

Consumable selection

Standard cutting (0°)

Most of the consumables on the following pages are designed for standard (straight) cutting, when the torch is perpendicular to the workpiece.

Bevel cutting (0° to 45°)

Consumables for 130 amp and 260 amp bevel cutting are specifically designed for bevel cutting. 400 amp consumables can be used for standard cutting and bevel cutting, but bevel-specific, 400 amp cut charts are provided for convenience.

Marking

Any of the consumable sets can also be used for marking with argon or nitrogen. Marking parameters are shown at the bottom of each cut chart. The quality of the marks will vary depending on the marking process, cut process, material type, material thickness, and material surface finish. For best mark quality, use the argon marking process settings. For all marking processes the depth of the mark can be increased by reducing the marking speed, or the depth can be decreased by increasing the marking speed. Argon marking currents can be increased by up to 30% to increase the depth of the mark. When marking with an argon process at 25 amps or greater, the process will start with air before changing to argon, and a thicker, darker mark will be seen at the start of the mark. When using the argon marking processes, mark and cut individual parts. Marking the entire nest prior to cutting may lead to reduced consumable life. For better results intersperse cuts and marks. Poor quality marking or burn-through may occur with material less than 1.5 mm (0.06 in. or 16 gauge).

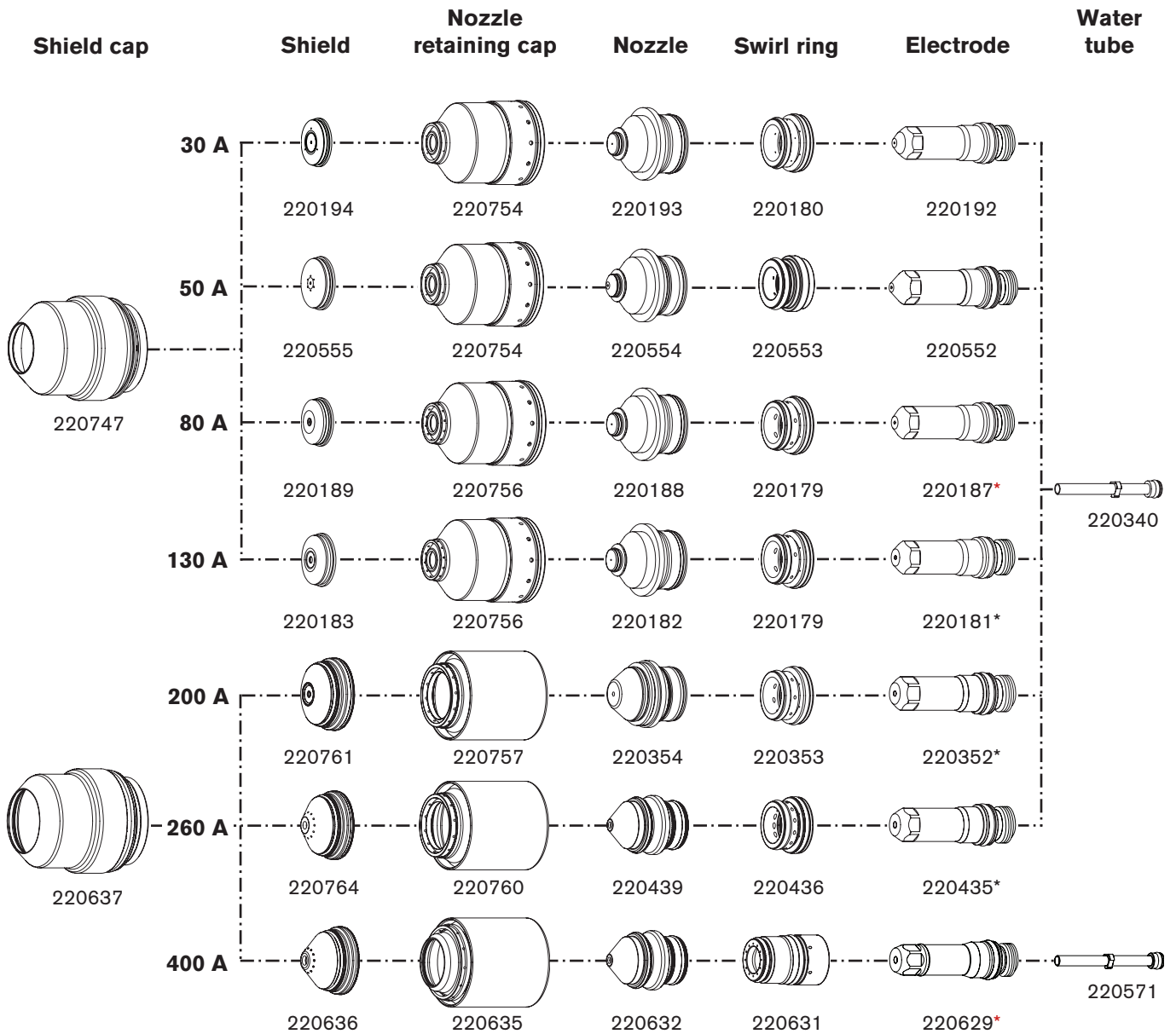
Consumables for mirror-image cutting

See the *Parts List* section in this manual for part numbers.

SilverPlus electrodes

SilverPlus electrodes provide increased life when the average cut duration is short (< 60 seconds), and cut quality is not the most critical requirement. SilverPlus electrodes are available for **80 amp, 130 amp, 200 amp, 260 amp, and 400 amp** mild steel O₂ / Air cutting. Part numbers can be found on the following page.

Mild steel

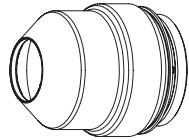


* SilverPlus electrodes are available for these processes.

- Mild steel, 80 amp, O₂ / Air – 420566
- Mild steel, 130 amp, O₂ / Air – 220665
- Mild steel, 200 amp, O₂ / Air – 220666
- Mild steel, 260 amp, O₂ / Air – 220668
- Mild steel, 400 amp, O₂ / Air – 420530

Mild steel
O₂ Plasma / Air Shield
80 A

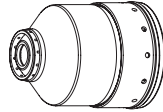
Flow rates – lpm/scfh		
	O ₂	Air
Preflow	0 / 0	76 / 161
Cutflow	23 / 48	41 / 87



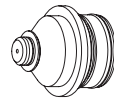
220747



220189



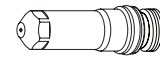
220756



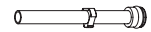
220188



220179



220187
420566 - SilverPlus



220340

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					mm	Volts		mm
O ₂	Air	50	30	72	30	2	112	2.5	9810	3.8	150	0.1	
						2.5	115						6145
						3	117						4300
						4	120						3045
						6	123						1810
						10	127						1410
					15	12	130	2.0	545	6.3	250	0.7	
						15	133						1030
						20	135						545
						20	135						545

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness	Arc Voltage	Torch-to-Work Distance	Cutting Speed	Initial Pierce Height		Pierce Delay Time	
Plasma	Shield	Plasma	Shield	Plasma	Shield					in	Volts		in
O ₂	Air	50	30	72	30	0.075	112	0.100	400	0.150	150	0.1	
						0.105	115						290
						0.135	117						180
						3/16	120						155
						1/4	123						110
						3/8	127						75
					15	1/2	130	0.080	50	0.200	250	0.7	
						5/8	133						37
						3/4	135						25
						3/4	135						25

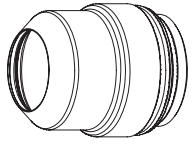
Marking

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

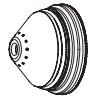
OPERATION

Mild steel O₂ Plasma / Air Shield 400 A

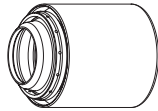
Flow rates – lpm/scfh		
	O ₂	Air
Preflow	0 / 0	190 / 400
Cutflow	66 / 140	137 / 290



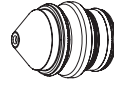
220637



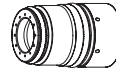
220636



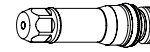
220635



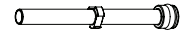
220632



220631



220629



220571

420530 - SilverPlus

Metric

Select Gases		Set Preflow		Set Cutflow		Material Thickness mm	Arc Voltage Volts	Torch-to-Work Distance mm	Cutting Speed mm/m	Initial Pierce Height		Pierce Delay Time Seconds
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas					mm	Factor %	
O ₂	Air	22	82	55	82	12	139	3.6	4430	7.2	200	0.4
						15	142		3950			0.5
						20	146		2805			0.7
						22	148	2540	7.6			0.8
						25	150	2210	8.0			0.9
						30	153	1790	9.2			1.1
						40	158	1160	11.5	250	1.9	
						50	167	795	19.1	360	5.2	
						60	173	580	Edge start			
						70	183	380				
80	197	180										

English

Select Gases		Set Preflow		Set Cutflow		Material Thickness in	Arc Voltage Volts	Torch-to-Work Distance in	Cutting Speed ipm	Initial Pierce Height		Pierce Delay Time Seconds
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas					in	Factor %	
O ₂	Air	22	82	55	82	1/2	140	0.14	170	200	200	0.4
						5/8	143		150			0.5
						3/4	145		115			0.6
						7/8	148	100	0.30			0.8
						1	151	85	0.32			0.9
						1-1/4	153	65	0.36			1.2
						1-1/2	157	48	0.45	250	1.6	
						1-3/4	160	40			2.5	
						2	168	30			0.75	360
						2-1/4	171	25	Edge start			
						2-1/2	175	20				
						3	193	10				

Marking

Select Gases		Set Preflow		Set Cutflow		Amperage Amps	Torch-to-Work Distance		Marking Speed		Arc Voltage Volts
Plasma gas	Shield gas	Plasma gas	Shield gas	Plasma gas	Shield gas		mm	in	mm/m	ipm	
N ₂	N ₂	10	10	10	10	22	2.5	0.10	1270	50	123
Ar	Air	20	10	30	10	25	3.0	0.12	1270	50	55

Consumable parts kits

Note: See *Consumable selection* or *Cut charts* in section 4 for specific applications

Mild steel parts kit – 228367

<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
026009	O-ring: 0.208" X 0.070"	5
027055	Lubricant: Silicone 1/4-oz tube	1
044028	O-ring: 1.364" X 0.070"	2
104119	Tool: Consumable removal / replacement	1
104269	Wrench: Spanner	1
220179	Swirl ring: 80 A/130 A	1
220180	Swirl ring: 30 A	1
220181	Electrode: 130 A	2
220182	Nozzle: 130 A	3
220183	Shield: 130 A	2
220187	Electrode: 80 A	2
220188	Nozzle: 130 A	2
220189	Shield: 80 A	1
220192	Electrode: 30 A	2
220193	Nozzle: 30 A	2
220194	Shield: 30 A	1
220340	Water tube with o-ring	1
220352	Electrode: 200 A	2
220353	Swirl ring: 200 A	1
220354	Nozzle: 200 A	3
220435	Electrode: 260 A	2
220436	Swirl ring: 260 A	1
220439	Nozzle: 260 A	3
220552	Electrode: 50 A	2
220553	Swirl ring: 50 A	1
220554	Nozzle: 50 A	2
220555	Shield: 50 A	1
220571	Water tube with o-ring (bevel)	1
220629	Electrode: 400 A	3
220631	Swirl ring: 400 A	1
220632	Nozzle: 400 A	3
220635	Nozzle retaining cap: 400 A	1
220636	Shield: 400 A	2
220637	Shield cap: 400 A	1
420566	SilverPlus Electrode: 80 A	1
220665	SilverPlus electrode: 130 A	1
220666	SilverPlus electrode: 200 A	1
220668	SilverPlus electrode: 260 A	1
420530	SilverPlus Electrode: 400 A	1
220747	Shield cap: 130 A	1
220754	Nozzle retaining cap: 30 A	1
220756	Nozzle retaining cap: 130 A	1
220757	Nozzle retaining cap: 200 A	1
220760	Nozzle retaining cap: 260 A	1
220761	Shield: 200 A	2
220764	Shield: 260 A	2