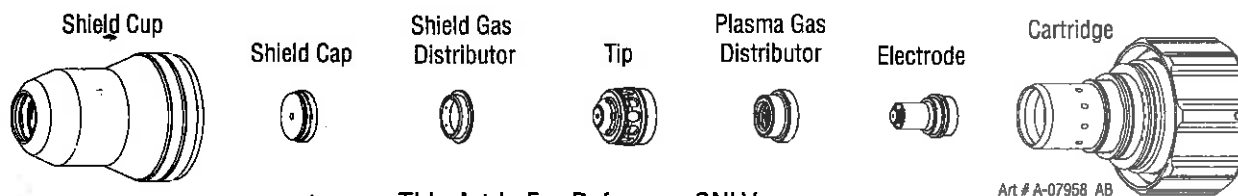


Mild Steel
100A
O₂ Plasma / Air Shield

Flow Rates (SLPM / SCFH)		
	O ₂	Air
Preflow	- / -	38 / 81
Cutflow	16 / 35	27 / 58



This Art Is For Reference ONLY

Art # A-07958_AB

Shield Cup	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1016	22-1027	22-1272	22-1153	22-1041	22-1171	22-1020

			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
Material Thickness			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (O ₂)		Shield (Air)											
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
10	-	0.135	40	55	120	80	120	138	0.070	0.2	0.125	0.120	0.6	0.200	280	0.2	0.065
-	3/16	0.188	40	55	120	80	120	140	0.090	0.2	0.125	0.120	0.6	0.200	190	0.2	0.070
-	1/4	0.250	40	55	120	80	120	141	0.090	0.3	0.125	0.120	0.5	0.200	145	0.3	0.078
-	3/8	0.375	40	55	120	80	120	143	0.110	0.4	0.150	0.150	0.4	0.250	90	0.4	0.085
-	1/2	0.500	40	55	120	80	120	147	0.120	0.6	0.200	0.150	0.4	0.300	60	0.6	0.097
-	5/8	0.625	40	55	120	80	120	148	0.120	0.8	0.250	0.200	0.4	0.350	50	0.8	0.100
-	3/4	0.750	40	55	120	80	120	157	0.150	3.5	Edge Start		0.4	Edge	25	2.0	0.125

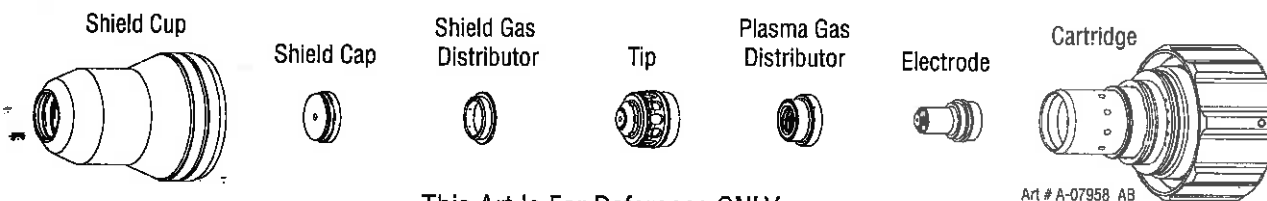
		GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
Material Thickness	Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed	
		Plasma (O ₂)		Shield (Air)												
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)	
4	2.8	55	8.3	80	8.3	139	2.0	0.2	3.2	3.0	0.6	5.1	6140	0.2	1.7	
5	2.8	55	8.3	80	8.3	140	2.3	0.2	3.2	3.0	0.6	5.1	4660	0.2	1.8	
6	2.8	55	8.3	80	8.3	141	2.3	0.3	3.2	3.0	0.5	5.1	3940	0.3	1.9	
8	2.8	55	8.3	80	8.3	142	2.6	0.4	3.5	3.4	0.4	5.7	2960	0.4	2.1	
10	2.8	55	8.3	80	8.3	144	2.8	0.4	4.0	3.8	0.4	6.5	2170	0.4	2.2	
12	2.8	55	8.3	80	8.3	146	3.0	0.6	4.2	3.8	0.4	7.3	1690	0.6	2.4	
15	2.8	55	8.3	80	8.3	148	3.0	0.7	6.0	4.7	0.4	8.5	1340	0.7	2.5	
20	2.8	55	8.3	80	8.3	157	3.8	4.3	Edge Start		0.4	Edge	640	2.4	3.2	

Marking 17A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures				Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
		(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)	
	20 / 1.4	50	40 / 2.8	100	80 / 5.5	144	0.120 / 3.0	0.120 / 3.0	0	0.4	300 / 7620	

BOLD TYPE indicates maximum piercing parameters. **BOLD ITALIC** indicates edge starts only.

Stainless Steel 100A N₂ Plasma / H₂O Shield

	Flow Rates	
	N ₂ (SLPM / SCFH)	H ₂ O (GPH / LPH)
	17 / 35	7 / 26
Preflow	17 / 35	7 / 26
Cutflow	14 / 29	7 / 26



This Art Is For Reference ONLY

Shield Cup	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1016	22-1036	22-1274	22-1053	22-1041	22-1089	22-1020

Material Thickness			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (N ₂)		Shield (H ₂ O)											
ga.	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)*	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
-	3/16	0.188	45	60	90	7	55	148	0.100	0.1	0.200	0.150	0.2	0.300	140	0.1	0.091
-	1/4	0.250	45	60	90	7	55	158	0.100	0.1	0.200	0.150	0.2	0.300	95	0.1	0.091
-	3/8	0.375	45	60	90	7	55	168	0.150	0.2	0.250	0.200	0.2	0.350	65	0.2	0.100
-	1/2	0.500	45	60	90	7	55	168	0.150	0.4	0.250	0.200	0.2	0.350	50	0.4	0.102

Material Thickness		GCM-2010					SC-3000 Torch Height Control (THC)					Basic THC	CNC Control			
		Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
			Plasma (N ₂)		Shield (H ₂ O)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)*	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)	
5	3.1	60	6.2	7	3.8	149	2.5	0.1	5.1	3.8	0.2	7.6	3390	0.1	2.3	
6	3.1	60	6.2	7	3.8	156	2.5	0.1	5.1	3.8	0.2	7.6	2670	0.1	2.3	
8	3.1	60	6.2	7	3.8	163	3.2	0.2	5.7	4.5	0.2	8.3	2020	0.2	2.4	
10	3.1	60	6.2	7	3.8	168	3.8	0.2	6.4	5.1	0.2	8.9	1590	0.2	2.5	
12	3.1	60	6.2	7	3.8	168	3.8	0.4	6.4	5.1	0.2	8.9	1350	0.4	2.6	

Marking 18A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures			Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.	
		Plasma (N ₂)		Shield (N ₂)								
		(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)		(sec)
	20 / 1.4	50		40 / 2.8	75	80 / 5.5	150	0.120 / 3.0	0.120 / 3.0	0	0.4	300 / 7620

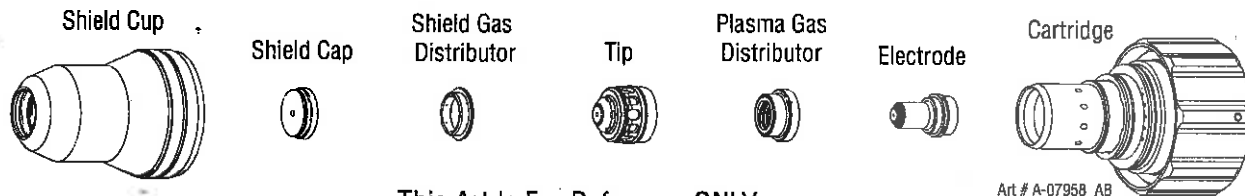
* Pressure of the water supply line should be regulated by customer pressure regulator.

Note 1: Ohmic height sensing is not recommended with water shield. Water on the plate interferes electrically with the ohmic sensing circuit.

Note 2: Water source used for shield must be demineralized.

Stainless Steel 150A N₂ Plasma / H₂O Shield

	Flow Rates	
	N ₂ (SLPM / SCFH)	H ₂ O (GPH / LPH)
Preflow	24 / 50	8 / 30
Cutflow	16 / 35	8 / 30



This Art Is For Reference ONLY

Art # A-07958_AB

Shield Cup	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1016	22-1048	22-1278	22-1092	22-1041	22-1081	22-1020

Material Thickness			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (N ₂)		Shield (H ₂ O)											
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)*	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
-	1/4	0.250	70	60	90	8	55	135	0.100	0.3	0.150	0.150	0.2	0.250	110	0.3	0.104
-	3/8	0.375	70	60	90	8	55	139	0.100	0.3	0.250	0.150	0.2	0.350	70	0.3	0.107
-	1/2	0.500	70	60	90	8	55	149	0.150	0.8	0.250	0.150	0.2	0.350	60	0.5	0.111
-	5/8	0.625	70	60	90	8	55	159	0.180	1.0	0.250	0.150	0.2	0.350	45	0.5	0.128
-	3/4	0.750	70	60	90	4	55	159	0.180	1.5	0.250	0.150	0.2	0.350	40	0.9	0.130

Material Thickness	GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
	Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (N ₂)		Shield (H ₂ O)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)*	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
8	4.8	60	6.2	8	3.8	137	2.5	0.3	5.1	3.8	0.2	7.7	2270	0.3	2.7
10	4.8	60	6.2	8	3.8	140	2.7	0.4	6.4	3.8	0.2	8.9	1740	0.3	2.7
12	4.8	60	6.2	8	3.8	147	3.5	0.7	6.4	3.8	0.2	8.9	1580	0.5	2.8
15	4.8	60	6.2	8	3.8	156	4.4	0.9	6.4	3.8	0.2	8.9	1250	0.5	3.1
20	4.8	60	6.2	4	3.8	159	4.6	1.6	6.4	3.8	0.2	8.9	980	1.0	3.3

Marking 17A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures				Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
	(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)	(ipm) / (mm/min)	
20 / 1.4	60	60 / 4.1	75	80 / 5.5	130	0.120 / 3.0	0.120 / 3.0	0	0.5	300 / 7620		

BOLD TYPE indicates maximum piercing parameters.

* Pressure of the water supply line should be regulated by customer pressure regulator.

Note 1: Ohmic height sensing is not recommended with water shield. Water on the plate interferes electrically with the ohmic sensing circuit.

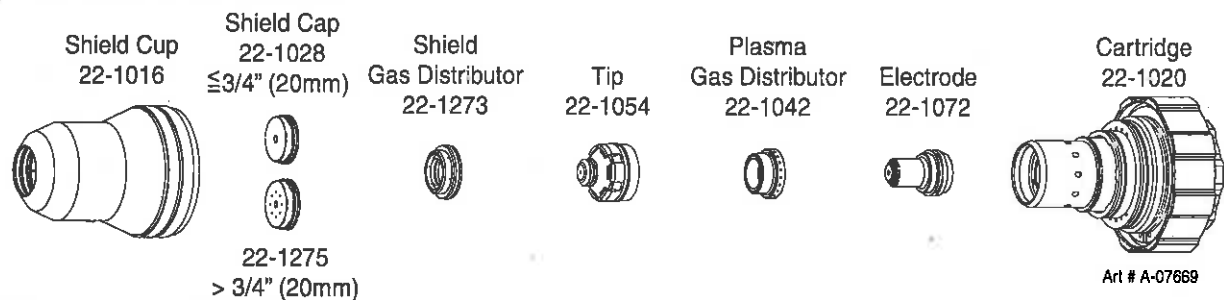
Note 2: Water source used for shield must be demineralized.

8.03 Standard Cutting 150 - 200 Amp

Mild Steel

150A

O₂ Plasma / Air Shield



150A Mild Steel XTL (O ₂ /Air)													
Material Thickness			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Torch Working Height	Travel Speed	Initial Piercing Height	Pierce Delay	Kerf Width @ Rec. Speed
				Plasma (O ₂)		Shield (Air)							
(ga)	(in)	inch	(PSI)	Ball	(PSI)	Ball	(PSI)	Volts	(in) ±0.005	(ipm)	(in)	(sec)	(in)
	3/8	0.375	80	62	120	45	120	147	0.120	120	0.300	0.4	0.115
	1/2	0.500	80	62	120	45	120	150	0.120	100	0.300	0.6	0.110
	5/8	0.625	80	62	120	45	120	155	0.130	75	0.350	0.6	0.116
	3/4	0.750	80	62	120	45	120	162	0.140	50	0.350	0.8	0.141
	7/8	0.875	80	62	120	62	120	165	0.140	30	0.350	0.8	0.182
	1	1.000	80	62	120	62	120	172	0.160	25	0.350	1.0	0.180
	1 1/4	1.250	80	62	120	62	120	172	0.160	25	Edge Start		0.170
	1 1/2	1.500	80	62	120	62	120	175	0.160	15	Edge Start		0.190
	2	2.000	80	62	120	62	120	184	0.160	9	Edge Start		0.195

150A Mild Steel XTL (O ₂ /Air)													
Material Thickness			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Torch Working Height	Travel Speed	Initial Piercing Height	Pierce Delay	Kerf Width @ Rec. Speed
				Plasma (O ₂)		Shield (Air)							
(mm)	(mm)	mm	(Bar)	Ball	(Bar)	Ball	(Bar)	Volts	(mm) ±0.1	(mm/min)	(mm)	(sec)	(mm)
	10	10	5.5	62	8.3	45	8.3	147	3.1	2970	7.6	0.4	2.9
	12	12	5.5	62	8.3	45	8.3	149	3.1	2650	7.6	0.6	2.8
	15	15	5.5	62	8.3	45	8.3	154	3.2	2080	8.5	0.6	2.9
	20	20	5.5	62	8.3	62	8.3	163	3.6	1120	8.9	0.8	3.9
	22	22	5.5	62	8.3	62	8.3	165	3.6	800	8.9	0.8	4.5
	25	25	5.5	62	8.3	62	8.3	171	4.0	650	8.9	1.0	4.6
	32	32	5.5	62	8.3	62	8.3	172	4.1	630	Edge Start		4.3
	38	38	5.5	62	8.3	62	8.3	175	4.1	390	Edge Start		4.8
	50	50	5.5	62	8.3	62	8.3	183	4.1	240	Edge Start		5.0

Marking (with 150A MS parts)													
20A Arc Current		Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Torch Working Height	Travel Speed	Initial Piercing Height	Pierce Delay	Marking quality degrades as thickness decreases	
			Plasma Pressure (N ₂)		Shield Pressure (N ₂)								
			Ball	Press	Ball	Press	Volts	in ±0.005 / mm ±0.1	ipm / mm/min	in ±0.005 / mm ±0.1	(sec)		
Burn-through may occur on thicknesses < 1/16" (0.063") / 1.6 mm		20 psi 1.4 bar	60	60 psi 4.1 bar	120	80 psi 5.5 bar	145	0.12 3	300 7600	0.12 3	0		

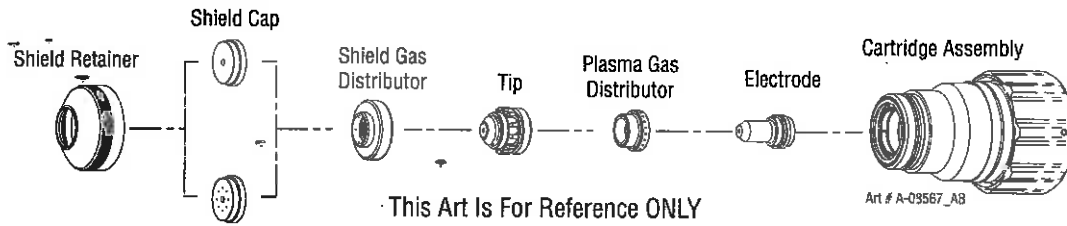
8.03 Standard Cutting 150 - 200 Amp

Mild Steel

150A

O₂ Plasma / Air Shield

Flow Rates (SLPM / SCFH)		
	O ₂	Air
Preflow	- / -	100 / 213
Cutflow	59 / 126	81 / 171



Shield Cup	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1016	≤ 3/4" / 20mm 22-1028 > 3/4" / 20mm 22-1275	22-1273	22-1054	22-1042	22-1072	22-1020

Material Thickness			GCM-2010						SC-3000 Torch Height Control (THC)						Basic THC		CNC Control		
			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed		
				Plasma (O ₂)		Shield (Air)													
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)		
-	3/8	0.375	80	62	120	45	120	147	0.120	0.4	0.200	0.150	0.5	0.300	120	0.4	0.115		
-	1/2	0.500	80	62	120	45	120	150	0.120	0.9	0.200	0.150	0.5	0.300	90	0.6	0.110		
-	5/8	0.625	80	62	120	45	120	155	0.130	1.0	0.250	0.200	0.5	0.350	75	0.6	0.116		
-	3/4	0.750	80	62	120	45	120	162	0.140	1.3	0.250	0.200	0.5	0.350	50	0.8	0.141		
-	7/8	0.875	80	62	120	62	120	165	0.140	1.8	0.250	0.200	0.5	0.350	30	0.8	0.182		
-	1	1.000	80	62	120	62	120	172	0.160	2.2	0.250	0.200	0.5	0.350	25	1.0	0.180		
-	1 1/4	1.250	80	62	120	62	120	172	0.160	1.0	Edge Start		0.5	Edge	25	1.0	0.170		
-	1 1/2	1.500	80	62	120	62	120	175	0.160	1.0	Edge Start		0.5	Edge	15	1.0	0.190		
-	2	2.000	80	62	120	62	120	184	0.160	1.0	Edge Start		0.5	Edge	9	1.0	0.195		

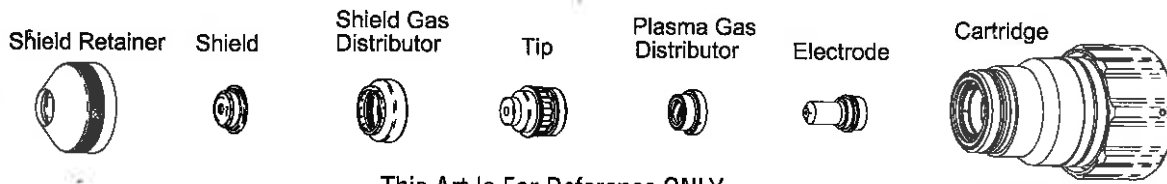
		GCM-2010					SC-3000 Torch Height Control (THC)					Basic THC	CNC Control		
Material Thickness	Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (O ₂)		Shield (Air)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
10	5.5	62	8.3	45	8.3	147	3.0	0.5	5.1	3.8	0.5	7.6	2930	0.4	2.9
12	5.5	62	8.3	45	8.3	149	3.0	0.8	5.1	3.8	0.5	7.6	2450	0.6	2.8
15	5.5	62	8.3	45	8.3	154	3.2	1.0	6.0	4.7	0.5	8.5	2010	0.6	2.9
20	5.5	62	8.3	50	8.3	163	3.6	1.4	6.4	5.1	0.5	8.9	1120	0.8	3.9
25	5.5	62	8.3	62	8.3	171	4.0	2.1	6.4	5.1	0.5	8.9	650	1.0	4.6
30	5.5	62	8.3	62	8.3	171	4.1	1.0	Edge Start		0.5	Edge	710	1.0	4.2
35	5.5	62	8.3	62	8.3	174	4.1	1.0	Edge Start		0.5	Edge	510	1.0	4.6
40	5.5	62	8.3	62	8.3	176	4.1	1.0	Edge Start		0.5	Edge	360	1.0	4.8
50	5.5	62	8.3	62	8.3	183	4.1	1.0	Edge Start		0.5	Edge	240	1.0	4.9

Marking 20A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂) (psi) / (Bar) 20 / 1.4	Marking Flow Rates / Pressures				Arc Voltage (Volts) 142	Marking Height (in) ±0.005 / (mm) ±0.1 0.120 / 3.0	Pierce Ignition Height (in) ±0.005 / (mm) ±0.1 0.120 / 3.0	THC and CNC Delay (sec) 0	Control Delay (sec) 0.4	Travel Speed (ipm) / (mm/ min) 300 / 7620	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
		Ball	(psi) / (Bar)	Ball	(psi) / (Bar)							
		60	60 / 4.1	120	80 / 5.5							

BOLD TYPE indicates maximum piercing parameters. **BOLD ITALIC** indicates edge starts only.

Mild Steel
200A
O₂ Plasma / Air Shield

Flow Rates (SLPM / SCFH)	
O ₂	Air
Preflow	162 / 343
Cutflow	133 / 281



This Art Is For Reference ONLY

Art # A-07917_AC

Shield Retainer	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1014	22-1030	22-1285	22-1055	22-1042	22-1093	22-1022

Material Thickness			GCM-2010						SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed	
				Plasma (O ₂)		Shield (Air)												
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)	
-	16/85	0.188	15	100	100	NA	100	151	0.130	0.2	0.200	0.150	0.5	0.300	250	0.2	0.142	
-	1/4	0.250	15	100	100	NA	100	151	0.130	0.2	0.200	0.150	0.5	0.300	200	0.2	0.148	
-	3/8	0.375	15	100	100	NA	100	154	0.150	0.3	0.250	0.200	0.5	0.350	140	0.3	0.162	
-	1/2	0.500	15	100	100	NA	100	159	0.170	0.7	0.250	0.200	0.5	0.350	115	0.5	0.167	
-	5/8	0.625	15	100	100	NA	100	161	0.200	0.9	0.250	0.200	0.5	0.350	80	0.6	0.186	
-	3/4	0.750	15	100	100	NA	100	163	0.200	1.3	0.300	0.250	0.5	0.400	65	0.8	0.196	
-	7/8	0.875	15	100	100	NA	100	166	0.200	1.6	0.300	0.250	0.5	0.400	57	1.0	0.185	
-	1	1.000	15	100	100	NA	100	167	0.200	1.9	0.300	0.250	0.5	0.400	48	1.2	0.193	
-	1 1/4	1.250	15	100	100	NA	100	170	0.200	3.2	0.325	0.250	0.5	0.425	30	2.0	0.196	
-	1 1/2	1.500	15	100	100	NA	100	185	0.200	5.8	0.350	0.300	0.5	0.450	20	4.0	0.201	
-	1 3/4	1.750	15	100	100	NA	100	189	0.200	1.0	Edge Start		0.5	Edge	15	1.0	0.203	
-	2	2.000	15	100	100	NA	100	192	0.200	1.0	Edge Start		0.5	Edge	10	1.0	0.204	
-	2 1/2	2.500	15	100	100	NA	100	192	0.200	1.0	Edge Start		0.5	Edge	8	1.0	0.210	

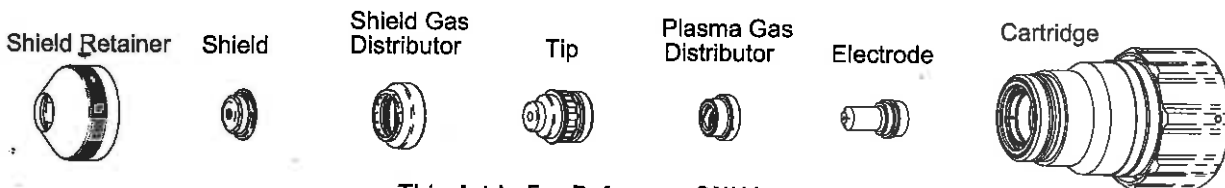
Material Thickness	GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
	Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (O ₂)		Shield (Air)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
5	1.0	100	6.9	NA	6.9	151	3.3	0.2	5.1	3.8	0.5	7.6	6170	0.2	3.6
6	1.0	100	6.9	NA	6.9	151	3.3	0.2	5.1	3.8	0.5	7.6	5360	0.2	3.7
8	1.0	100	6.9	NA	6.9	153	3.6	0.3	5.7	4.5	0.5	8.3	4290	0.3	3.9
10	1.0	100	6.9	NA	6.9	155	3.9	0.4	6.4	5.1	0.5	8.9	3460	0.3	4.1
12	1.0	100	6.9	NA	6.9	158	4.2	0.6	6.4	5.1	0.5	8.9	3060	0.5	4.2
15	1.0	100	6.9	NA	6.9	160	4.9	0.8	6.4	5.1	0.5	8.9	2280	0.6	4.6
20	1.0	100	6.9	NA	6.9	164	5.1	1.4	7.6	6.4	0.5	10.2	1590	0.9	4.7
25	1.0	100	6.9	NA	6.9	167	5.1	1.9	7.6	6.4	0.5	10.2	1250	1.2	4.9
30	1.0	100	6.9	NA	6.9	169	5.1	2.8	8.1	6.4	0.5	10.6	890	1.8	5.0
35	1.0	100	6.9	NA	6.9	178	5.1	4.5	8.6	7.0	0.5	11.1	630	3.0	5.0
40	1.0	100	6.9	NA	6.9	186	5.1	1.0	Edge Start		0.5	Edge	470	1.0	5.1
50	1.0	100	6.9	NA	6.9	192	5.1	1.0	Edge Start		0.5	Edge	270	1.0	5.2
60	1.0	100	6.9	NA	6.9	192	5.1	1.0	Edge Start		0.5	Edge	220	1.0	5.3

Marking 25A Arc Current	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures				Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
	(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)	(ipm) / (mm / min)	
	15 / 1.0	80	60 / 4.1	NA	80 / 5.5	168	0.120 / 3.0	0.120 / 3.0	0	0.5	300 / 7620	

BOLD TYPE indicates maximum piercing parameters. BOLD ITALIC indicates edge starts only.

Stainless Steel 200A N₂ Plasma / H₂O Shield

Flow Rates		
	N ₂ (SLPM / SCFH)	H ₂ O (GPH / LPH)
Preflow	13 / 28	5 / 19
Cutflow	25 / 53	5 / 19



This Art Is For Reference ONLY

Art # A-07917_AC

Shield Retainer	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1015	22-1049	22-1284	22-1067	22-1043	22-1089	22-1022

Material Thickness			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (N ₂)		Shield (H ₂ O)											
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)*	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
-	3/8	0.375	20	80	90	5	55	155	0.160	0.1	0.200	0.150	0.4	0.300	95	0.1	0.110
-	1/2	0.500	20	80	90	5	55	156	0.160	0.4	0.200	0.150	0.2	0.300	85	0.4	0.115
-	5/8	0.625	20	80	90	5	55	158	0.180	0.8	0.200	0.150	0.2	0.300	65	0.5	0.122
-	3/4	0.750	20	80	90	5	55	163	0.200	1.2	0.200	0.150	0.2	0.300	50	0.7	0.133
-	7/8	0.875	20	80	90	5	55	177	0.250	1.7	0.300	0.250	0.2	0.400	40	0.9	0.149
-	1	1.000	20	80	90	5	55	183	0.300	1.9	0.350	0.300	0.2	0.450	35	1.0	0.148
-	1 1/4	1.250	20	80	90	5	55	185	0.300	0.4	Edge Start		0.2	Edge	20	0.4	0.176
-	1 1/2	1.500	20	80	90	5	55	200	0.350	0.4	Edge Start		0.2	Edge	10	0.4	0.211
-	1 3/4	1.750	20	80	90	5	55	207	0.350	0.4	Edge Start		0.2	Edge	8	0.4	0.216

Material Thickness	GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
	Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (N ₂)		Shield (H ₂ O)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)*	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
10	1.4	80	6.2	5	3.8	155	4.1	0.1	5.1	3.8	0.4	7.6	2380	0.1	2.8
15	1.4	80	6.2	5	3.8	157	4.4	0.7	5.1	3.8	0.2	7.6	1790	0.5	3.0
20	1.4	80	6.2	5	3.8	167	5.5	1.3	5.8	4.6	0.2	8.4	1190	0.8	3.5
25	1.4	80	6.2	5	3.8	182	7.5	1.9	8.7	7.5	0.2	11.3	910	1.0	3.8
30	1.4	80	6.2	5	3.8	181	7.3	0.4	Edge Start		0.2	Edge	580	0.4	4.2
35	1.4	80	6.2	5	3.8	193	8.3	0.4	Edge Start		0.2	Edge	380	0.4	4.9
40	1.4	80	6.2	5	3.8	202	8.9	0.4	Edge Start		0.2	Edge	240	0.4	5.4

Marking 20A Arc Current Burn-through may happen for thicknesses ≤1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures			Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.	
		Plasma (N ₂)		Shield (N ₂)								
	(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)		(ipm) / (mm / min)
	15 / 1.0	80	60 / 4.1	NA	80 / 5.5	140	0.120 / 3.0	0.120 / 3.0	0	0.4		300 / 7620

BOLD TYPE indicates maximum piercing parameters. **BOLD ITALIC** indicates edge starts only.

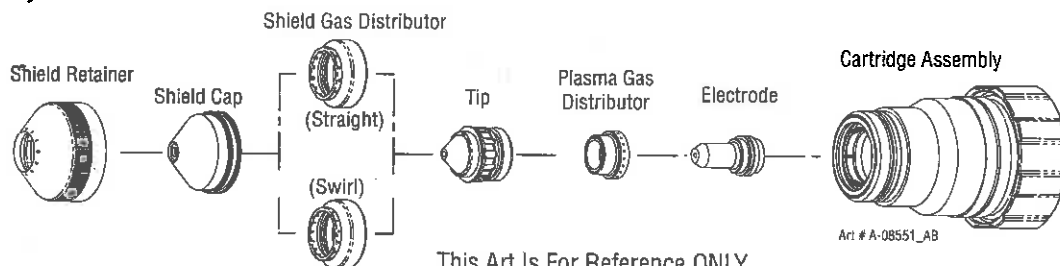
* Pressure of the water supply line should be regulated by customer pressure regulator.

Note 1: Ohmic height sensing is not recommended with water shield. Water on the plate interferes electrically with the ohmic sensing circuit.

Note 2: Water source used for shield must be demineralized.

Mild Steel 300A O₂ Plasma / Air Shield

Flow Rates (SLPM / SCFH)		
	O ₂	Air
Preflow	- / -	225 / 476
Cutflow	33 / 69	193 / 408



This Art Is For Reference ONLY

Shield Retainer	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1021	22-1029	≤ 1" / 25 mm 22-1282 > 1" / 25 mm 22-1283	22-1057	22-1042	22-1090	22-1022

Material Thickness			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (O ₂)		Shield (Air)											
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
-	1/2	0.500	15	104	90	NA	40	147	0.140	0.6	0.300	0.250	0.5	0.400	140	0.4	0.190
-	5/8	0.625	15	104	100	NA	50	152	0.160	0.7	0.300	0.250	0.5	0.400	115	0.5	0.190
-	3/4	0.750	15	104	100	NA	60	154	0.160	1.0	0.350	0.300	0.5	0.450	100	0.7	0.190
-	7/8	0.875	15	104	100	NA	60	155	0.160	1.1	0.350	0.300	0.5	0.450	85	0.8	0.190
-	1	1.000	15	104	100	NA	60	160	0.200	1.4	0.350	0.300	0.5	0.450	70	0.9	0.195
-	1 1/4	1.250	15	104	100	NA	60	169	0.250	2.0	0.350	0.300	0.5	0.450	50	1.4	0.230
-	1 1/2	1.500	15	104	100	NA	80	176	0.250	3.0	0.350	0.300	0.5	0.450	35	2.0	0.245
-	1 3/4	1.750	15	104	100	NA	90	182	0.250	5.0	0.350	0.300	0.5	0.450	25	3.7	0.275
-	2	2.000	15	104	100	NA	90	187	0.250	1.0	Edge Start		0.5	Edge	18	1.0	0.280
-	2 1/2	2.500	15	104	100	NA	90	208	0.250	1.0	Edge Start		0.5	Edge	10	1.0	N/A
-	3	3.000	15	104	100	NA	90	219	0.250	1.0	Edge Start		0.5	Edge	7	1.0	NA

Material Thickness	GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
	Pre Flow Pressure (Air)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (O ₂)		Shield (Air)											
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
12	1.0	104	6.1	NA	2.6	146	3.4	0.6	7.6	6.4	0.5	10.2	3700	0.4	4.8
15	1.0	104	6.7	NA	3.3	151	3.9	0.7	7.6	6.4	0.5	10.2	3100	0.5	4.8
20	1.0	104	6.9	NA	4.1	154	4.1	1.0	8.9	7.6	0.5	11.4	2430	0.7	4.8
25	1.0	104	6.9	NA	4.1	159	5.0	1.4	8.9	7.6	0.5	11.4	1830	0.9	4.9
30	1.0	104	6.9	NA	4.1	167	6.0	1.8	8.9	7.6	0.5	11.4	1410	1.3	5.6
35	1.0	104	6.9	NA	4.8	173	6.4	2.5	8.9	7.6	0.5	11.4	1090	1.7	6.0
40	1.0	104	6.9	NA	5.7	178	6.4	3.6	8.9	7.6	0.5	11.4	810	2.5	6.5
50	1.0	104	6.9	NA	6.2	186	6.4	1.0	Edge Start		0.5	Edge	470	1.0	NA
60	1.0	104	6.9	NA	6.2	202	6.4	1.0	Edge Start		0.5	Edge	310	1.0	NA
60	1.0	104	6.9	NA	6.2	206	6.4	1.0	Edge Start		0.5	Edge	280	1.0	NA
70	1.0	104	6.9	NA	6.2	214	6.4	1.0	Edge Start		0.5	Edge	220	1.0	NA

Marking 30A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures				Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
	(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)	(ipm) / (mm / min)	
	15 / 1.0	80	60 / 4.1	NA	90 / 6.2	158	0.120 / 3.0	0.120 / 3.0	0	0.5	300 / 7620	

BOLD TYPE indicates maximum piercing parameters. BOLD ITALIC indicates edge starts only.

Stainless Steel 300A N₂ Plasma / H₂O Shield

Flow Rates		
	N ₂ (SLPM / SCFH)	H ₂ O (GPH / LPH)
Preflow	23 / 48	8 / 30
Cutflow	63 / 134	8 / 30

Shield Retainer Shield



Shield



Shield Gas Distributor



Tip



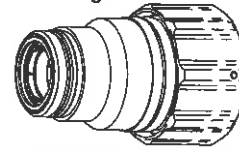
Plasma Gas Distributor



Electrode



Cartridge



This Art Is For Reference ONLY

Art # A-07917_AC

Shield Retainer	Shield Cap	Shield Gas Distributor	Tip	Plasma Gas Distributor	Electrode	Cartridge
22-1015	22-1046	22-1284	22-1066	22-1043	22-1089	22-1022

Material Thickness			GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
			Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
				Plasma (N ₂)		Shield (H ₂ O)											
ga	(in)	inch	(psi)	Ball	(psi)	Ball	(psi)*	(Volts)	(in) ±0.005	(sec)	(in)	(in)	(sec)	(in)	(ipm)	(sec)	(in)
-	3/8	0.375	20	120	100	8	55	150	0.150	0.3	0.250	0.200	0.2	0.350	140	0.3	0.144
-	1/2	0.500	20	120	100	8	55	159	0.150	0.5	0.250	0.200	0.2	0.350	100	0.5	0.154
-	5/8	0.625	20	120	100	8	55	158	0.150	0.8	0.250	0.200	0.2	0.350	75	0.6	0.153
-	3/4	0.750	20	120	100	8	55	166	0.200	0.9	0.400	0.300	0.2	0.500	55	0.7	0.173
-	7/8	0.875	20	120	100	8	55	180	0.300	1.8	0.400	0.300	0.2	0.500	45	1.1	0.210
-	1	1.000	20	120	100	8	55	182	0.300	2.1	0.400	0.300	0.2	0.500	40	1.3	0.210
-	1 1/4	1.250	20	120	100	8	55	196	0.350	3.5	0.400	0.300	0.2	0.500	30	2.0	0.230
-	1 1/2	1.500	20	120	100	8	55	198	0.350	1.0	Edge Start		0.2	Edge	25	1.0	0.232
-	1 3/4	1.750	20	120	100	8	55	198	0.350	1.0	Edge Start		0.2	Edge	18	1.0	0.237
-	2	2.000	20	120	100	8	55	205	0.350	1.0	Edge Start		0.2	Edge	12	1.0	0.253

Material Thickness	GCM-2010					SC-3000 Torch Height Control (THC)						Basic THC	CNC Control		
	Pre Flow Pressure (N ₂)	Cut Flow Rates / Pressures				Arc Voltage	Cut Height	THC Pierce Delay	Pierce Ignition Height	Elevation Height	Control Delay	Pierce Height without Elevation	Travel Speed	CNC Motion Delay	Max Kerf Width @ Rec. Speed
		Plasma (N ₂)	Shield (H ₂ O)												
(mm)	(Bar)	Ball	(Bar)	Ball	(Bar)*	(Volts)	(mm) ±0.1	(sec)	(mm)	(mm)	(sec)	(mm)	(mm/min)	(sec)	(mm)
10	1.4	120	6.9	8	3.8	151	3.8	0.3	6.4	5.1	0.2	8.9	3400	0.3	3.7
12	1.4	120	6.9	8	3.8	157	3.8	0.5	6.4	5.1	0.2	8.9	2760	0.5	3.9
15	1.4	120	6.9	8	3.8	158	3.8	0.7	6.4	5.1	0.2	8.9	2080	0.6	3.9
20	1.4	120	6.9	8	3.8	170	5.8	1.2	10.2	7.6	0.2	12.7	1320	0.8	4.7
25	1.4	120	6.9	8	3.8	182	7.6	2.1	10.2	7.6	0.2	12.7	1030	1.3	5.3
30	1.4	120	6.9	8	3.8	192	8.5	3.1	10.2	7.6	0.2	12.7	830	1.8	5.7
35	1.4	120	6.9	8	3.8	198	8.9	1.0	Edge Start		0.2	Edge	720	1.0	5.8
40	1.4	120	6.9	8	3.8	198	8.9	1.0	Edge Start		0.2	Edge	580	1.0	5.9
50	1.4	120	6.9	8	3.8	204	8.9	1.0	Edge Start		0.2	Edge	320	1.0	6.4

Marking 24A Arc Current Burn-through may happen for thicknesses < 1/16" (0.063") / 1.6 mm.	Pre Flow Pressure (N ₂)	Marking Flow Rates / Pressures				Arc Voltage	Marking Height	Pierce Ignition Height	THC and CNC Delay	Control Delay	Travel Speed	Marking quality degrades as thickness decreases.
		Plasma (N ₂)		Shield (N ₂)								
	(psi) / (Bar)	Ball	(psi) / (Bar)	Ball	(psi) / (Bar)	(Volts)	(in) ±0.005 / (mm) ±0.1	(in) ±0.005 / (mm) ±0.1	(sec)	(sec)	(ipm) / (mm/min)	
15 / 1.0	80	60 / 4.1	NA	90 / 6.2	115	0.120 / 3.0	0.120 / 3.0	0	0.3	300 / 7620		

BOLD TYPE indicates maximum piercing parameters. **BOLD ITALIC** indicates edge starts only.

* Pressure of the water supply line should be regulated by customer pressure regulator.

Note 1: Ohmic height sensing is not recommended with water shield. Water on the plate interferes electrically with the ohmic sensing circuit.

Note 2: Water source used for shield must be demineralized.