RETRO SYSTEMS

Ultra HORNET™

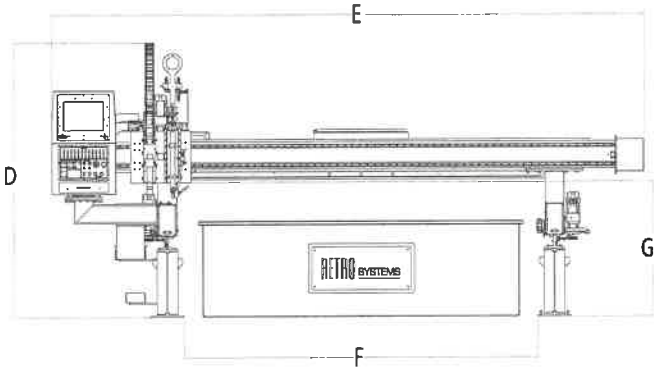
Precision CNC Plasma & Oxy-fuel Profile Cutting

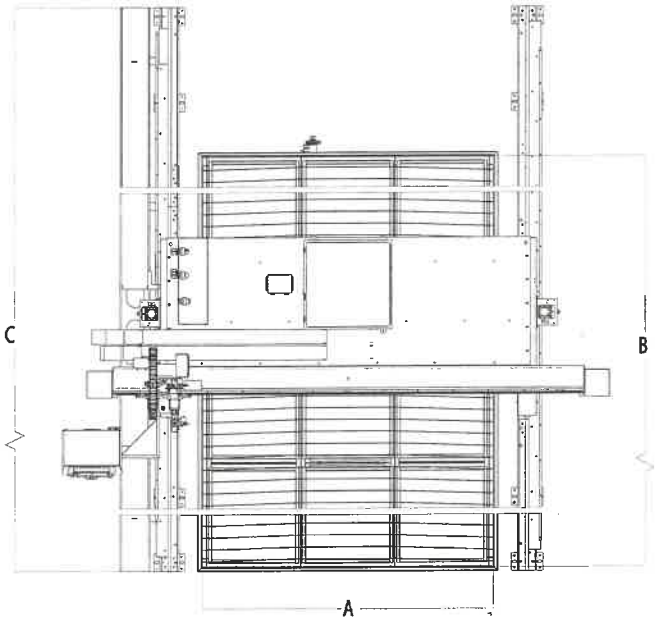
Precision CNC Profile Cutting Innovation

Precision Productivity Performance

Ultra HORNET™

Precision CNC Plasma & Oxy-fuel Profile Cutting





MACHINE SPECIFICATIONS*

Positioning accuracy +/- .005" (.127mm) *
Repeatability +/- .001" (.025mm) *
Measured in a 60" x 60" area (1.5m x 1.5m)

	6ft	8ft	10ft	12ft	14ft	16ft
Effective Cutting Width – (A)**	72" (1.8m)	96" (2.4m)	120" (3.0m)	144" (3.6m)	168" (4.3m)	192" (4.9m)
Effective Cutting Length – minimum (B) ***	120" (3m)					
Overall Machine Length – minimum (C)	250" (6.4m)					
Overall Machine Height – (D)	86" (2.2m)					
Overall Machine Width – (E)	162" (4.19m)	186" (4.7m)	210" (5.3m)	234" (6.0m)	258" (6.6m)	282" (7.2m)
Width Between Rails – (F)	87" (2.2m)	111" (2.8m)	135" (3.4m)	159" (4.0m)	183" (4.6m)	207" (5.3m)
Distance from Floor to Gantry – (G)	42" (1.07m)					
Gantry Parking Space	72" (1.84m)					
Rail Height	25.5" (648mm)					
Suggested Cutting Table Slat Height	26" to 32" (.66m to .81m)					

** The number of tools on the master carriage affects actual effective cutting width. Verify your application with factory before ordering.
*** Machines are available in 10, 12, 20, 24, 32, 36, 40 and 44 ft. effective cutting lengths. Consult factory for lengths over 44 ft.

Maximum Contouring Speed	600 IPM (15m/min)
Maximum Traverse Speed	1,000 IPM (25m/min)
Maximum Number of Tool Carriages	(8) Total - (1) Master & (7) Slave Carriages
Maximum Number Plasma Stations	(4)
Maximum Plasma Production Capacity	2" (50mm)
Recommended Oxygen Plasma Systems	Hypertherm® HSD130™, HT2000™
Recommended High Definition Plasma Systems	Hypertherm® HPR130XD™, HPR260XD™, HPR400XD™
Maximum Number Oxy-fuel Stations	(8)
Maximum Oxy-fuel Production Capacity	8" (200mm)
Input power – Machine Servo Drive Amplifiers	480VAC 3 Phase 50/60Hz Balanced Y 40A dedicated circuit
Input power – CNC Control	115 VAC 1 Phase, 20A dedicated circuit
Input power – Plasma	Refer to Plasma Manufacturer's Manual

*Specifications are subject to change

RETRO SYSTEMS

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Form #: 10-001 Date: March 2010

OPERATION

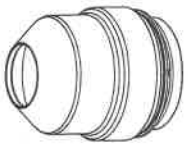
Mild steel

O_2 Plasma / O_2 Shield

30 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	43 / 90
Cutflow	25 / 52	0 / 0

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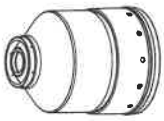
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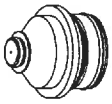
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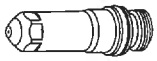
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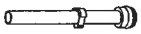
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	Factor %	Seconds
O_2	O_2	78	17	94	17	**0.5**	114	1.3	5355	2.3	180	0.1
						0.8	115		4225			0.2
						1	116		3615			0.3
						1.2	117		2865			
						1.5	119		2210			
			35		7	**2**	120	1.5	1490	2.7		0.4
						2.5	122		1325			
			75			**3***	123		1160			0.5
						4*	125		905			0.7
						6*	128		665			1.0

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	Factor %	Seconds
O_2	O_2	78	17	94	17	**0.018**	114	0.05	215	0.09	180	0.1
						0.024			200			0.2
						0.030	115		170			0.3
						0.036	116		155			
						0.048	117		110			
						0.060	119		85			
			35		7	**0.075**	120	0.06	60	0.11		0.4
						0.105	122		50			
			75			**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
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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.

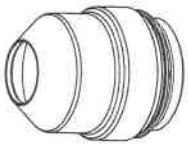
Mild steel

O_2 Plasma / O_2 Shield

50 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	43 / 90
Cutflow	25 / 52	0 / 0

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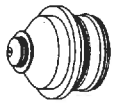
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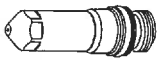
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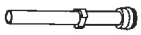
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	Factor %	Seconds
O_2	O_2	70	30	81	14	**0.8**	110	1.0	6500	2.0	200	0.0
						1	111		5000			
						1.2	112		4150			
						1.5	114	1.3	3200	2.6		
						2	115		2700			
						2.5	117		2200			0.1
						3	119	1.5	1800	3.0		0.2
						4	121		1400			0.3
						5	122		1200			0.4
						6	126	2.0	950	4.0		0.5
						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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	Factor %	Seconds
O_2	O_2	70	30	81	14	**0.030**	110	0.04	270	0.08	200	0.0
						0.036			210			
						0.048	112		160			
						0.060	114	0.05	125	0.10		0.1
						0.075	115		110			
						0.105	118		80			
						0.135	120	0.06	60	0.12		0.2
						3/16	121		50			0.3
						1/4	125	0.08	35	0.16		0.5
						5/16	130		25			

Marking

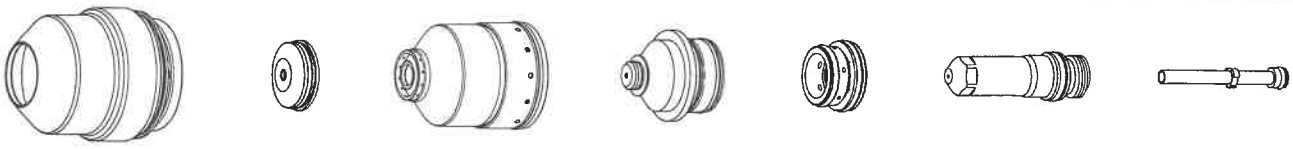
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	10	10	10	10	**15**	2.5	0.10	6350	250	118
Ar	Air	90	10	90	10	**9**	2.5	0.10	2540	100	77

Mild steel

O_2 Plasma / Air Shield

80 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	48	23	78	23	**2**	112	2.5	9810	3.8	150	0.1
						2.5	115		7980			
						3	117		6145			0.2
						4	120	2.0	4300	4.0	200	
						5	121		3670			0.3
						6	123		3045			
						8	125		2430			0.4
						10	127		1810			0.5
					10	**12**	130		1410	5.0	250	0.7
						15	133		1030			0.8
						20	135	2.5	545	6.3		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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	48	23	78	23	**0.075**	112	0.10	400	0.15	150	0.1
						0.105	115		290			
						0.135	117		180			0.2
						3/16	120	0.08	155	0.16	200	
						1/4	123		110			0.3
						5/16	125		96			0.4
						3/8	127		75			0.5
					10	**1/2**	130		50	0.20	250	0.7
						5/8	133		37			0.8
						3/4	135	0.10	25	0.25		0.9

Marking

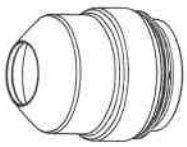
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	10	10	10	10	**15**	2.5	0.10	6350	250	130
Ar	Air	50	10	50	10	**15**	3.0	0.12	2540	100	78

Mild steel

O_2 Plasma / Air Shield

130 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	102 / 215
Cutflow	33 / 70	45 / 96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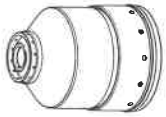
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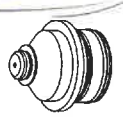
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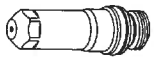
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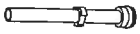
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	32	32	84	28	3	124	2.5	6505	5.0	200	0.1
						4	126	2.8	5550	5.6		0.2
						5			4795			0.3
						6	127		4035			
					22	8	129	3.0	3360	6.0		
						10	130		2680			
						12	132	3.3	2200	6.6		0.5
			52			15	135	3.8	1665	7.6		0.7
						20	138		1050			1.0
						25	141	4.0	550		190	1.8
						32	160	4.5	375	Edge start		
						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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	32	32	84	28	0.135	124	0.10	240	0.20	200	0.1
						3/16	126	0.11	190	0.22		0.2
						1/4	127		150			0.3
					22	5/16	129	0.12	132	0.24		
						3/8	130		110			
						1/2	132	0.13	80	0.26		0.5
			52			5/8	135	0.15	60	0.30		0.7
						3/4	138		45			1.0
						1	141	0.16	20		190	1.8
						1-1/4	160	0.18	15	Edge start		
						1-1/2	167		10			

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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

Mild steel

O_2 Plasma / Air Shield

200 A

Flow rates – lpm/scfh		
	O_2	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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	23	42	74	18	5	123	3.3	5700	6.6	200	0.2
						6	124		5250			
						8	125		4355			0.3
						10	126		3460			
						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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	23	42	74	18	3/16	124	0.13	230	0.26	200	0.2
						1/4			200			
						5/16	125		171			0.3
						3/8	126		140			
						1/2	128		115			0.5
						5/8	131	0.16	80	0.32		0.6
						3/4	133		65			0.8
						1	143	0.20	45	0.40		1.0
						1-1/4	145		30			Edge start
						1-1/2	152		20			
						2	163		10			

Marking

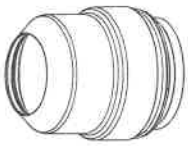
Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	10	10	10	10	15	2.5	0.10	6350	250	130
Ar	Air	30	10	30	10	20	3.0	0.12	2540	100	63

Mild steel

O_2 Plasma / Air Shield

260 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	130 / 275
Cutflow	42 / 88	104 / 220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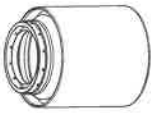
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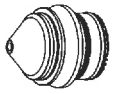
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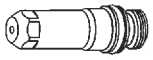
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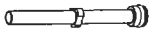
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Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	22	49	76	46	6	150	2.8	6500	8.5	300	0.3
						8			5470			
						10			4440			
						12			3850			0.4
				80	49	15	155	3.6	3130	9.0	250	0.5
						20	159		2170			0.6
						22	166		1930			0.7
				84		25	171		1685			0.8
						28	170	4.8	1445	9.5	200	0.9
						32	172		1135			1.0
						38	174		895	Edge start		
						44	185		580			
						50	188		405			
						58	193		290			
						64	202		195			

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	22	49	76	46	1/4	150	0.11	245	0.33	300	0.3
						5/16			215			
						3/8			180			
						1/2			145			0.4
				80	49	5/8	155	0.14	115	0.35	250	0.5
						3/4	159		90			0.6
						7/8	166		75			0.7
				84		1	171		65			0.8
						1-1/8	170	0.19	55	0.38	200	0.9
						1-1/4	172		45			1.0
						1-1/2	174		35	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
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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

OPERATION

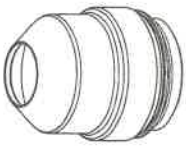
Mild steel

O_2 Plasma / O_2 Shield

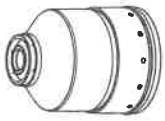
30 A

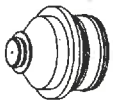
Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	43 / 90
Cutflow	25 / 52	0 / 0

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

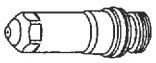

220747


220194


220754


220193


220180


220192

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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	Factor %	Seconds
O_2	O_2	78	17	94	17	**0.5**	114	1.3	5355	2.3	180	0.1
						0.8	115		4225			0.2
						1	116		3615			0.3
						1.2	117		2865			
						1.5	119		2210			
			35		7	**2**	120	1.5	1490	2.7		0.4
						2.5	122		1325			
			75			**3***	123		1160			0.5
						4*	125		905			0.7
						6*	128		665			1.0

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	Factor %	Seconds
O_2	O_2	78	17	94	17	**0.018**	114	0.05	215	0.09	180	0.1
						0.024			200			
						0.030	115		170			0.2
						0.036	116		155			0.3
						0.048	117		110			
						0.060	119		85			
			35		7	**0.075**	120	0.06	60	0.11		0.4
						0.105	122		50			
			75			**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
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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.

Mild steel

O_2 Plasma / Air Shield

80 A

Flow rates – lpm/scfh		
	O_2	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87

220747 220189 220756 220188 220179 220187 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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	48	23	78	23	**2**	112	2.5	9810	3.8	150	0.1
						2.5	115		7980			
						3	117		6145			0.2
						4	120	2.0	4300	4.0	200	
						5	121		3670			0.3
						6	123		3045			
						8	125		2430			0.4
						10	127		1810			0.5
					10	**12**	130		1410	5.0	250	0.7
						15	133		1030			0.8
						20	135	2.5	545	6.3		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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	48	23	78	23	**0.075**	112	0.10	400	0.15	150	0.1
						0.105	115		290			
						0.135	117		180			0.2
						3/16	120	0.08	155	0.16	200	
						1/4	123		110			0.3
						5/16	125		96			0.4
						3/8	127		75			0.5
					10	**1/2**	130		50	0.20	250	0.7
						5/8	133		37			0.8
						3/4	135	0.10	25	0.25		0.9

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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_2 Plasma / Air Shield

200 A

Flow rates – lpm/scfh		
	O_2	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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	mm	Volts	mm	mm/m	mm	factor %	seconds
O_2	Air	23	42	74	18	**5**	123	3.3	5700	6.6	200	0.2
						6	124		5250			
						8	125		4355			0.3
						10	126		3460			
						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 gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas	in	Volts	in	ipm	in	factor %	seconds
O_2	Air	23	42	74	18	**3/16**	124	0.13	230	0.26	200	0.2
						1/4			200			
						5/16	125		171			0.3
						3/8	126		140			
						1/2	128		115			0.5
						5/8	131	0.16	80	0.32		0.6
						3/4	133		65			0.8
						1	143	0.20	45	0.40		1.0
						1-1/4	145		30			Edge start
						1-1/2	152		20			
						2	163		10			

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage	Torch-to-Work Distance		Marking Speed		Arc Voltage
						Amps	mm	in	mm/m	ipm	Volts
N_2	N_2	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