

## Cut charts

The following *Cut charts* show the consumable parts, cutting speed, 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.

### Estimated kerf width compensation

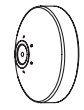
	Material thickness (mm)						
<b>Mild steel</b>	<b>1.524</b>	<b>3.429</b>	<b>6.350</b>	<b>9.525</b>	<b>12.70</b>	<b>19.05</b>	<b>25.40</b>
130 O2/Air		1.549	1.778	1.981	2.235	2.336	3.073
130 Air/Air		1.346	1.574	1.879	2.082	2.717	3.251
50 O2/Air	1.041	1.168	1.473				
45 Air/Air	0.812	1.270	1.422				
<b>Stainless steel</b>							
130 Air/Air			1.651	1.930	2.133	2.768	
130 N2/N2			1.651	1.651	2.540	3.530	
130 H35/N2				2.870	2.768	2.590	2.946
45 Air/Air	0.812	1.117	1.270				
45 N2/N2	0.533	0.660	0.660				
45 F5/N2	0.609	0.635	0.812				
<b>Aluminum</b>							
130 Air/Air			2.082	1.930	2.159	2.692	2.819
130 H35/N2				2.235	2.184	2.006	1.168
45 Air/Air	1.168	1.193	1.219				

	Material thickness (inches)						
<b>Mild steel</b>	<b>0.06</b>	<b>0.135</b>	<b>0.25</b>	<b>0.375</b>	<b>0.5</b>	<b>0.75</b>	<b>1</b>
130 O2/Air		0.061	0.07	0.078	0.088	0.092	0.121
130 Air/Air		0.053	0.062	0.074	0.082	0.107	0.128
50 O2/Air	0.041	0.046	0.058				
45 Air/Air	0.032	0.050	0.056				
<b>Stainless steel</b>							
130 Air/Air			0.065	0.076	0.084	0.109	
130 N2/N2			0.065	0.065	0.100	0.139	
130 H35/N2				0.113	0.109	0.102	0.116
45 Air/Air	0.032	0.044	0.050				
45 N2/N2	0.021	0.026	0.026				
45 F5/N2	0.024	0.025	0.032				
<b>Aluminum</b>							
130 Air/Air			0.082	0.076	0.085	0.106	0.111
130 H35/N2				0.088	0.086	0.079	0.046
45 Air/Air	0.046	0.047	0.048				

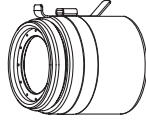
# OPERATION

## Mild steel Air Plasma / Air Shield 45 A Cutting

Flow Rates - lpm/scfh	
Air	
Preflow	113 / 240
Cutflow	122 / 258



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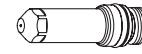
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### Metric

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	factor %	
Air	Air	57	50	0.5	104	1.5	8930	3.0	200	0.0
				0.8	106	1.5	8400	3.0	200	0.0
				1.0	107	1.5	7750	3.0	200	0.1
				1.2	108	1.8	7250	3.6	200	0.1
				1.5	109	1.8	6500	3.6	200	0.2
				2.0	110	1.8	5800	3.6	200	0.2
				2.5	110	2.0	4700	4.0	200	0.2
				3.0	110	2.0	3300	4.0	200	0.3
				4.0	113	2.3	1950	4.6	200	0.4
6.0	115	2.5	1575	5.0	200	0.5				

### English

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	factor %	
Air	Air	57	50	.018	104	.060	360	0.120	200	0.0
				.024	105	.060	345	0.120	200	0.0
				.030	106	.060	335	0.120	200	0.0
				.036	107	.060	315	0.120	200	0.1
				.048	108	.070	285	0.140	200	0.1
				.060	109	.070	255	0.140	200	0.2
				.075	110	.070	235	0.140	200	0.2
				.105	110	.080	170	0.160	200	0.2
				.135	110	.080	90	0.160	200	0.3
				3/16	113	.090	70	0.180	200	0.4
				1/4	116	.100	60	0.200	200	0.5

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

Flow Rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	69 / 146
Cutflow	29 / 62	73 / 155



**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
O <sub>2</sub>	Air	72	36	0.5	98	1.5	7550	3.0	200	0.0
				0.8	98	1.5	7050	3.0	200	0.0
				1.0	98	1.5	6775	3.0	200	0.1
				1.2	98	1.5	6600	3.0	200	0.1
				1.5	98	1.5	6150	3.0	200	0.1
				2.0	98	1.5	5400	3.0	200	0.1
				2.5	100	1.8	4300	3.6	200	0.2
				3.0	102	1.8	3650	3.6	200	0.3
				4.0	104	2.0	2800	4.0	200	0.4
6.0	108	2.5	1750	5.0	200	0.5				

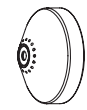
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	Air	72	36	.018	98	.060	300	0.120	200	0.0
				.024	98	.060	290	0.120	200	0.0
				.030	98	.060	280	0.120	200	0.0
				.036	98	.060	270	0.120	200	0.1
				.048	98	.060	260	0.120	200	0.1
				.060	98	.060	240	0.120	200	0.1
				.075	98	.060	220	0.120	200	0.1
				.105	100	.070	160	0.140	200	0.2
				.135	103	.070	130	0.140	200	0.3
				3/16	106	.090	85	0.180	200	0.4
				1/4	108	.100	65	0.200	200	0.5

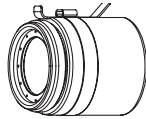
# OPERATION

## Mild steel Air Plasma / Air Shield 130 A Cutting

Flow Rates - lpm/scfh	
Air	
Preflow	67 / 142
Cutflow	132 / 280

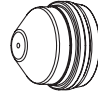


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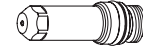
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### Metric

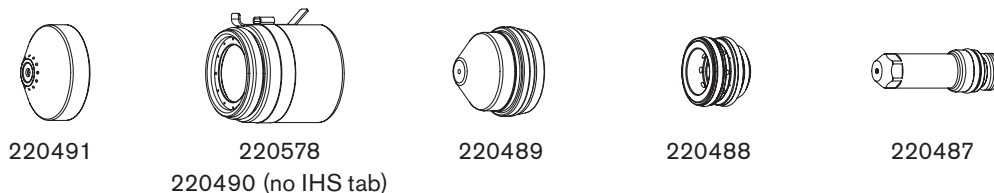
Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	factor %	
Air	Air	72	35	3	136	3.1	6000	6.2	200	0.1
				4	13	3.1	4930	6.2	200	0.2
				6	138	3.6	3850	7.2	200	0.3
				10	142	4.1	2450	8.2	200	0.5
				12	144	4.1	2050	8.2	200	0.5
				15	150	4.6	1450	9.2	200	0.8
				20	153	4.6	810	10.5	230	1.2
				25	163	4.6	410	Edge Start		
				32	170	5.1	250			

### English

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	factor %	
Air	Air	72	35	0.1350	136	.120	220	.240	200	0.1
				0.1875	136	.120	160	.240	200	0.2
				0.2500	138	.140	150	.280	200	0.3
				0.3750	142	.160	100	.320	200	0.5
				0.5000	144	.160	75	.320	200	0.5
				0.6250	150	.180	50	.360	200	0.8
				0.7500	153	.180	35	.420	230	1.2
				1	163	.180	15	Edge Start		
				1-1/4	170	.200	10			

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

Flow Rates - lpm/scfh		
	O <sub>2</sub>	Air
Preflow	0 / 0	90 / 190
Cutflow	48 / 102	92 / 195



**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
O <sub>2</sub>	Air	65	48	3	128	2.5	6500	5	200	0.1
				4	129	2.8	5420	5.6	200	0.2
				6	130	2.8	4000	5.6	200	0.3
				10	134	3.0	2650	6	200	0.3
				12	136	3.0	2200	6	200	0.5
				15	141	3.8	1650	7.6	200	0.7
			43	20	142	3.8	1130	7.6	200	1
				25	152	4.0	675	8	200	1.5
				32	155	4.5	480	Edge Start		
				38	160	4.5	305			

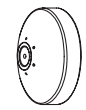
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
O <sub>2</sub>	Air	65	48	0.1350	128	.100	240	0.2	200	0.1
				0.1875	129	.110	190	0.22	200	0.2
				0.2500	130	.110	150	0.22	200	0.3
				0.3750	134	.120	110	0.24	200	0.3
				0.5000	136	.120	80	0.24	200	0.5
				0.6250	141	.150	60	0.3	200	0.7
			43	0.7500	142	.150	50	0.3	200	1
				1	152	.160	25	0.32	200	1.5
				1-1/4	155	.180	20	Edge Start		
				1-1/2	160	.180	12			

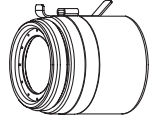
# OPERATION

## Stainless steel Air Plasma / Air Shield 45 A Cutting

Flow Rates - lpm/scfh	
Air	
Preflow	149 / 315
Cutflow	161 / 342

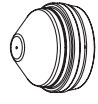


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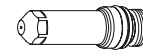
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### Metric

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	factor %	
Air	Air	62	73	0.5	102	1.5	6800	3.0	200	0.0
				0.8	104	1.5	6100	3.0	200	0.0
				1.0	105	1.5	5600	3.0	200	0.1
				1.2	108	1.8	5100	3.6	200	0.1
				1.5	109	1.8	4500	3.6	200	0.2
				2.0	110	1.8	3650	3.6	200	0.2
				2.5	113	2.0	3000	4.0	200	0.2
				3.0	117	2.0	2250	4.0	200	0.3
				4.0	120	2.3	1500	4.6	200	0.4
6.0	122	2.5	1050	5.0	200	0.5				

### English

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	factor %	
Air	Air	62	73	.018	102	.060	270	0.120	200	0.0
				.024	103	.060	260	0.120	200	0.0
				.030	104	.060	245	0.120	200	0.0
				.036	105	.060	230	0.120	200	0.1
				.048	108	.070	200	0.140	200	0.1
				.060	109	.070	175	0.140	200	0.2
				.075	110	.070	150	0.140	200	0.2
				.105	113	.080	110	0.160	200	0.2
				.135	117	.080	70	0.160	200	0.3
				3/16	120	.090	50	0.180	200	0.4
				1/4	122	.100	40	0.200	200	0.5

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

Flow Rates - lpm/scfh	
N <sub>2</sub>	
Preflow	74 / 157
Cutflow	91 / 192



**Metric**

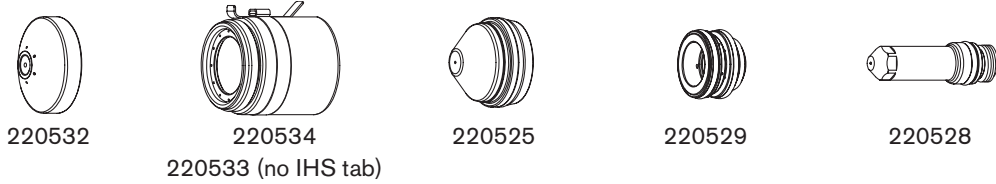
Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	factor %	
N <sub>2</sub>	N <sub>2</sub>	73	25	0.5	106	1.5	7000	3.0	200	0.0
				0.8	107	1.5	6500	3.0	200	0.0
				1.0	107	1.5	5850	3.0	200	0.1
				1.2	109	1.8	5350	3.6	200	0.1
				1.5	112	1.8	4600	3.6	200	0.2
				2.0	114	1.8	3950	3.6	200	0.2
				2.5	118	2.0	3300	4.0	200	0.2
				3.0	119	2.0	2450	4.0	200	0.3
				4.0	121	2.3	1700	4.6	200	0.4
6.0	126	2.5	1125	5.0	200	0.5				

**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	factor %	
N <sub>2</sub>	N <sub>2</sub>	73	25	.018	106	.060	280	0.120	200	0.0
				.024	106	.060	270	0.120	200	0.0
				.030	107	.060	260	0.120	200	0.0
				.036	107	.060	240	0.120	200	0.1
				.048	109	.070	210	0.140	200	0.1
				.060	112	.070	180	0.140	200	0.2
				.075	114	.070	160	0.140	200	0.2
				.105	118	.080	120	0.160	200	0.2
				.135	119	.080	75	0.160	200	0.3
				3/16	121	.090	60	0.180	200	0.4
				1/4	126	.100	40	0.200	200	0.5

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

Flow Rates - lpm/scfh		
	F5	N <sub>2</sub>
Preflow	0 / 0	162 / 344
Cutflow	32 / 67	147 / 311



**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
F5	N <sub>2</sub>	82	82	0.5	122	2.3	7000	4.6	200	0.0
				0.8	124	2.3	6500	4.6	200	0.0
				1.0	125	2.3	5875	4.6	200	0.1
				1.2	128	2.5	5360	5.0	200	0.1
				1.5	129	2.5	4650	5.0	200	0.2
				2.0	132	2.8	3200	5.6	200	0.2
				2.5	137	3.0	2975	6.0	200	0.2
				3.0	138	3.0	2740	6.0	200	0.3
				4.0	140	3.3	2350	6.6	200	0.4
6.0	148	3.6	1325	7.2	200	0.6				

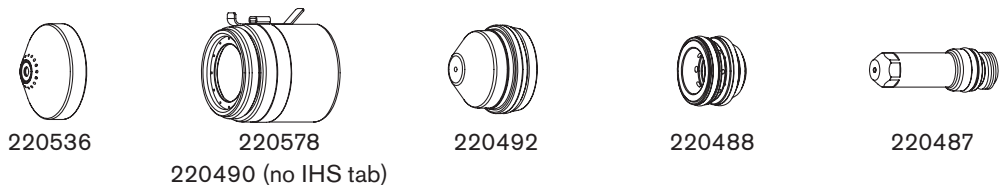
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
F5	N <sub>2</sub>	82	82	.018	122	.090	280	0.180	200	0.0
				.024	123	.090	270	0.180	200	0.0
				.030	124	.090	260	0.180	200	0.0
				.036	125	.090	240	0.180	200	0.1
				.048	128	.100	210	0.200	200	0.1
				.060	129	.100	180	0.200	200	0.2
				.075	132	.110	130	0.220	200	0.2
				.105	137	.120	115	0.240	200	0.2
				.135	138	.120	100	0.240	200	0.3
				3/16	140	.130	80	0.260	200	0.4
				1/4	148	.140	45	0.280	200	0.6



**Stainless steel**  
Air Plasma / Air Shield  
130 A Cutting

Flow Rates - lpm/scfh	
	Air
Preflow	67 / 142
Cutflow	132 / 280



**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	72	35	6	143	3.6	2600	7.2	200	0.3
				10	148	4.1	1700	8.2	200	0.5
				12	148	4.1	1380	8.2	200	0.8
				15	158	4.6	900	Edge Start		
				20	160	4.6	430			

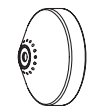
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	72	35	1/4	143	.140	100	.280	200	0.3
				3/8	148	.160	70	.320	200	0.5
				1/2	148	.160	50	.320	200	0.8
				5/8	158	.180	30	Edge Start		
				3/4	160	.180	20			

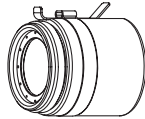
# OPERATION

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

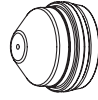
Flow Rates - lpm/scfh	
N <sub>2</sub>	
Preflow	165 / 350
Cutflow	173 / 366



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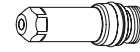
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### Metric

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
N <sub>2</sub>	N <sub>2</sub>	46	71	6	130	3.0	2340	6.0	200	0.3
				10	132	3.6	1640	7.2	200	0.5
				12	141	3.6	1080	7.2	200	0.8
				15	144	3.8	700	Edge Start		
				20	153	4.3	300			

### English

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
N <sub>2</sub>	N <sub>2</sub>	46	71	1/4	130	.120	90	.240	200	0.3
				3/8	132	.140	70	.280	200	0.5
				1/2	141	.140	35	.280	200	0.8
				5/8	144	.150	25	Edge Start		
				3/4	153	.170	15			

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

Flow Rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	164 / 348
Cutflow	61 / 130	141 / 298



**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
H35	N2	70	75	10	150	4.6	980	7.8	170	0.3
				12	154	4.6	820	7.8	170	0.5
				15	157	4.6	580	7.8	170	0.8
				20	162	4.6	360	7.8	170	1.3
				25	167	4.6	260	Edge Start		

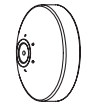
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
H35	N2	70	75	3/8	150	.180	40	.310	170	0.3
				1/2	154	.180	30	.310	170	0.5
				5/8	157	.180	20	.310	170	0.8
				3/4	162	.180	15	.310	170	1.3
				1	167	.180	10	Edge Start		

# OPERATION

## Aluminum Air Plasma / Air Shield 45 A Cutting

Flow Rates - lpm/scfh	
	Air
Preflow	149 / 315
Cutflow	161 / 342

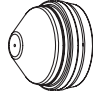


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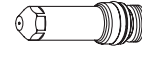
220490 (no IHS tab)



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### Metric

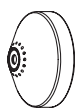
Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	62	73	0.5	113	1.5	7600	3.0	200	0.0
				0.8	116	1.5	6900	3.0	200	0.1
				1.0	117	1.8	6350	3.6	200	0.1
				1.2	118	1.8	5800	3.6	200	0.2
				1.5	119	1.8	5000	3.6	200	0.2
				2.0	120	2.0	3950	4.0	200	0.2
				2.5	120	2.0	2950	4.0	200	0.3
				3.0	121	2.0	2400	4.0	200	0.3
				4.0	122	2.3	1950	4.6	200	0.4
6.0	130	2.5	1150	5.0	200	0.5				

### English

Select Gases		Set Outflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	62	73	0.016	113	.060	310	0.120	200	0.0
				0.020	114	.060	300	0.120	200	0.0
				0.025	115	.060	290	0.120	200	0.0
				0.032	116	.060	270	0.120	200	0.1
				0.040	117	.070	250	0.140	200	0.1
				0.051	118	.070	220	0.140	200	0.2
				0.064	119	.070	185	0.140	200	0.2
				0.081	120	.080	150	0.160	200	0.2
				0.102	120	.080	110	0.160	200	0.3
				1/8	121	.080	90	0.160	200	0.3
				3/16	122	.090	65	0.180	200	0.4
				1/4	130	.100	40	0.200	200	0.5

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

Flow Rates - lpm/scfh	
	Air
Preflow	67 / 142
Cutflow	132 / 280



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**Metric**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	Volts	
Air	Air	72	35	6	147	2.8	2370	5.6	200	0.2
				10	148	3.0	1465	6.1	200	0.3
				12	152	3.0	1225	6.1	200	0.5
				15	162	3.3	1050	6.6	200	0.8
				20	166	3.6	725	7.8	220	1.3
				25	173	4.1	525	Edge Start		

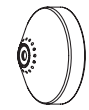
**English**

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	Volts	
Air	Air	72	35	1/4	147	.110	90	.220	200	0.2
				3/8	148	.120	60	.240	200	0.3
				1/2	152	.120	45	.240	200	0.5
				5/8	162	.130	40	.260	200	0.8
				3/4	166	.140	30	.310	220	1.3
				1	173	.160	20	Edge Start		

# OPERATION

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

Flow Rates - lpm/scfh		
	H35	N <sub>2</sub>
Preflow	0 / 0	164 / 348
Cutflow	61 / 130	141 / 298



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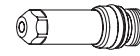
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### Metric

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					mm	factor %	
H35	N2	70	75	10	150	4.6	1615	7.8	170	0.3
				12	151	4.6	1455	7.8	170	0.5
				15	152	4.6	1305	7.8	170	0.8
				20	155	4.6	940	7.8	170	1.3
				25	158	4.6	540	Edge Start		

### English

Select Gases		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma	Shield	Plasma	Shield					in	factor %	
H35	N2	70	75	3/8	150	.180	65	.310	170	0.3
				1/2	151	.180	55	.310	170	0.5
				5/8	152	.180	50	.310	170	0.8
				3/4	155	.180	40	.310	170	1.3
				1	158	.180	20	Edge Start		