



Dual Pulse Resistance Welders

CD125DP/CD250DP/CD375DP

Professional Capacitive Discharge Spot Welding Systems

- Dual Pulse operation removes surface inconsistencies and contaminants
- Adjustable pulse width
- Single or dual pulse operation
- Available from 125ws to 375ws
- Adjustable from 0.1% to 100% energy discharge
- Up to 166 welds/min
- Simple, user-friendly interface



CD125D

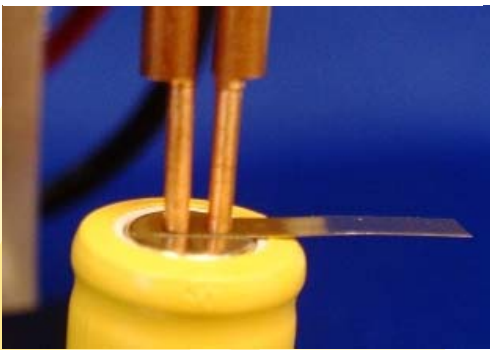


CD250DP



CD375DP

Battery Welding Applications



Battery Tab Welding: Nickel strip to nickel plated steel using the CD250DP and CPGWH weld head.

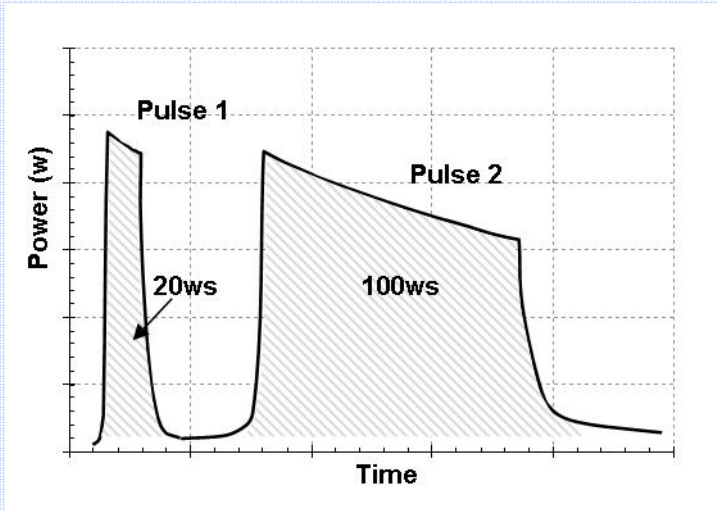
Sunstone Dual Pulse Capacitive Discharge Resistance Welders

Sunstone Dual Pulse CD welders are powerful and intuitive to use. Capacitive discharge welding offers high peak currents with extremely fast pulse rise times (10's of μ s). This aids in welding highly conductive materials, such as copper or brass. Weld times may be adjusted to weld more resistive materials such as steel and nickel. Capacitive welding produces repeatable welds independent of line voltage fluctuations and is capable of extremely fine energy adjustment. The dual pulse weld setting helps eliminate surface inconsistencies and seat welding electrodes to produce repeatable results.

Welder Interface and Use

Sunstone welder interfaces have been designed for simplicity (see picture below). Pulse widths can be adjusted independently or turned off if desired. Weld energy is indicated by a 10 level status bar and is adjusted in watt-seconds (ws). Sunstone welders are designed to be ready for use within minutes. Technical training and hours of reading are unnecessary. The welder can be used for laboratory research or high volume production.

Dual Pulse Welding



Using multiple current pulses increases weld quality. In dual pulse mode Sunstone welders will fire twice from a single actuation. The first pulse is used to remove surface inconsistencies and contaminants. This initial burst of energy displaces oils and breaks through oxide layers. The pulse also seats the welding electrodes. The second pulse is done at a much higher energy level (watt-seconds) and performs the actual weld.



Pulse 1

- Removes oxides and contaminates
- Seats welding electrodes

Pulse 2

- Provides Weld Energy

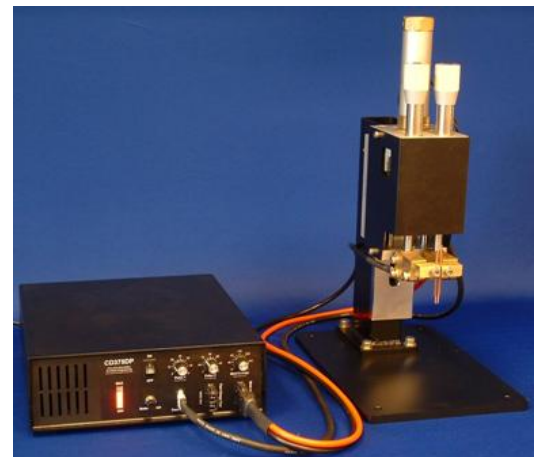
Sunstone DP welders have been designed for ease of use and simplicity. Pulse and energy settings are controlled from the front panel.

Weld Head Choices

Sunstone Engineering produces a variety of welding hand pieces and weld heads to accommodate a diverse range of welding applications. Hand piece welding attachments allow ease of use and versatility while fixed weld heads provide control and precision. All welding attachments use a high current snap-in connector to simplify setup. Sunstone Dual Pulse welders can also be used with other manufacturers weld heads through the use of an adapter cable. For additional information about our welding attachments please review the product literature provided on our website.



CD375DP with the SPGWH Sunspot weld head



CD375DP Welder with the SEK500A parallel gap weld head.

Sunstone Dual Pulse Resistance Welder Technical Specifications

Feature	CD125DP / CD250DP / CD375DP
Dual Pulse	Yes
Pulse 1 Energy Adjustment (% of set-point energy)	6% - 50%
Pulse 2 Energy Adjustment (% of set-point energy)	3%-100%
Peak Current (typical)	1200 Amps

Single Pulse Welding Speed

Pulse width at 70% welder energy set-point	Rep Rate (welds/min)	Rep Rate (welds/min)	Rep Rate (welds/min)
3%	166	166	166
25%	166	152	150
50%	155	140	116
100%	150	120	80

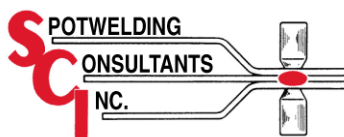
* The 70% energy set-point represents the maximum voltage level produced by the PS25A booster power supply. The repetition rate is based on using the PS25A booster.

Sunstone Dual Pulse Resistance Welder Pulse Characteristics

Model	Min Output	Max Output	Capacitor Bank	Pulse Width		Rise Time	Min Pulse Height
				Min	Max		
CD125DP	0.2 ws	125 ws	800,000 μ F	Min	0.5 ms	10's of μ s	4.0 V
				Max	17 ms	10's of μ s	4.0 V
CD250DP	0.4 ws	250 ws	1,600,000 μ F	Min	0.5 ms	10's of μ s	4.0 V
				Max	30 ms	10's of μ s	4.0 V
CD375DP	0.6 ws	375 ws	2,400,000 μ F	Min	0.5 ms	10's of μ s	4.0 V
				Max	40 ms	10's of μ s	4.0 V

Physical Characteristics

	CD125DP		CD250DP		CD375DP		PS25A (booster)		PS35A (booster)	
	Inches	cm	Inches	cm	Inches	cm	Inches	cm	Inches	cm
Height	3.6	9.1	3.6	9.1	3.6	9.1	7.1	18.0	5	12.7
Width	10.3	26.2	10.3	26.2	10.3	26.2	9.1	23.1	9.2	23.4
Depth	12	30.5	12	30.5	12	30.5	11.8	30.0	14	35.6
Weight	5 lbs	(2.26 kg)	7.3 lbs	(3.3 kg)	9.3 lbs	(4.2 kg)	20 lbs	(9.1 kg)	30 lbs	(13.6 kg)



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