Cut Charts

The following *Cut Charts* provide the necessary information in order for the operator using the MAX200 machine torch system to be successful in plasma arc cutting. The Cut Charts are divided into two areas: (1) above water cutting (pages 4-11 through 4-33) and (2) under water cutting, where the water table water is 3" above the top surface of the workpiece (pages 4-34 through 4-45).

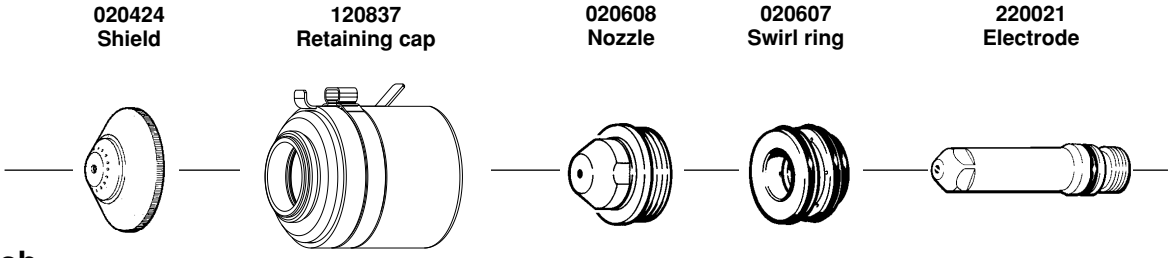
The following table provides the operator with a quick reference of the consumables used for all cutting and gouging applications with the MAX200 machine torch. Also listed are the consumables used with the water-muffler.

MAX200 Machine Torch Consumables

		Part Numbers				
Plasma Gas/ Shield Gas	**Nozzle Type (Amps)**	**Shield**	**Retaining Cap**	**Nozzle**	**Swirl Ring**	**Electrode**
Air/Air	**200**	020424	120837	020608	020607	220021
	100	020448	120837	020611	020607	120547
	40	020688	020423	020689	020613	220021
	200 gouging	020485	020423	020615	020607	220021
O_2/Air	**200**	020424	120837	020605	020604	220021
	100	020448	120837	020616	020617	120547
H35/N_2	**200**	020602	120837	020608	020607	020415
	100	020448	120837	020611	020607	020415
	200 gouging	020485	020423	020615	020607	020415
N_2/CO_2	**200**	020424	120837	020608	020607	020415
N_2/Air	**200**	020424	120837	020608	020607	020415
		Beveling Consumables				
O_2/Air	**200 beveling**	120260	020423	120259	120833	120258
		Water Tube 120257				
		Consumables Used with MAX200 Water-Muffler				
Air/Air	**200**	020566	020423	020608	020607	220021
	100	020618	020423	020611	020607	120547
O_2/Air	**200**	020566	020423	020605	020604	220021
	100	020618	020423	020616	020617	120547
N_2/CO_2	**200**	020566	020423	020608	020607	020415
N_2/Air	**200**	020566	020423	020608	020607	020415

Mild Steel – Above Water
200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	270	60	**3/16**	1/8	3	130	200	5080	0.0
					1/4	1/8	3	130	135	3400	0.5
					3/8	1/8	3	135	100	2540	1.0
					1/2	.16	4	140	80	2030	2.0
					5/8	.16	4	145	60	1520	2.0
					3/4	3/16	5	150	45	1140	2.5
					7/8	1/4	6	155	30	760	2.5
					1	1/4	6	160	25	635	2.5
					1-1/4	1/4	6	165	15	380	*
					1-1/2	1/4	6	170	10	250	*
					1-3/4	5/16	8	180	7	180	*
					2	5/16	8	185	5	130	*

Metric

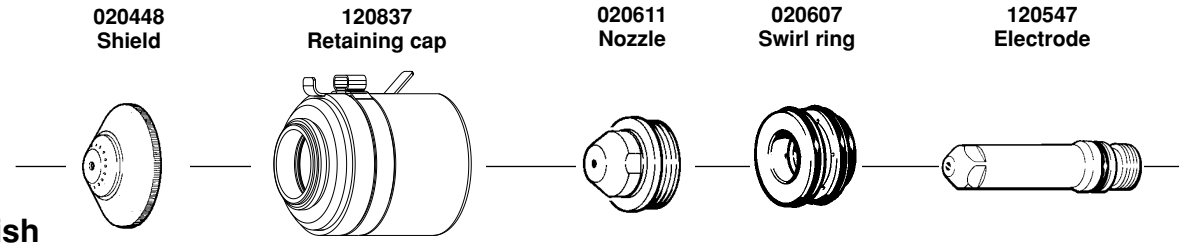
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	127	4.0	**6**	3	1/8	130	3400	135	0.5
					8	3	1/8	135	2900	115	0.5
					10	3	1/8	135	2540	100	1.0
					12	4	.16	140	2030	80	2.0
					15	4	.16	145	1520	60	2.0
					20	5	3/16	150	1140	45	2.5
					25	6	1/4	160	635	25	2.5
					32	6	1/4	165	380	15	*
					50	8	5/16	185	130	5	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 1 inch (25 mm) not recommended.

Mild Steel – Above Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross level and is very economical. Some surface nitriting can occur. While this process may be used on thicker materials, optimal recommended range is to 3/8 inch (10 mm).



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	270	60	**1/8**	3/32	2.5	125	185	4700	0.5
					3/16	1/8	3	125	175	4450	0.5
					1/4	1/8	3	130	125	3175	0.5
					3/8	1/8	3	135	50	1270	1.0
					1/2	1/8	3	140	35	890	*
					5/8	.16	4	145	25	635	*
					3/4	3/16	5	150	20	510	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	127	4.0	**3**	2.5	3/32	125	4700	185	0.5
					5	3	1/8	125	4450	175	0.5
					6	3	1/8	130	3175	125	0.5
					10	3	1/8	135	1270	50	1.0
					12	3	1/8	140	890	35	*
					15	4	.16	145	635	25	*
					20	5	3/16	150	510	20	*

Metric – 80 amps • Air Plasma / Air Shield

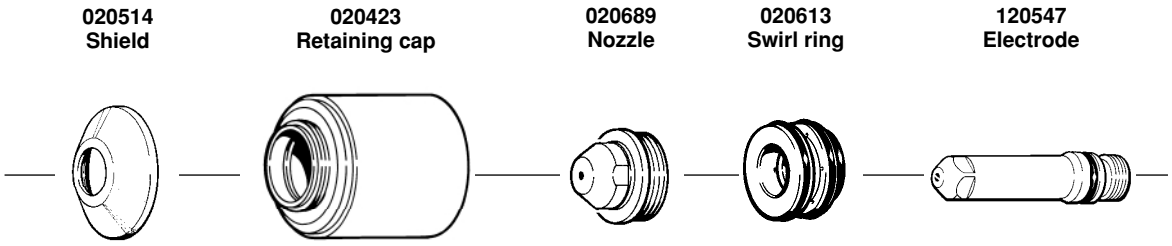
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.3-3.6	127	4.0	**2**	2.5	3/32	120	6050		0.0

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Mild Steel – Above Water

40 amps • Air Plasma / Air Shield

This gas combination gives good cut speeds, low dross levels and is very economical. Some surface nitriting can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
25	16-20	56-60	275	60	**.050 (18GA.)**	3/32	2.5	110	320	8100	0.0
					1/16	3/32	2.5	110	300	7600	0.0
					.075	3/32	2.5	110	220	5600	0.0
					1/8	3/32	2.5	110	140	3550	0.5
					.158	3/32	2.5	115	120	3050	*
					.197	3/32	2.5	115	50	1250	*
					1/4	3/32	2.5	120	35	850	*
					3/8	3/32	2.5	125	20	500	*

Metric

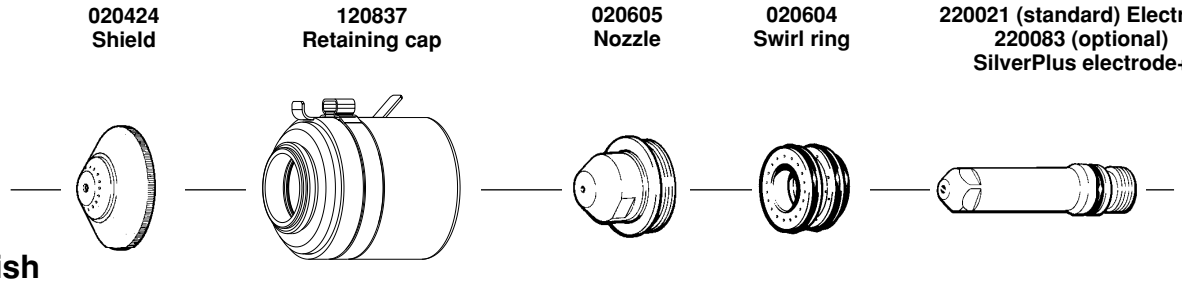
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
12	1.1-1.4	3.9-4.1	129	4.0	**2**	2.5	3/32	110	5600	220	0.0
					3	2.5	3/32	110	3550	140	0.5
					4	2.5	3/32	115	3050	120	*
					5	2.5	3/32	115	1250	50	*
					6	2.5	3/32	120	850	35	*
					10	2.5	3/32	125	500	20	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 1/8 inch (3 mm) not recommended.

Mild Steel – Above Water

200 amps • O_2 Plasma / Air Shield

This gas combination gives superior cut speed, minimum dross, minimum amount of surface nitriting and excellent weldability.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
72	48-52	64-68	270	60	**1/4**	1/8	3	120	160	4060	0.5
					3/8	1/8	3	125	100	2540	1.0
					1/2	.16	4	125	80	2030	2.0
					5/8	.16	4	130	70	1780	2.0
					3/4	3/16	5	135	55	1400	2.5
					7/8	1/4	6	135	45	1140	2.5
					1	1/4	6	140	35	890	2.5
					1-1/4	1/4	6	150	22	560	*
					1-1/2	1/4	6	155	15	380	*
					1-3/4	5/16	8	165	10	250	*
					2	5/16	8	170	7	180	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
34	3.3-3.6	4.4-4.7	127	4.0	**6**	3	1/8	120	4060	160	0.5
					8	3	1/8	125	3000	120	0.5
					10	3	1/8	125	2540	100	1.0
					12	4	.16	125	2030	80	2.0
					15	4	.16	130	1780	70	2.0
					20	5	3/16	135	1400	55	2.5
					25	6	1/4	140	890	35	2.5
					32	6	1/4	150	560	22	*
					50	8	5/16	170	180	7	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)

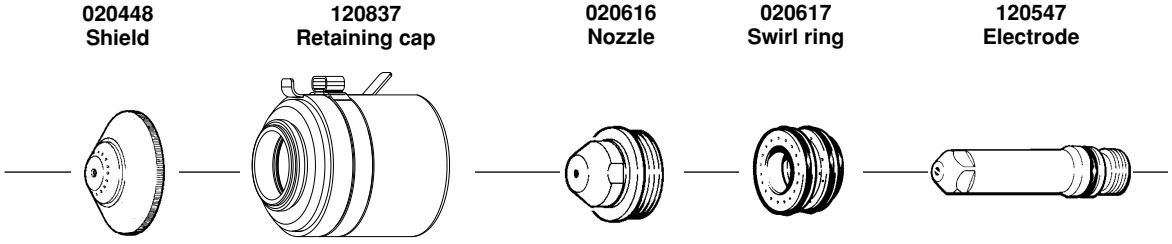
+ SilverPlus provides increased life to high duty cycle users in most applications. The hafnium wears to approximately two times the depth of a standard electrode (220021). Arc voltage may need to be increased by 5-10 volts throughout the electrode life to maintain proper cut height parameters.

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
Production cutting above 1 inch (25 mm) not recommended.

Mild Steel – Above Water

100 amps • O_2 Plasma / Air Shield

This gas combination gives good cut speed, low dross level and is very economical. Some surface nitriting can occur. While this process may be used on thicker materials, optimal recommended range is to 3/8 inch (10 mm).



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
40	12-16	52-56	270	60	**1/8**	3/32	2.5	105	240	6100	0.0
					3/16	1/8	3	110	180	4550	0.0
					1/4	1/8	3	110	110	3050	0.5
					3/8	1/8	3	115	70	1780	0.5
					1/2	1/8	3	115	50	1270	*
					5/8	.16	4	125	40	1020	*
					3/4	3/16	5	130	30	760	*

Metric

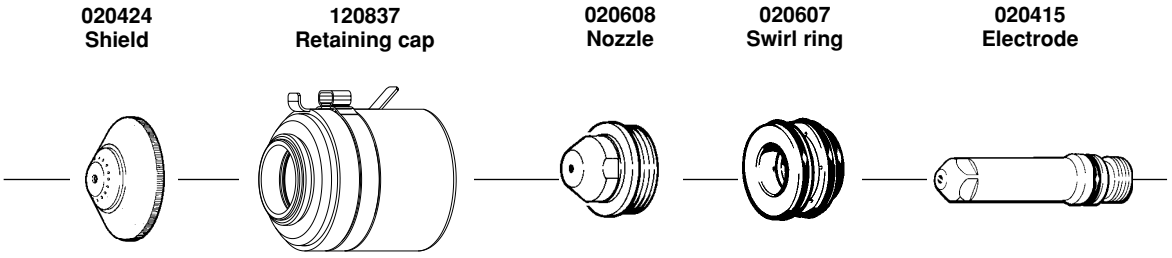
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
19	0.8-1.1	3.6-3.9	127	4.0	**3**	2.5	3/32	105	6100	240	0.0
					5	3	1/8	110	4550	180	0.0
					6	3	1/8	110	3050	110	0.5
					10	3	1/8	115	1780	70	0.5
					12	3	1/8	115	1270	50	*
					15	4	.16	125	1020	40	*
					20	5	3/16	130	760	30	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Mild Steel – Above Water

200 amps • N_2 Plasma / CO_2 Shield

This gas combination is used when cut edge quality and surface nitriting are less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	36-40	52-56	210	60	**3/16**	1/8	3	120	130	3300	0.5
					1/4	1/8	3	125	110	2800	1.0
					3/8	1/8	3	130	85	2160	1.5
					1/2	1/8	3	130	55	1400	2.0
					5/8	.16	4	135	45	1140	2.0
					3/4	3/16	5	145	25	635	2.5
					7/8	1/4	6	150	20	510	3.0
					1	1/4	6	160	15	380	3.0
					1-1/4	1/4	6	165	10	250	*
					1-1/2	1/4	6	175	5	130	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.5-2.8	3.6-3.9	99	4.0	**5**	3	1/8	120	3300	130	0.5
					6	3	1/8	125	2800	110	1.0
					10	3	1/8	130	2160	85	1.5
					12	3	.16	130	1400	55	2.0
					15	4	.16	135	1140	45	2.0
					20	5	3/16	145	635	25	2.5
					25	6	1/4	160	380	15	3.0
					32	6	1/4	165	250	10	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

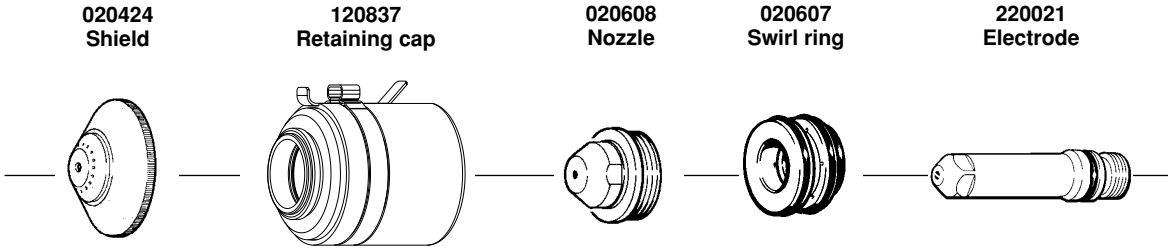
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 1 inch (25 mm) not recommended.

Stainless Steel – Above Water

200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting and surface oxidation of alloying elements can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	270	60	**3/16**	1/8	3	125	220	5600	0.0
					1/4	1/8	3	130	195	5000	0.5
					3/8	1/8	3	130	145	3700	1.0
					1/2	1/8	3	135	105	2700	2.0
					5/8	.16	4	140	75	1900	2.0
					3/4	3/16	5	140	55	1400	2.5
					7/8	1/4	6	145	40	1000	3.0
					1	1/4	6	150	30	760	*
					1-1/4	1/4	6	160	15	380	*
					1-1/2	1/4	6	170	10	250	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	127	4.0	**5**	3	1/8	125	5600	220	0.0
					6	3	1/8	130	5000	195	0.5
					10	3	1/8	130	3700	145	1.0
					12	3	.16	135	2700	105	2.0
					15	4	.16	140	1900	75	2.0
					20	5	3/16	140	1400	55	2.5
					25	6	1/4	150	760	30	*
					32	6	1/4	160	380	15	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

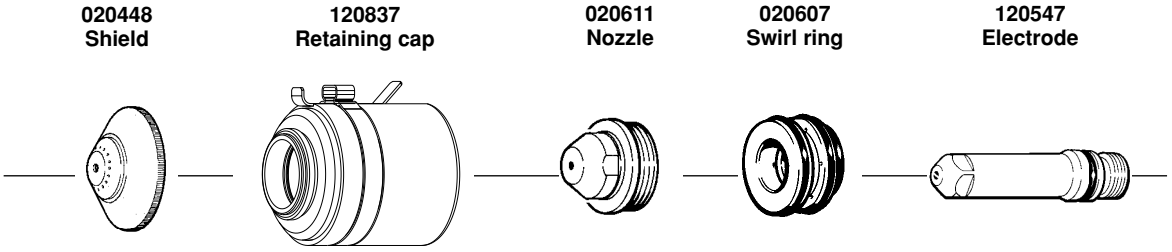
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

Stainless Steel – Above Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting and surface oxidation of alloying elements can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	270	60	**1/8**	3/32	2.5	125	140	3560	0.0
					3/16	1/8	3	130	110	2800	0.5
					1/4	1/8	3	130	80	2030	0.5
					3/8	1/8	3	135	55	1400	0.5
					1/2	1/8	3	140	35	890	*
					5/8	.16	4	145	25	635	*
					3/4	3/16	5	150	20	510	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	127	4.0	**3**	2.5	3/32	125	3560	140	0.0
					5	3	1/8	130	2800	110	0.5
					6	3	1/8	130	2030	80	0.5
					10	3	1/8	135	1400	55	0.5
					12	3	1/8	140	890	35	*
					15	4	.16	145	635	25	*
					20	5	3/16	150	510	20	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

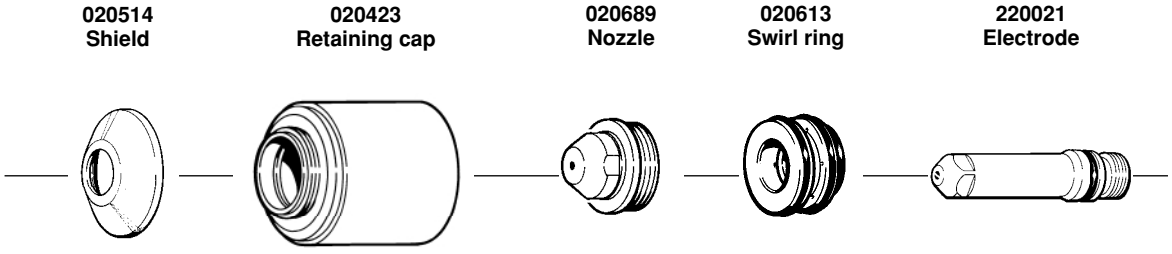
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 3/8 inch (10 mm) not recommended.

Stainless Steel – Above Water

40 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting and surface oxidation of alloying elements can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
25	16-20	56-60	275	60	**.050 (18GA.)**	3/32	2.5	120	145	3700	0.0
					1/16	3/32	2.5	120	120	3050	0.0
					1/8	3/32	2.5	125	75	1900	0.5
					1/4	1/8	3	135	30	750	*
					3/8	1/8	3	140	12	300	*

Metric

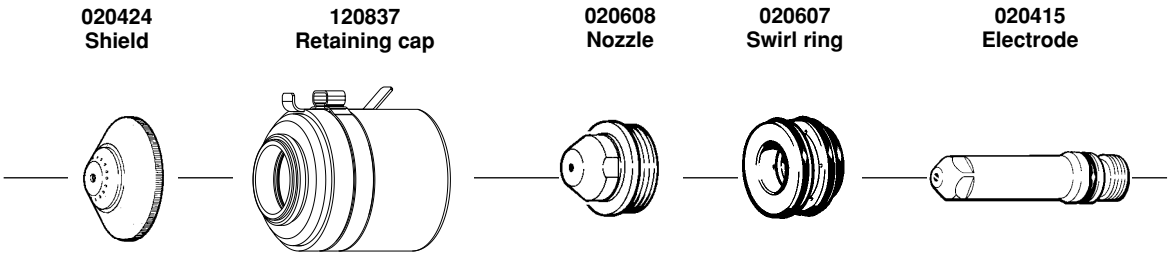
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
12	1.1-1.4	3.9-4.1	129	4.0	**3**	2.5	3/32	125	1900	75	0.5
					6	3	1/8	135	750	30	*
					10	3	1/8	140	300	12	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Stainless Steel – Above Water

200 amps • N_2 Plasma / Air Shield

This gas combination is used when cut edge quality, surface nitriting and surface oxidation of alloying elements are less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	34-38	50-54	270	60	**3/16**	1/8	3	125	135	3430	0.0
					1/4	1/8	3	130	120	3050	0.5
					3/8	1/8	3	130	100	2540	1.0
					1/2	1/8	3	135	75	1900	2.0
					5/8	.16	4	140	60	1520	2.0
					3/4	3/16	5	140	45	1140	2.5
					7/8	1/4	6	145	35	890	2.5
					1	1/4	6	150	20	510	*
					1-1/4	1/4	6	160	15	380	*
					1-1/2	1/4	6	160	10	250	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.3-2.6	3.4-3.7	127	4.0	**5**	3	1/8	125	3430	135	0.0
					6	3	1/8	130	3050	120	0.5
					10	3	1/8	130	2540	100	1.0
					12	3	.16	135	1900	75	2.0
					15	4	.16	140	1520	60	2.0
					20	5	3/16	140	1140	45	2.5
					25	6	1/4	150	510	20	*
					32	6	1/4	160	380	15	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

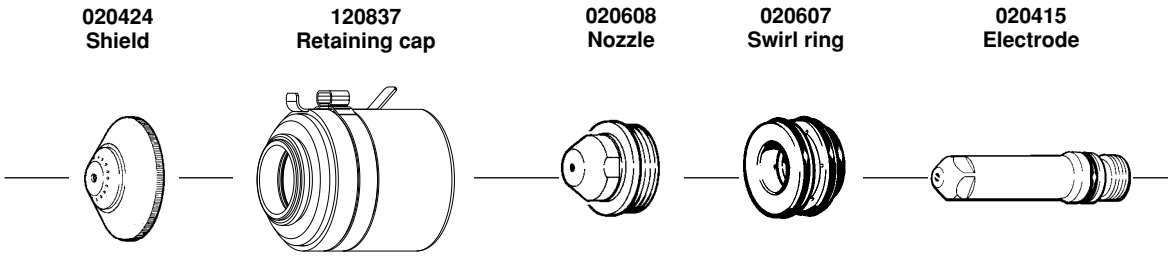
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

Stainless Steel – Above Water

200 amps • N_2 Plasma / CO_2 Shield

This gas combination is used when surface nitriting and surface oxidation of alloying elements is less important. Electrode life is extended when using this gas combination.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	36-40	52-56	210	60	**3/16**	1/8	3	125	190	4800	0.5
					1/4	1/8	3	130	170	4300	1.0
					3/8	1/8	3	130	125	3200	1.5
					1/2	1/8	3	135	95	2400	2.0
					5/8	.16	4	140	70	1800	2.0
					3/4	3/16	5	140	50	1250	2.5
					7/8	1/4	6	145	40	1000	3.0
					1	1/4	6	150	30	760	*
					1-1/4	1/4	6	160	15	380	*
					1-1/2	1/4	6	170	10	250	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.5-2.8	3.6-3.9	99	4.0	**5**	3	1/8	125	4800	190	0.5
					6	3	1/8	130	4300	170	1.0
					10	3	1/8	130	3200	125	1.5
					12	3	.16	135	2400	95	2.0
					15	4	.16	140	1800	70	2.0
					20	5	3/16	140	1250	50	2.5
					25	6	1/4	150	760	30	*
					32	6	1/4	160	380	15	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

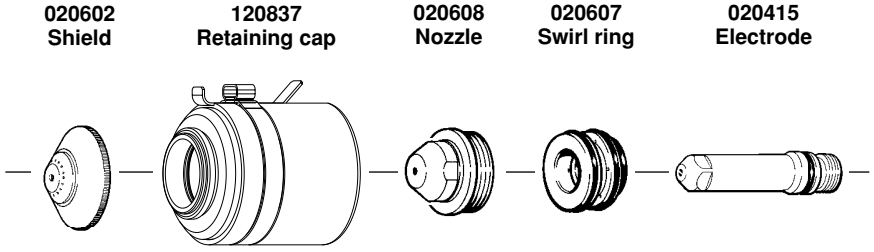
Stainless Steel – Above Water

200 amps • H35 Plasma / N_2 Shield

This gas combination (Hypertherm recommends a mixture of 35% hydrogen and 65% argon for the plasma gas) gives maximum thickness cutting capability, minimum dross levels, minimum amount of surface contamination, excellent weldability and excellent cut quality on thicknesses greater than 1/2". On thicknesses less than 1/2", excessive dross levels may be experienced. Electrode life is extended when this combination is used.

WARNING

Do not use water muffler when cutting with argon-hydrogen!



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
70	36-40	62-66	275	60	**1/4**	3/16	5	135	62	1600	1.0
					3/8	3/16	5	140	52	1300	1.0
					1/2	3/16	5	140	42	1100	2.0
					5/8	1/4	6	145	37	940	2.0
					3/4	1/4	6	150	32	810	2.5
					7/8	5/16	8	155	27	690	2.5
					1	5/16	8	155	22	560	*
					1-1/4	5/16	8	165	16	400	*
					1-1/2	5/16	8	170	11	280	*
					1-3/4	5/16	8	180	8	200	*
					2	5/16	8	185	6	150	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
33	2.5-2.8	4.3-4.5	129	4.0	**6**	5	3/16	135	1600	62	1.0
					10	5	3/16	140	1300	52	1.0
					12	5	3/16	140	1100	42	2.0
					15	6	1/4	145	940	37	2.0
					20	6	1/4	150	810	32	2.5
					25	8	5/16	155	560	22	*
					32	8	5/16	165	400	16	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

Note: Maximum piercing thickness 3/4" (20 mm) and IHS recommended.

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

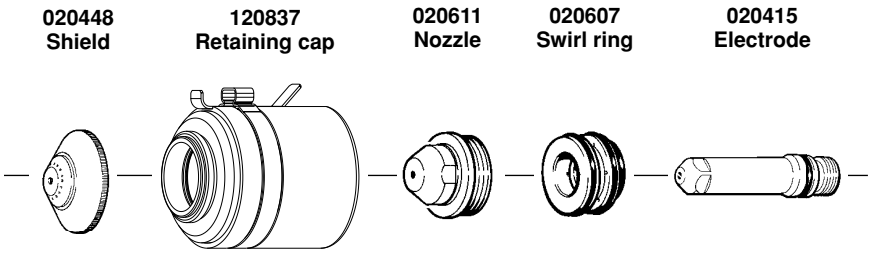
Stainless Steel – Above Water

100 amps • H35 Plasma / N_2 Shield

This gas combination gives good cut speed, but may result in severe dross. Some surface nitriting and surface oxidation of alloying elements can occur.

WARNING

Do not use water muffler when cutting with argon-hydrogen!



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
20	32-36	56-60	270	60	**1/8**	3/32	2.5	130	50	1260	0.0
					3/16	1/8	3	135	40	1060	0.5
					1/4	1/8	3	140	35	890	0.5
					3/8	1/8	3	140	30	750	0.5
					1/2	1/8	3	145	25	630	*

Metric

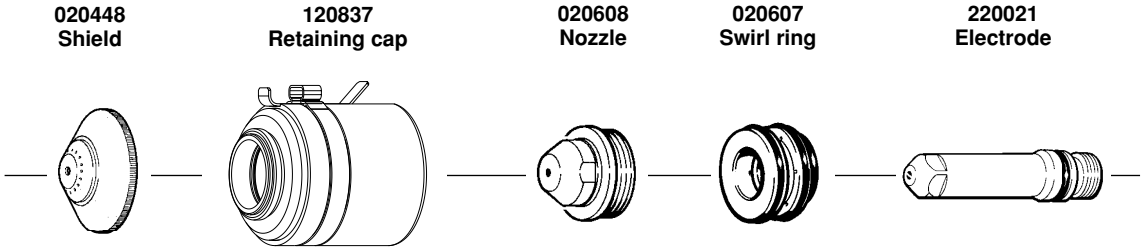
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
9	2.2-2.5	3.9-4.1	127	4.0	**3**	2.5	3/32	130	1260	50	0.0
					5	3	1/8	135	1060	40	0.5
					6	3	1/8	140	890	35	0.5
					10	3	1/8	140	750	30	0.5
					12	3	1/8	145	630	25	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
Note: Maximum piercing thickness 3/8-inch (10 mm) and IHS recommended.
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Aluminum – Above Water

200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	270	60	**3/16**	1/8	3	130	220	5600	0.5
					1/4	1/8	3	140	190	4800	1.0
					3/8	1/8	3	140	145	3700	2.0
					1/2	1/8	3	145	110	2800	2.5
					5/8	.16	4	150	85	2200	2.5
					3/4	3/16	5	155	65	1650	2.5
					7/8	1/4	6	160	50	1300	2.5
					1	1/4	6	165	35	900	*
					1-1/4	1/4	6	170	20	500	*
					1-1/2	1/4	6	175	12	300	*

Metric

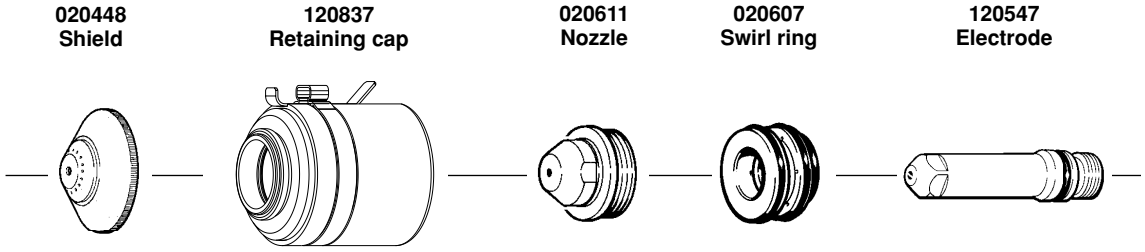
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	127	4.0	**5**	3	1/8	130	5600	220	0.5
					6	3	1/8	140	4800	190	1.0
					10	3	1/8	140	3700	145	2.0
					12	3	.16	145	2800	110	2.5
					15	4	.16	150	2200	85	2.5
					20	5	3/16	155	1650	65	2.5
					25	6	1/4	165	900	35	*
					32	6	1/4	170	500	20	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 7/8 inch (21 mm) not recommended.

Aluminum – Above Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	270	60	**1/8**	3/32	2.5	135	110	2800	0.0
					3/16	1/8	3	140	90	2290	0.5
					1/4	1/8	3	145	70	1780	0.5
					3/8	1/8	3	145	50	1270	0.5
					1/2	1/8	3	150	40	1010	*
					5/8	.16	4	155	30	760	*
					3/4	3/16	5	160	25	635	*

Metric

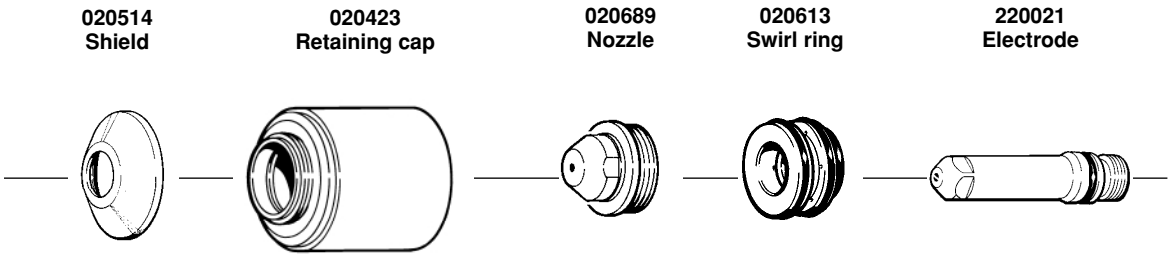
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	127	4.0	**3**	2.5	3/32	135	2800	110	0.0
					5	3	1/8	140	2290	90	0.5
					6	3	1/8	145	1780	70	0.5
					10	3	1/8	145	1270	50	0.5
					12	3	1/8	150	1010	40	*
					15	4	.16	155	760	30	*
					20	5	3/16	160	635	25	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Aluminum – Above Water

40 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
25	16-20	56-60	275	60	**3/32**	3/32	2.5	120	140	3550	0.0
					1/8	3/32	2.5	130	100	2550	0.5
					1/4	1/8	3	140	35	900	*
					3/8	1/8	3	150	15	350	*

Metric

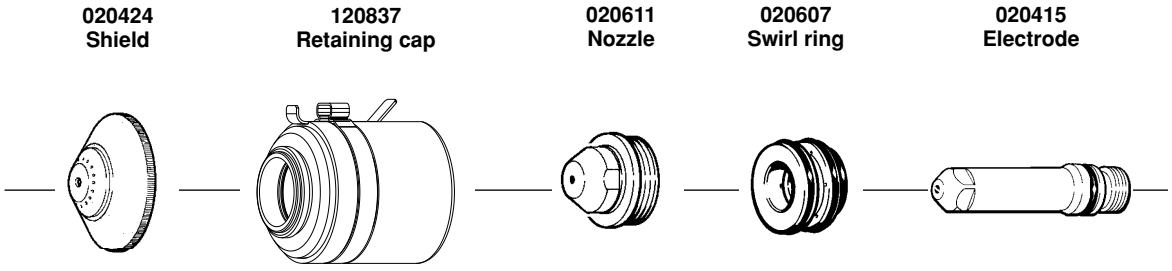
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
12	1.1-1.4	3.9-4.1	129	4.0	**3**	2.5	3/32	130	2550	100	0.5
					6	3	1/8	140	900	35	*
					10	3	1/8	150	350	15	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 1/8 inch (3 mm) not recommended.

Aluminum – Above Water

200 amps • N_2 Plasma / Air Shield

This gas combination is used when cut edge quality is less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	34-38	54-54	270	60	**3/16**	1/8	3	130	180	4570	0.5
					1/4	1/8	3	135	160	4060	1.0
					3/8	1/8	3	135	120	3050	1.5
					1/2	1/8	3	140	80	2030	2.0
					5/8	.16	4	140	70	1780	2.0
					3/4	3/16	5	150	50	1270	2.5
					7/8	1/4	6	160	35	890	2.5
					1	1/4	6	165	25	635	*
					1-1/4	1/4	6	175	20	510	*
					1-1/2	1/4	6	185	10	250	*

Metric

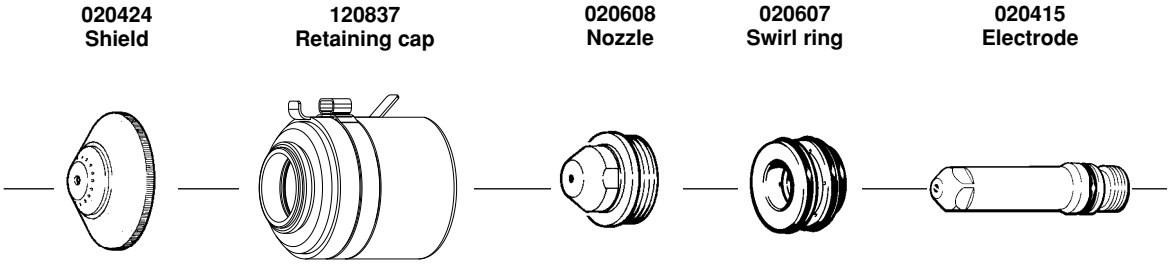
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.3-2.6	3.7-3.7	127	4.0	**5**	3	1/8	130	4570	180	0.5
					6	3	1/8	135	4060	160	1.0
					10	3	1/8	135	3050	120	1.5
					12	3	.16	140	2030	80	2.0
					15	4	.16	140	1780	70	2.0
					20	5	3/16	150	1270	50	2.5
					25	6	1/4	165	635	25	*
					32	6	1/4	175	510	20	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 7/8 inch (21 mm) not recommended.

Aluminum – Above Water

200 amps • N_2 Plasma / CO_2 Shield

This gas combination is used when cut edge quality is less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	36-40	52-56	210	60	**3/16**	1/8	3	130	185	4700	0.5
					1/4	1/8	3	135	160	4050	1.0
					3/8	1/8	3	135	120	3050	2.0
					1/2	1/8	3	140	95	2400	2.5
					5/8	.16	4	140	70	1800	2.5
					3/4	3/16	5	150	55	1400	3.0
					7/8	1/4	6	160	42	10580	3.0
					1	1/4	6	165	33	840	*
					1-1/4	1/4	6	175	20	510	*
					1-1/2	5/16	8	185	11	280	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.5-2.8	3.6-3.9	99	4.0	**5**	3	1/8	130	4700	185	0.5
					6	3	1/8	135	4050	160	1.0
					10	3	1/8	135	3050	120	2.0
					12	3	.16	140	2400	95	2.5
					15	4	.16	140	1800	70	2.5
					20	5	3/16	150	1400	55	3.0
					25	6	1/4	165	840	33	*
					32	6	1/4	175	510	20	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 7/8 inch (21 mm) not recommended.

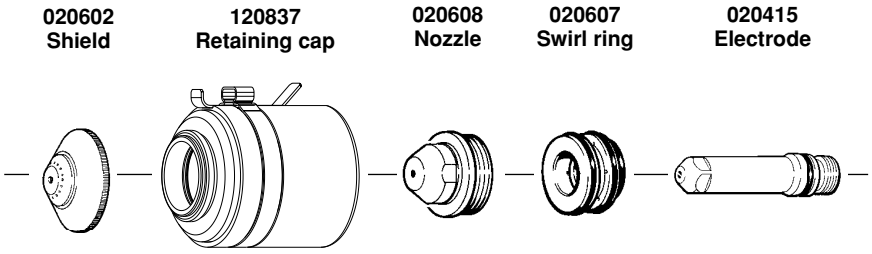
Aluminum – Above Water

200 amps • H35 Plasma / N_2 Shield

This gas combination (Hypertherm recommends a mixture of 35% hydrogen and 65% argon for the plasma gas) gives maximum thickness cutting capability, excellent cut quality and excellent weldability. Electrode life is extended when this combination is used.

WARNING

Do not use water muffler when cutting with argon-hydrogen!



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
70	36-40	62-66	275	60	**3/16**	3/16	5	130	170	4300	0.5
					1/4	3/16	5	130	155	4000	1.0
					3/8	1/4	6	135	120	3000	2.0
					1/2	1/4	6	140	100	2550	2.0
					5/8	1/4	6	145	80	2000	2.5
					3/4	5/16	8	150	60	1500	2.5
					7/8	5/16	8	155	50	1250	2.5
					1	5/16	8	155	40	1000	*
					1-1/4	5/16	8	165	26	660	*
					1-1/2	5/16	8	170	18	460	*
					1-3/4	5/16	8	180	12	300	*
					2	5/16	8	185	7	180	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
33	2.5-2.8	4.3-4.5	129	4.0	**6**	5	3/16	130	4000	155	1.0
					10	6	1/4	135	3000	120	2.0
					12	6	1/4	140	2550	100	2.0
					15	6	1/4	145	2000	80	2.5
					20	6	5/16	150	1500	60	2.5
					25	8	5/16	155	1000	40	*
					32	8	5/16	165	660	26	*
					50	8	5/16	185	180	7	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

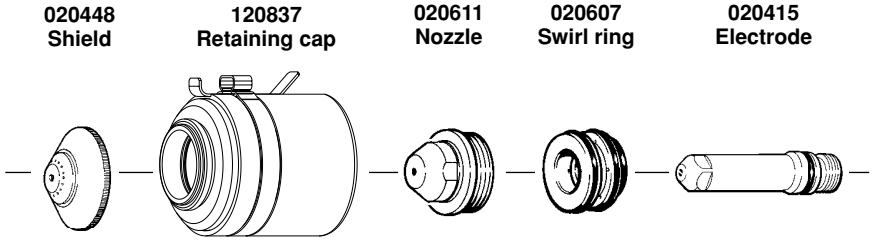
Aluminum – Above Water

100 amps • H35 Plasma / N_2 Shield

This gas combination gives good cut speed, low dross levels and is very economical.

WARNING

Do not use water muffler when cutting with argon-hydrogen!



English

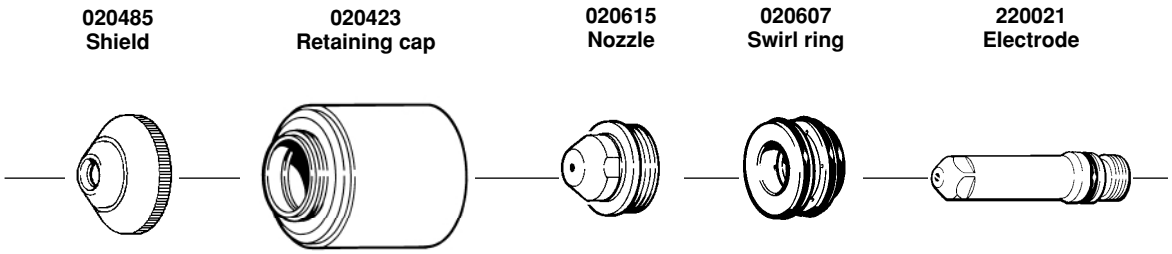
Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
20	32-36	56-60	270	60	**1/8**	3/32	2.5	135	95	2440	0.0
					3/16	1/8	3	140	85	2200	0.5
					1/4	1/8	3	145	80	1980	0.5
					3/8	1/8	3	145	60	1530	0.5
					1/2	1/8	3	150	50	1280	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
9	2.2-2.5	3.9-4.1	127	4.0	**3**	2.5	3/32	135	2440	95	0.0
					5	3	1/8	140	2200	85	0.5
					6	3	1/8	145	1980	80	0.5
					10	3	1/8	145	1530	60	0.5
					12	3	1/8	150	1280	50	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Mild Steel – Gouging
200 amps • Air Plasma / Air Shield



English

Plasma Gas Pressure		Shield Gas Pressure (psi)	Plasma Gas Inlet Pressure (psi)	Shield Gas Inlet Pressure (psi)
TEST (psi)	RUN (psi)			
49-51	50-52	50	90	90

Metric

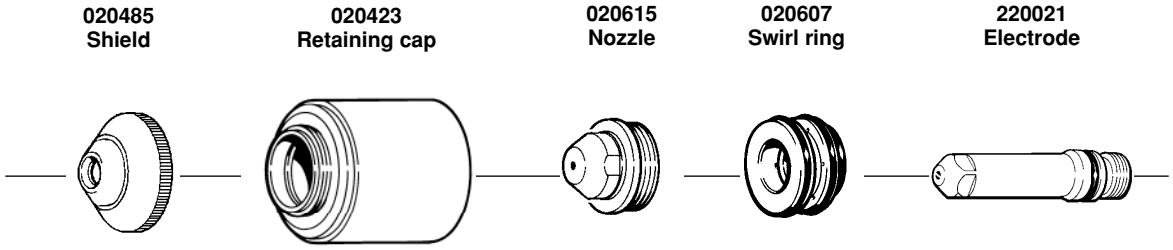
Plasma Gas Pressure		Shield Gas Pressure (bar)	Plasma Gas Inlet Pressure (bar)	Shield Gas Inlet Pressure (bar)
TEST (bar)	RUN (bar)			
3.4-3.5	3.4-3.6	3.4	6.2	6.2

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Stainless Steel – Gouging

200 amps • H35 Plasma / N_2 Shield

Hypertherm recommends a mixture of 35% hydrogen and 65% argon for the plasma gas.



English

Plasma Gas Pressure		Shield Gas Pressure (psi)	Plasma Gas Inlet Pressure (psi)	Shield Gas Inlet Pressure (psi)
TEST (psi)	RUN (psi)			
49-51	50-52	50	120	120

Metric

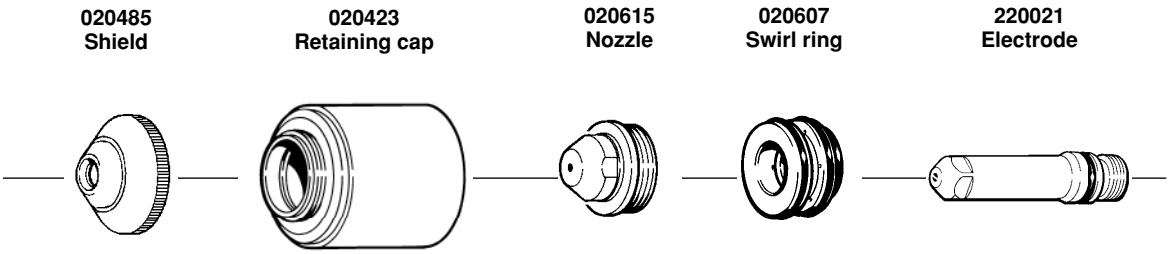
Plasma Gas Pressure		Shield Gas Pressure (bar)	Plasma Gas Inlet Pressure (bar)	Shield Gas Inlet Pressure (bar)
TEST (bar)	RUN (bar)			
3.4-3.5	3.4-3.6	3.4	8.3	8.3

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Aluminum – Gouging

200 amps • H35 Plasma / N_2 Shield

Hypertherm recommends a mixture of 35% hydrogen and 65% argon for the plasma gas.



English

Plasma Gas Pressure		Shield Gas Pressure (psi)	Plasma Gas Inlet Pressure (psi)	Shield Gas Inlet Pressure (psi)
TEST (psi)	RUN (psi)			
49-51	50-52	50	120	120

Metric

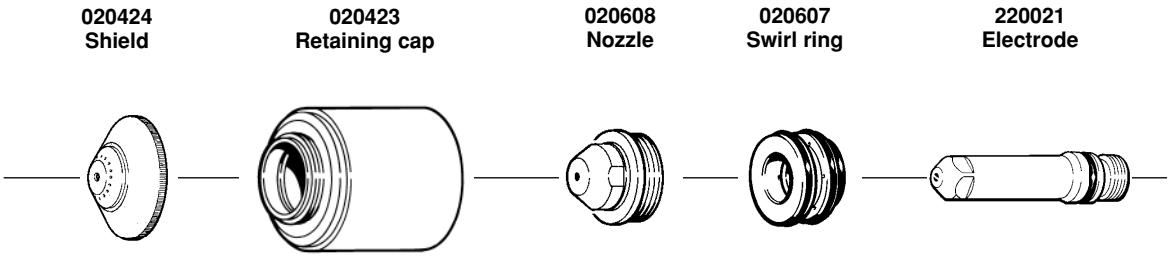
Plasma Gas Pressure		Shield Gas Pressure (bar)	Plasma Gas Inlet Pressure (bar)	Shield Gas Inlet Pressure (bar)
TEST (bar)	RUN (bar)			
3.4-3.5	3.4-3.6	3.4	8.3	8.3

If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Mild Steel – 3" Under Water

200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	280	70	**1/4**	1/8	3	130	130	3300	0.5
					3/8	1/8	3	135	95	2400	1.0
					1/2	1/8	3	140	75	1900	2.0
					5/8	.16	4	145	50	1200	2.0
					3/4	3/16	5	150	35	850	2.5
					7/8	1/4	6	155	20	530	3.0
					1	1/4	6	165	15	400	3.0

Metric

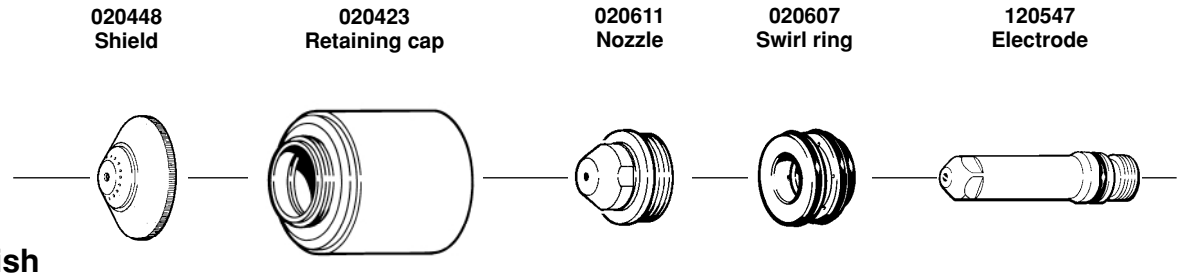
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	132	4.8	**6**	3	1/8	130	3300	130	0.5
					8	3	1/8	135	2700	110	0.5
					10	3	1/8	135	2400	95	1.0
					12	3	1/8	140	1900	75	2.0
					15	4	.16	145	1200	50	2.0
					20	5	3/16	150	850	35	2.5
					25	6	1/4	165	400	15	3.0

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Mild Steel – 3" Under Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross level and is very economical. Some surface nitriting can occur. While this process may be used on thicker materials, optimal recommended range is to 3/8 inch (10 mm).



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	280	70	**1/8**	5/64	2	130	120	3050	0.0
					3/16	1/8	3	135	90	2300	0.5
					1/4	1/8	3	140	70	1730	0.5
					3/8	1/8	3	145	42	1050	0.5
					1/2	1/8	3	145	28	700	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	132	4.8	**3**	2	5/64	130	3050	120	0.0
					5	3	1/8	135	2300	90	0.5
					6	3	1/8	140	1730	70	0.5
					10	3	1/8	145	1050	42	0.5
					12	3	1/8	145	700	28	*

Metric – 80 amps • Air Plasma / Air Shield

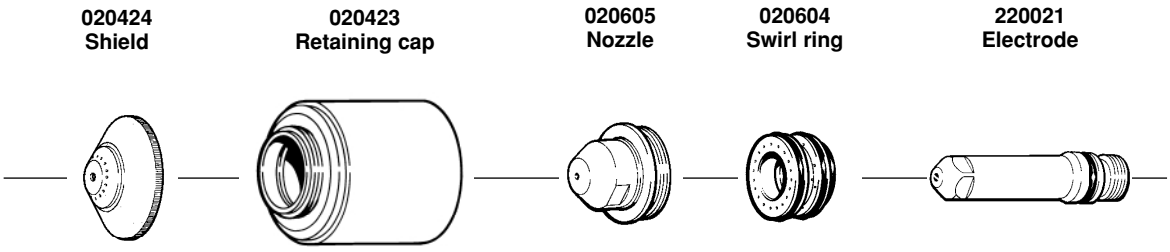
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.3-3.6	132	4.8	**2**	2	5/64	120	6050	240	0.0

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Mild Steel – 3" Under Water

200 amps • O_2 Plasma / Air Shield

This gas combination gives superior cut speed, minimum dross, minimum amount of surface nitriting and excellent weldability.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
72	48-52	64-68	280	70	**1/4**	1/8	3	125	145	3700	0.5
					3/8	1/8	3	130	80	2000	1.0
					1/2	1/8	3	130	70	1800	2.0
					5/8	.16	4	135	60	1500	2.0
					3/4	3/16	5	140	48	1200	2.5
					7/8	1/4	6	140	38	950	3.0
					1	1/4	6	145	25	680	3.0

Metric

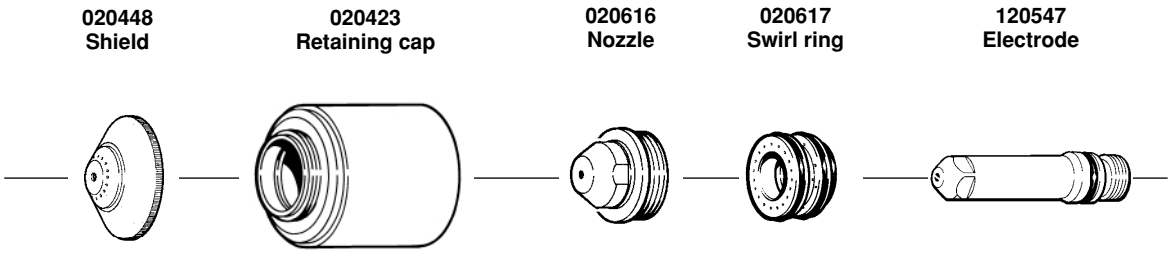
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
34	3.33-3.6	4.4-4.7	132	4.8	**6**	3	1/8	125	3700	145	0.5
					8	3	1/8	125	2800	110	0.5
					10	3	1/8	130	2000	80	1.0
					12	3	1/8	130	1800	70	2.0
					15	4	.16	135	1500	60	2.0
					20	5	3/16	140	1200	48	2.5
					25	6	1/4	145	680	25	3.0

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Mild Steel – 3" Under Water

100 amps • O_2 Plasma / Air Shield

This gas combination gives good cut speed, low dross level, and is very economical. Some surface nitriting can occur. While this process may be used on thicker materials, optimal recommended range is to 3/8 inch (10 mm).



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
40	20-24	60-64	280	70	**1/8**	5/64	2	115	200	5080	0.0
					3/16	1/8	3	120	125	3175	0.5
					1/4	1/8	3	120	90	2280	0.5
					3/8	1/8	3	125	70	1780	0.5
					1/2	1/8	3	125	55	1400	*

Metric

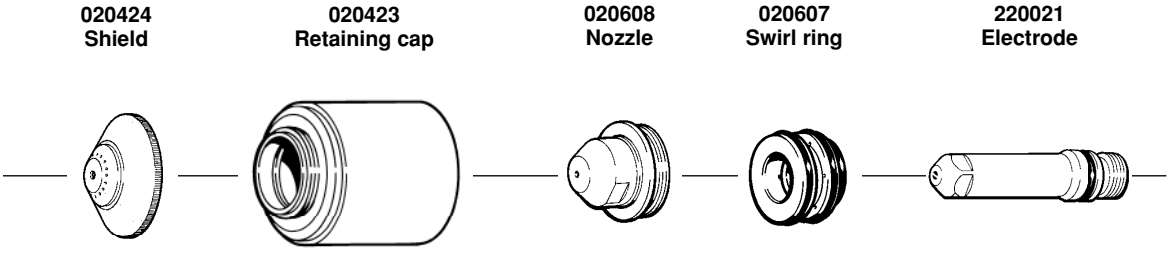
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
19	1.4-1.6	4.1-4.4	132	4.8	**3**	2	5/64	115	5080	200	0.0
					5	3	1/8	120	3175	125	0.5
					6	3	1/8	120	2280	90	0.5
					10	3	1/8	125	1780	70	0.5
					12	3	1/8	125	1400	55	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Stainless Steel – 3" Under Water

200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting and surface oxidation of alloying elements can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	280	70	**3/16**	1/8	3	125	210	5320	0.0
					1/4	1/8	3	130	180	4500	0.5
					3/8	1/8	3	135	125	3150	1.0
					1/2	1/8	3	140	90	2300	2.0
					5/8	.16	4	145	60	1520	2.0
					3/4	3/16	5	145	45	1150	2.5
					7/8	1/4	6	150	30	750	3.0
					1	1/4	6	155	22	570	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	132	4.8	**5**	3	1/8	125	5320	210	0.0
					6	3	1/8	130	4500	180	0.5
					10	3	1/8	135	3150	125	1.0
					12	3	1/8	140	2300	90	2.0
					15	4	.16	145	1520	60	2.0
					20	5	3/16	145	1150	45	2.5
					25	6	1/4	155	570	22	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)

Set shield gas inlet pressure to 90 psi (6.2 bar)

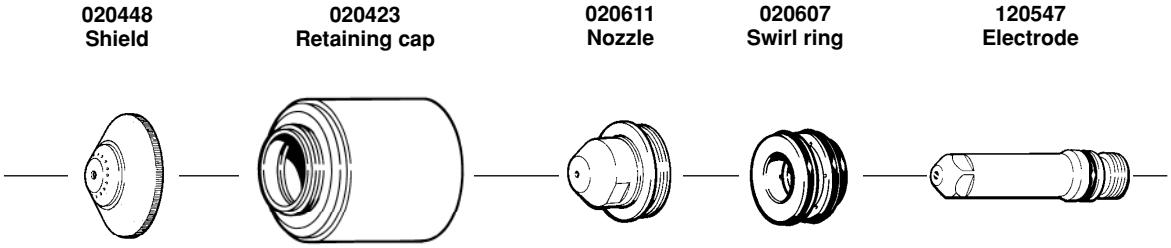
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

* Production cutting above 7/8 inch (21 mm) not recommended.

Stainless Steel – 3" Under Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical. Some surface nitriting and surface oxidation of alloying elements can occur.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	280	70	**1/8**	5/64	2	125	135	3400	0.0
					3/16	1/8	3	130	100	2520	0.5
					1/4	1/8	3	135	65	1720	0.5
					3/8	1/8	3	140	45	1120	0.5
					1/2	1/8	3	145	25	670	*

Metric

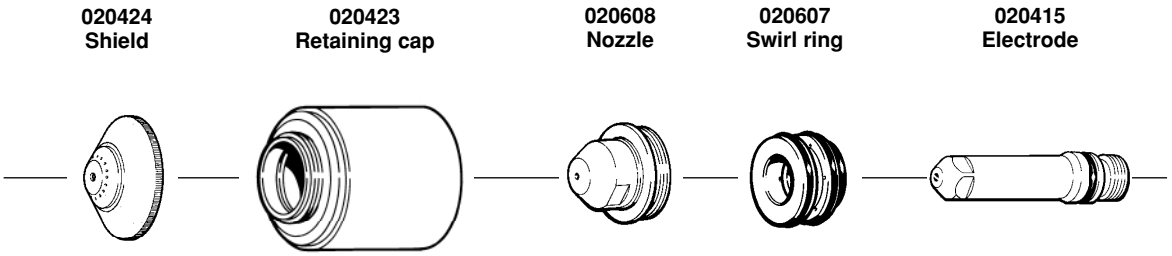
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	132	4.8	**3**	2	5/64	125	3400	135	0.0
					5	3	1/8	130	2520	100	0.5
					6	3	1/8	135	1720	65	0.5
					10	3	1/8	140	1120	45	0.5
					12	3	1/8	145	670	25	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Stainless Steel – 3" Under Water

200 amps • N_2 Plasma / Air Shield

This gas combination is used when cut edge quality, surface nitriting and surface oxidation of alloying elements are less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	34-38	50-54	280	70	**3/16**	1/8	3	125	130	3250	0.0
					1/4	1/8	3	130	110	2750	0.5
					3/8	1/8	3	135	85	2160	1.0
					1/2	1/8	3	140	60	1520	2.0
					5/8	.16	4	145	45	1140	2.0
					3/4	3/16	5	145	30	800	2.5

Metric

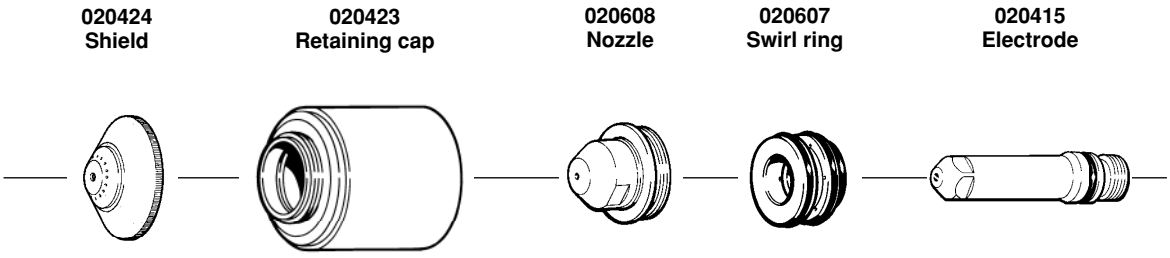
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.3-2.6	3.5-3.7	132	4.8	**5**	3	1/8	125	3250	130	0.0
					6	3	1/8	130	2750	110	0.5
					10	3	1/8	135	2160	85	1.0
					12	3	1/8	140	1520	60	2.0
					15	4	.16	145	1140	45	2.0
					20	5	3/16	145	800	30	2.5

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Stainless Steel – 3" Under Water

200 amps • N_2 Plasma / CO_2 Shield

This gas combination is used when surface nitriting and surface oxidation of alloying elements is less important. Electrode life is extended when using this gas combination.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	36-40	52-56	210	70	**3/16**	1/8	3	125	180	4550	0.5
					1/4	1/8	3	130	150	3850	1.0
					3/8	1/8	3	135	110	2700	1.5
					1/2	1/8	3	140	75	1920	2.0
					5/8	.16	4	145	50	1350	2.0
					3/4	3/16	5	145	38	950	2.5
					7/8	1/4	5	150	28	700	3.0

Metric

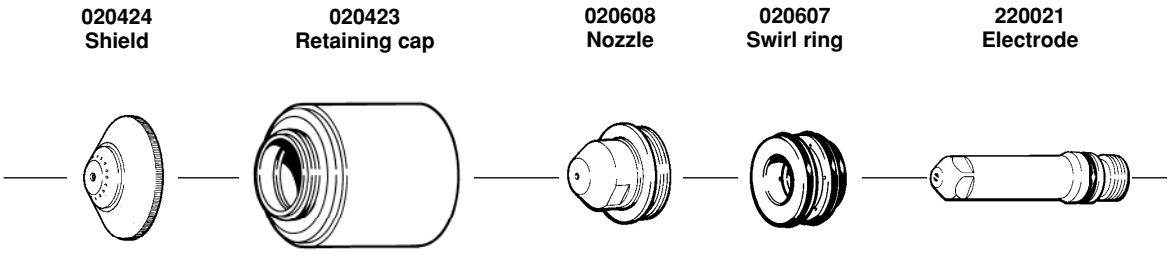
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.5-2.8	3.6-3.9	99	4.8	**5**	3	1/8	125	4550	180	0.5
					6	3	1/8	130	3850	150	1.0
					10	3	1/8	135	2700	110	1.5
					12	3	1/8	140	1920	75	2.0
					15	4	.16	145	1350	50	2.0
					20	5	3/16	145	950	38	2.5

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Aluminum – 3" Under Water

200 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
66	44-48	58-62	280	70	**3/16**	1/8	3	135	210	5300	0.5
					1/4	1/8	3	140	170	4300	1.0
					3/8	1/8	3	145	125	3150	2.0
					1/2	1/8	3	150	90	2240	2.5
					5/8	.16	4	155	65	1650	3.0
					3/4	3/16	5	160	45	1150	3.0

Metric

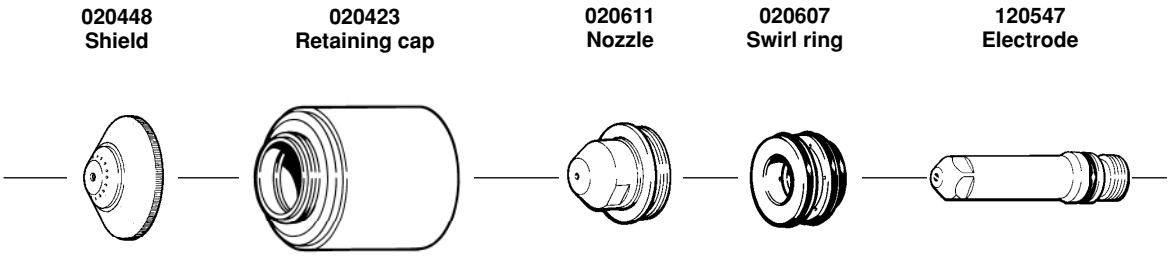
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
31	3.0-3.3	4.0-4.3	132	4.8	**5**	3	1/8	135	5300	210	0.5
					6	3	1/8	140	4300	170	1.0
					10	3	1/8	145	3150	125	2.0
					12	3	1/8	150	2240	90	2.5
					15	4	.16	155	1650	65	3.0
					20	5	3/16	160	1150	45	3.0

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Aluminum – 3" Under Water

100 amps • Air Plasma / Air Shield

This gas combination gives good cut speed, low dross levels and is very economical.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
37	22-26	54-58	280	70	**1/8**	5/64	2	135	100	2650	0.0
					3/16	1/8	3	140	80	2050	0.5
					1/4	1/8	3	145	60	1510	0.5
					3/8	1/8	3	150	40	1000	0.5
					1/2	1/8	3	155	30	750	*

Metric

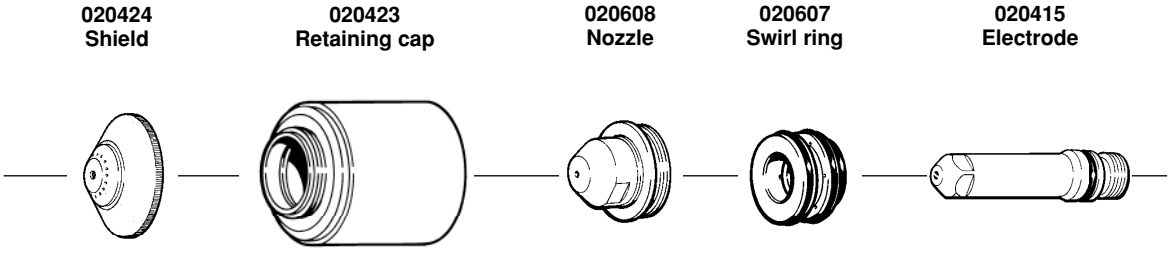
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
17	1.5-1.8	3.7-4.0	132	4.8	**3**	2	5/64	135	2650	100	0.0
					5	3	1/8	140	2050	80	0.5
					6	3	1/8	145	1510	60	0.5
					10	3	1/8	150	1000	40	0.5
					12	3	1/8	155	750	30	*

Set plasma gas inlet pressure to 90 psi (6.2 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 3/8 inch (10 mm) not recommended.

Aluminum – 3" Under Water

200 amps • N_2 Plasma / Air Shield

This gas combination is used when cut edge quality is less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	34-38	50-54	280	70	**3/16**	1/8	3	135	170	4350	0.5
					1/4	1/8	3	140	140	3650	1.0
					3/8	1/8	3	140	100	2600	1.5
					1/2	1/8	3	145	65	1620	2.0
					5/8	.16	4	145	55	1350	2.5
					3/4	3/16	5	155	35	890	3.0
					7/8	1/4	5	165	25	620	3.0

Metric

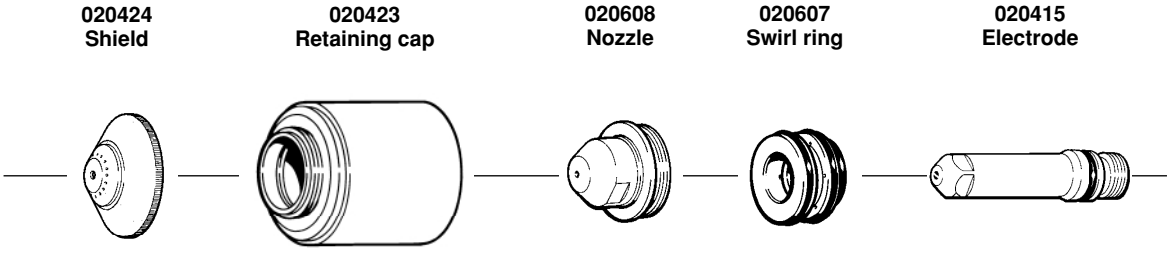
Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.3-2.6	3.4-3.7	132	4.8	**5**	3	1/8	135	4350	170	0.5
					6	3	1/8	140	3650	140	1.0
					10	3	1/8	140	2600	100	1.5
					12	3	1/8	145	1620	65	2.0
					15	4	.16	145	1350	55	2.5
					20	5	3/16	155	890	35	3.0

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Aluminum – 3" Under Water

200 amps • N_2 Plasma / CO_2 Shield

This gas combination is used when cut edge quality is less important. Electrode life is extended when this combination is used.



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
60	36-40	52-56	220	70	**3/16**	1/8	3	130	175	4450	0.5
					1/4	1/8	3	135	145	3650	1.0
					3/8	1/8	3	140	100	2600	2.0
					1/2	1/8	3	145	75	1820	2.5
					5/8	.16	4	145	55	1350	2.5
					3/4	3/16	5	155	40	980	3.0
					7/8	1/4	5	165	30	750	3.0

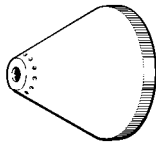
Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
28	2.5-2.8	3.6-3.9	103	4.8	**5**	3	1/8	130	4450	175	0.5
					6	3	1/8	135	3650	145	1.0
					10	3	1/8	140	2600	100	2.0
					12	3	1/8	145	1820	75	2.5
					15	4	.16	145	1350	55	2.5
					20	5	3/16	155	980	40	3.0

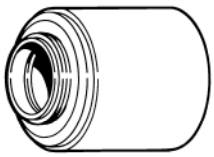
Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.

Mild Steel – Beveling Consumables
200 amps • O_2 Plasma / Air Shield

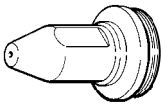
120260
Shield



020423
Retaining cap

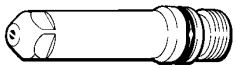


120259
Nozzle

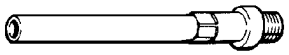


120833
Swirl ring

120258
Electrode



120257
Water Tube



English

Plasma Gas Flowrate (SCFH)	Plasma Gas Pressure		Shield Gas Flowrate (SCFH)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (psi)	Run (psi)		(psi)	**(Inches)**	(Inches)	(mm)	(Volts)	(ipm)	(mm/min)	(sec)
72	48-52	64-68	270	60	**1/4**	1/8	3	120	160	4060	0.5
					3/8	1/8	3	125	100	2540	1.0
					1/2	.16	4	125	80	2030	2.0
					5/8	.16	4	130	70	1780	2.0
					3/4	3/16	5	135	55	1400	2.5
					7/8	1/4	6	135	45	1140	2.5
					1	1/4	6	140	35	890	2.5
					1-1/4	1/4	6	150	22	560	*
					1-1/2	1/4	6	155	15	380	*
					1-3/4	5/16	8	165	10	250	*
					2	5/16	8	170	7	180	*

Metric

Plasma Gas Flowrate (l/min)	Plasma Gas Pressure		Shield Gas Flowrate (l/min)	Shield Gas Pressure	**Material Thickness**	Torch-to-Work Distance		Arc Voltage Setting	Travel Speed		Approx. Motion Delay Time
	Test (bar)	Run (bar)		(bar)	**(mm)**	(mm)	(Inches)	(Volts)	(mm/min)	(ipm)	(sec)
34	3.3-3.6	4.4-4.7	127	4.0	**6**	3	1/8	120	4060	160	0.5
					8	3	1/8	125	3000	120	0.5
					10	3	1/8	125	2540	100	1.0
					12	4	.16	125	2030	80	2.0
					15	4	.16	130	1780	70	2.0
					20	5	3/16	135	1400	55	2.5
					25	6	1/4	140	890	35	2.5
					32	6	1/4	150	560	22	*
					50	8	5/16	170	180	7	*

Set plasma gas inlet pressure to 120 psi (8.3 bar)
Set shield gas inlet pressure to 90 psi (6.2 bar)
If leads are greater than 50 feet, increase TEST pressure 5 psi for every extra 50 feet of torch lead length.
* Production cutting above 1 inch (25 mm) not recommended.