47 / 99	54 / 115



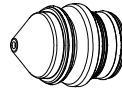
220637



220897



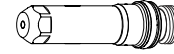
220896



220898



220436



220899



220571

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds
O <sub>2</sub>	Air	24	32	64	31	2.0	25	3.6 – 7.6	1685	9.0	250	0.8
							28		1445			1.0
							32	4.8 – 7.6	1135	200	1.2	
							38*		895		3.0	
							44		Edge start		580	
							50				405	
							58				290	
							64				195	

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds
O <sub>2</sub>	Air	24	32	64	31	0.08	1	0.140 – 0.300	65	0.350	250	0.8
							1-1/8		55			1.0
							1-1/4	0.190 – 0.300	45	200	1.2	
							1-1/2*		35		3.0	
							1-3/4		Edge start		22	
							2				15	
							2-1/4				12	
							2-1/2				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>					Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	122
Ar	Air	30	20	30	20	24	3.0	0.12	2540	100	62

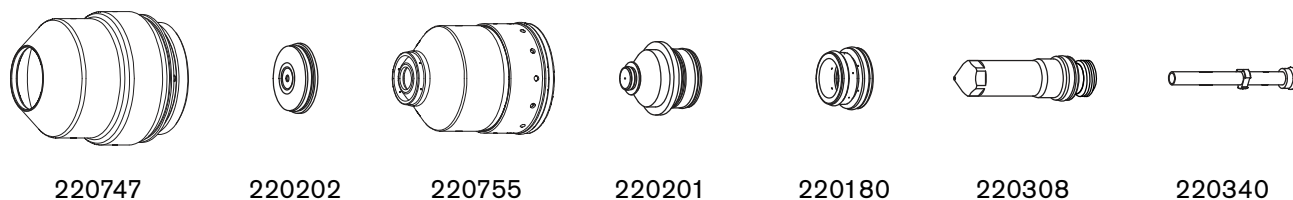
The consumables on this page are designed for thick metal piercing. They are only recommended for use if you have a problem with excessive slag, or problems with the torch misfiring, when using the standard bevel consumables. Using the thick metal piercing process may result in a 20% decrease in the life of the consumables.

\* Suggestions for piercing 38 mm (1-1/2 in) mild steel:

1. Turn preflow on during IHS
2. Use stall force during IHS
3. Use pierce complete when piercing

**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	55	60	0.8	94	2.5	6380	3.8	150	0.0
						1			5880			0.1
						1.2			5380			0.2
						1.5	4630					
						2	3935					
						2.5	3270					
						3	2550					
						4	1580		0.3			

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	35	5	55	60	0.036	94	0.100	240	0.150	150	0.0
						0.048			210			0.1
						0.060	95		180			0.2
						0.075	97		160			
						0.105	101		120			
						0.135	103		75			

**Marking**

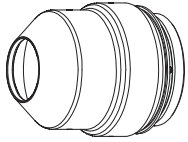
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	85
Ar	Air	90	10	90	10	12	2.5	0.10	2540	100	65

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

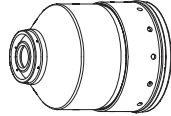
Flow rates – lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	43 / 91
Cutflow	8 / 17	65 / 138



220747



220202



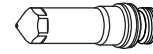
220755



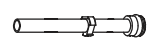
220201



220180



220308



220340

### Metric

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

### English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time				
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds				
F5	N <sub>2</sub>	35	25	55	60	0.036	99	0.100	240	0.150	150	0.2				
						0.048			190							
						0.060			150							
						0.075			130							
						0.105	102		90							
						0.135	104		65							
														15	3/16	108
										1/4	110		30			0.5

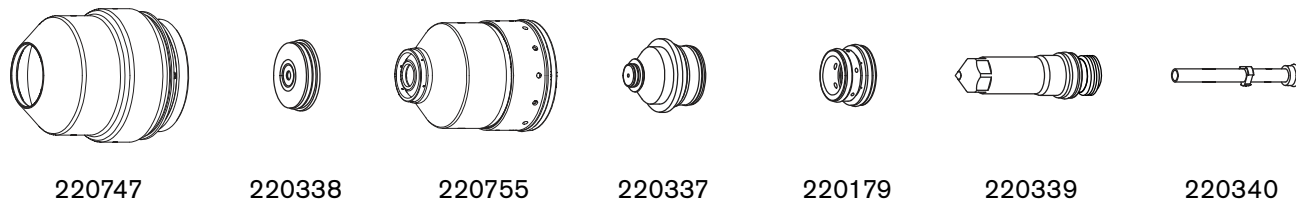
### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	85
Ar	Air	90	10	90	10	12	2.5	0.10	2540	100	65

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



**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	30	60	75	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>	35	30	60	75	0.135	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		0.5
						3/8	120	0.120	25	0.180		

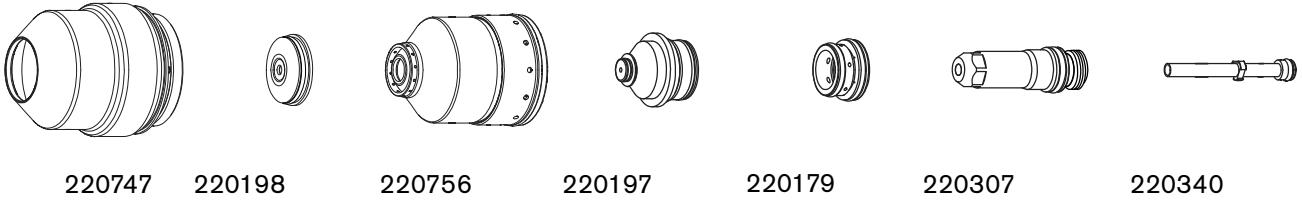
**Marking**

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	15	2.5	0.10	6350	250	95
Ar	Air	50	10	50	10	12	3.0	0.12	2540	100	60

## 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



### 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>	20	65	70	30	6	153	3.0	1960	6.0	200	0.3
						10	156		1300			0.5
						12	162	3.5	900	7.0	0.8	
						15	167	3.8	670	Edge start		
						20	176	4.3	305			

### English

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

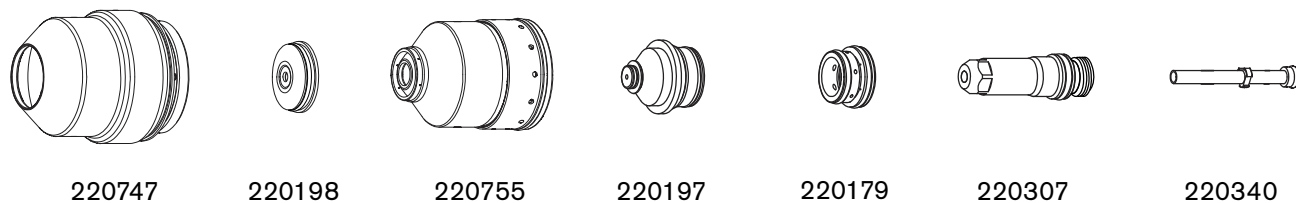
### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

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



**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>	20	40	70	60	10	154	4.5	980	7.7	170	0.3
					45	12	158		820			0.5
					30	15	162		580			0.8
					20	20	165		360			1.3
					20	25	172		260			Edge start

**English**

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

**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

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

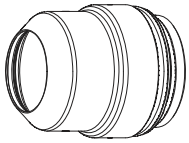
## OPERATION

### Stainless steel bevel cutting

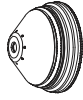
N<sub>2</sub> Plasma / N<sub>2</sub> Shield

130 A

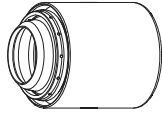
Flow rates – lpm/scfh	
N <sub>2</sub>	
Preflow	97 / 205
Cutflow	125 / 260



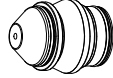
220637



220738



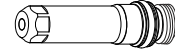
220739



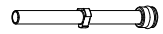
220656



220179



220606



220571

Note: Bevel angle range is 0° to 45°

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	mm	
N <sub>2</sub>	N <sub>2</sub>	20	65	70	80	2.0	6	3.0 – 10.0	1960	6.0	200	0.3
							10		1300			0.5
							12	3.5 – 10.0	900	7.0	0.8	
							15	3.8 – 10.0	670	Edge start		
							20	4.3 – 10.0	305			

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	in	
N <sub>2</sub>	N <sub>2</sub>	20	65	70	80	0.080	1/4	0.120 – 0.400	75	0.240	200	0.3
							3/8		55			0.5
							1/2	0.140 – 0.400	30	0.280	0.8	
							5/8	0.150 – 0.400	25	Edge start		
							3/4	0.170 – 0.400	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>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

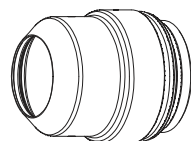


## Stainless steel bevel cutting

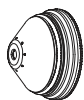
H35 Plasma / N<sub>2</sub> Shield

130 A

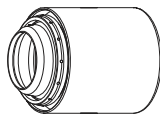
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	90 / 190
Cutflow	26 / 54	114 / 240



220637



220738



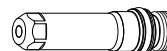
220739



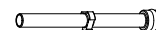
220656



220179



220606



220571

Note: Bevel angle range is 0° to 45°

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds
H35	N <sub>2</sub>	20	40	70	80	2.0	10	4.5 – 10.0	980	7.7	170	0.3
							12		820			0.5
							15		580			0.8
							20		360			1.3
							25		260			Edge start

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds
H35	N <sub>2</sub>	20	40	70	80	0.080	3/8	0.180 – 0.400	40	0.310	170	0.3
							1/2		30			0.5
							5/8		20			0.8
							3/4		15			1.3
							1		10			Edge start

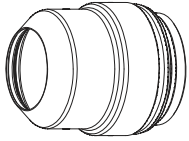
### Marking

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	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

# OPERATION

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

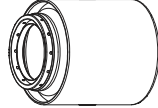
Flow rates – lpm/scfh	
N <sub>2</sub>	
Preflow	111 / 235
Cutflow	137 / 290



220637



220762



220758



220343



220342



220307



220340

### 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>	21	65	82	65	10	160	3.8	2700	7.6	200	0.5
						12	161		2400			0.6
						15	163		1800			0.8
						20	167		1000			1.0

### English

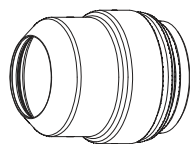
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	21	65	82	65	3/8	160	0.150	110	0.300	200	0.5
						1/2	161		90			0.6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

### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	66

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

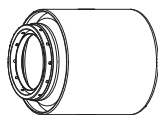
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	116 / 245
Cutflow	30 / 63	104 / 220



220637



220762



220758



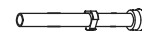
220343



220342



220307



220340

**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>	21	65	82	75	10	175	7.5	1620	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	
H35	N <sub>2</sub>	21	65	82	75	3/8	175	0.300	65	0.300	100	0.5
						1/2	170		55			0.6
						5/8	173		45			0.7
						3/4	177		35			0.8

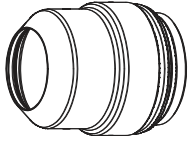
**Marking**

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	66

# OPERATION

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

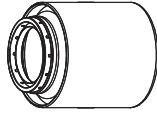
Flow rates – lpm/scfh		
	N <sub>2</sub>	Air
Preflow	127 / 270	0 / 0
Cutflow	54 / 114	116 / 245



220637



220763



220758



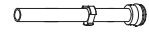
220406



220405



220307



220340

### 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	11	75	75	82	6	160	3.8	6375	7.5	200	0.3					
						10	157		3440				0.4				
						12	161		2960					0.5			
						15	163		2520						0.6		
						20	164		1590							0.8	
						25	168		1300								1.0
						32	171		875								
						38	179		515			Edge start					
						44	190		365								
						50	195		180								

### English

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

### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

**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



**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>	11	75	80	88	10	185	11.0	1870	12.5	100	0.3
						12	173	9.0	1710			0.4
						15	171	7.5	1465			120
						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		in
H35	N <sub>2</sub>	11	75	80	88	3/8	185	0.450	75	0.450	100	0.3	
						1/2	173	0.350	65			0.350	0.4
						5/8	171	0.300	55			0.360	120
						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	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

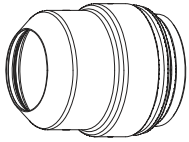
## OPERATION

### Stainless steel bevel cutting

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

260 A

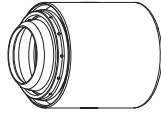
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	40 / 84	122 / 260



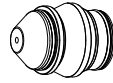
220637



220738



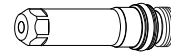
220739



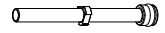
220607



220405



220606



220571

Notes: Bevel angle range is 0° to 45°

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds	
H35	N <sub>2</sub>	11	75	80	88	2.0	10	11.0	1870	11.0	100	0.3	
							12	9.0 – 10.0	1710			0.4	
							15	7.5 – 10.0	1465			9.0	120
							20		1085	0.6			
							25		785	0.7			
							32		630	1.0			
							38		510	Edge start			
							44		390				
							50	270					

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds	
H35	N <sub>2</sub>	11	75	80	88	0.080	3/8	0.450	75	0.450	100	0.3	
							1/2	0.350 – 0.400	65			0.350	0.4
							5/8	0.300 – 0.400	55			0.360	120
							3/4		45	0.6			
							1		30	0.7			
							1-1/4		25	1.0			
							1-1/2		20	Edge start			
							1-3/4		15				
							2	10					

### Marking

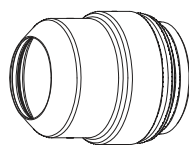
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

## Stainless steel bevel cutting

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

260 A

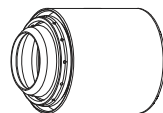
Flow rates – lpm/scfh		
	N <sub>2</sub>	Air
Preflow	127 / 270	0 / 0
Cutflow	54 / 114	116 / 245



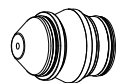
220637



220738



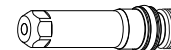
220739



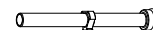
220607



220405



220606



220571

Note: Bevel angle range is 0° to 45°

### Metric

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	mm	mm	mm	mm/m	mm	factor %	seconds
N <sub>2</sub>	Air	11	75	75	82	2.0	6	3.8 – 10.0	6375	7.5	200	0.3
							10		3440			
							12		2960			
							15		2520			
							20		1590			
							25		1300			
							32		875			Edge start
							38		515			
							44		365			
							50		180			

### English

Select Gases		Set Preflow		Set Cutflow		Minimum Clearance	Equivalent Material Thickness	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	in	in	ipm	in	factor %	seconds
N <sub>2</sub>	Air	11	75	75	82	0.080	1/4	0.150 – 0.400	240	0.300	200	0.3
							3/8		140			
							1/2		110			
							5/8		95			
							3/4		70			
							1		50			
							1-1/4		35			Edge start
							1-1/2		20			
							1-3/4		14			
							2		6			

### Marking

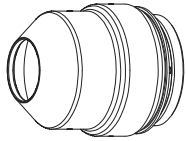
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

# OPERATION

## Aluminum

Air Plasma / Air Shield  
45 A Cutting

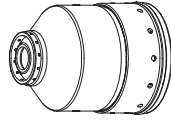
Flow rates – lpm/scfh	
Air	
Preflow	45 / 95
Cutflow	78 / 165



220747



220202



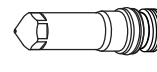
220756



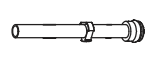
220201



220180



220308



220340

### Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	35	25	55	60	1.2	130	2.5	4750	3.8	150	0.2
						1.5	115		4160			
						2	113		3865			
						2.5	110		3675			
						3	107		2850			
					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	25	55	60	0.040	130	0.100	220	0.150	150	0.2
						0.051	115		170			
						0.064	113		160			
						0.102	110		140			
						0.125	102		0.070			
					3/16	114	0.120	90	0.180	0.4		
1/4	117	60	0.6									

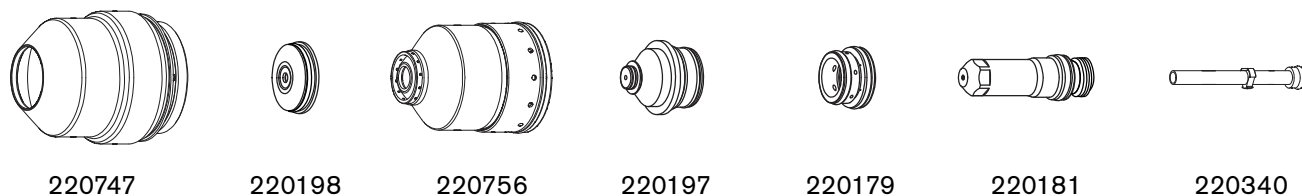
### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	15	2.5	0.10	6350	250	85
Ar	Air	90	10	90	10	12	2.5	0.10	2540	100	75



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

Flow rates – lpm/scfh	
Air	
Preflow	73 / 154
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	20	40	70	30	6	153	2.8	2370	5.6	200	0.2
						10	154					3.0
						12	156	3.3	1225	0.5		
						15	158		3.5	1050		0.8
						20	162	4.0		725		1.3
						25	172		N/A			

**English**

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	20	40	70	30	1/4	153	0.110	90	0.220	200	0.2
						3/8	154					0.120
						1/2	156	0.130	45	0.5		
						5/8	158		0.140	40		0.8
						3/4	162	0.160		30		1.3
						1	172		N/A			

**Marking**

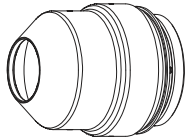
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	82

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

## OPERATION

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

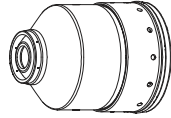
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	76 / 160
Cutflow	26 / 54	68 / 144



220747



220198



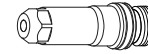
220755



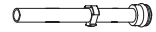
220197



220179



220307



220340

### 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>	20	40	70	60	10	158	5.0	1615	6.5	130	0.3
					45	12	156	4.5	1455	7.7	170	0.5
					30	15			1305			0.8
					20	20	157		940	1.3		
					20	25	176		540	Edge start		

### English

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

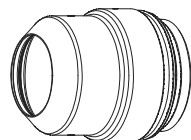
### Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	15	3.0	0.12	2540	100	75

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

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

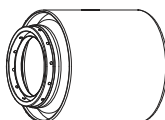
Flow rates – lpm/scfh	
N <sub>2</sub>	
Preflow	113 / 240
Cutflow	135 / 287



220637



220762



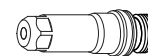
220759



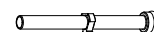
220346



220342



220307



220340

**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>	21	65	70	65	10	158	6.4	4750	9.0	140	0.4	
						12						3500	0.5
						15						2350	0.6
						20						1000	0.8

**English**

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

**Marking**

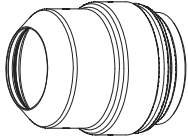
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
Plasma	Shield	Plasma	Shield	Plasma	Shield		Amps	mm	in	mm/min	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	66

# OPERATION

## Aluminum

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

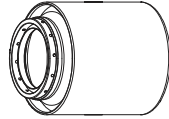
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	113 / 240
Cutflow	34 / 72	90 / 190



220637



220762



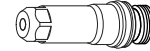
220759



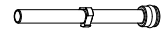
220346



220342



220307



220340

### 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>	21	65	70	65	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

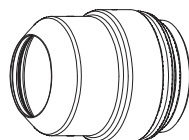
Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield	Plasma	Shield	in	Volts	in	ipm	in	factor %	seconds
H35	N <sub>2</sub>	21	65	70	65	3/8	152	0.250	180	0.350	140	0.3
						1/2	150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

### Marking

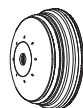
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/min	ipm	Volts
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	140
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	66

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

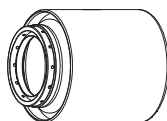
Flow rates – lpm/scfh		
	N <sub>2</sub>	Air
Preflow	125 / 265	0 / 0
Cutflow	50 / 105	113 / 240



220637



220763



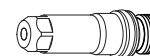
220758



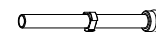
220406



220405



220307



220340

**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	11	75	70	82	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	11.0	260	0.8	
						25	177	1440				
						32	191	940	Edge start			
						38	195	520				
						44	202	320				
						50	205	215				

**English**

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

**Marking**

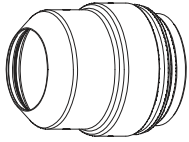
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

# OPERATION

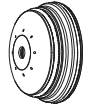
## Aluminum

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

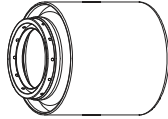
Flow rates – lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	127 / 270
Cutflow	33 / 70	118 / 250



220637



220763



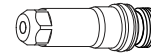
220758



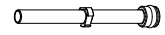
220406



220405



220307



220340

### 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>	11	75	70	85	6	170	11.0	7200	11.0	100	0.2
						10		10.0	6120	10.0		0.4
						12	162	7.6	5160	8.5	110	0.5
						15	163		3720			0.6
						20	166		2230	Edge start		
						25	174		1930			
						32	175		1510			
						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>	11	75	70	85	1/4	170	0.450	280	0.450	100	0.2
						3/8		0.400	250	0.400		0.4
						1/2	162	0.300	190	0.330	110	0.5
						5/8	163		130			0.6
						3/4	166		90	Edge start		
						1	174		75			
						1-1/4	175		60			
						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
							mm	in	mm/min	ipm	
N <sub>2</sub>	N <sub>2</sub>	10	10	10	10	18	2.5	0.10	6350	250	120
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63