

I. Parallel Gap Welder Selection Guide

Parallel gap welding technique was developed for applications where the parts on the same plane need to be welded together. It is very similar to the surface mount soldering process.

Industry wise, there are two types of power suppliers, **AC-DC-AC inverter power supply** and **DC power supply**, are implemented in the parallel gap welders. While the focus of the AC-DC-AC inverter power supply is to offer higher welding power, the DC power supply is for low power and fine output power control.

The parallel gap welders offered by **SW Tech Equipment** use DC power supplies since the main focus of these welders are for small parts welding applications. Therefore, the fine closed-loop feedback control and fast response time are the main concerns.

Four models are offered for customer selection. The table below summarizes the major considerations of each model to assist customer to select the correct model to best suit his/her applications and budget.

Item	Parameters			
Model	SMAPRO100		SMAPRO180	
Type	Type S	Type L	Type S	Type L
Input Power	110 VAC/60 Hz or 220 VAC/50 Hz			
Output Pulse Power	400 W (Max)	800 W (Max)	400 W (Max)	800 W (Max)
Welding Pulse Width	0.1 to 29.9 ms (Step Size: 0.1 ms)		0.1 to 19.9 ms	
Welding Pulse Amplitude	0 to 1.99 V adjustable		0 to 2.99 V adjustable	
Welding Head Force	1 to 100 ounces adjustable			
Auto Power Control	No		Yes	
Gold Ribbon (W x T)	2 to 25 mils x 0.25 to 5 mils, Type S is recommended.			
Wire Diameter Range	0.8 to 10 mils	3 to 16 mils	0.8 to 10 mils	3 to 16 mils
Welding Schedule	No		Yes	
RS232 Port	No		Yes	
RS485 Port	No		Yes	
Control Unit Dimensions	13"(W) x 7"(H) x 8"(D)		13"(W) x 7.5"(H) x 8"(D)	
Overall Weight	36 Lbs or 16 Kg			
Cost	Low		High	

General recommendations from SW Tech Equipment are:

1. Choose model SMAPRO100 if the basic parallel gap welding is concerned since the model is a low cost version.
2. Choose Type S if only gold/silver ribbon welding is concerned since the type offers enough power, but finer welding power control.