

# High Power Electrodes

High grade stainless steel electrodes for electrolysis



## SS2-08

This kit allows you to make a high power set of parallel plate electrodes that are ideal for splitting water into Hydrogen and Oxygen using electricity.

The material used for these electrodes is very hard and very flat. This allows for the plates to be placed in close proximity for maximum efficiency at low voltages such as that from a car battery. This high density material is highly durable and long lasting. The high quality of the steel means that they are non magnetic.

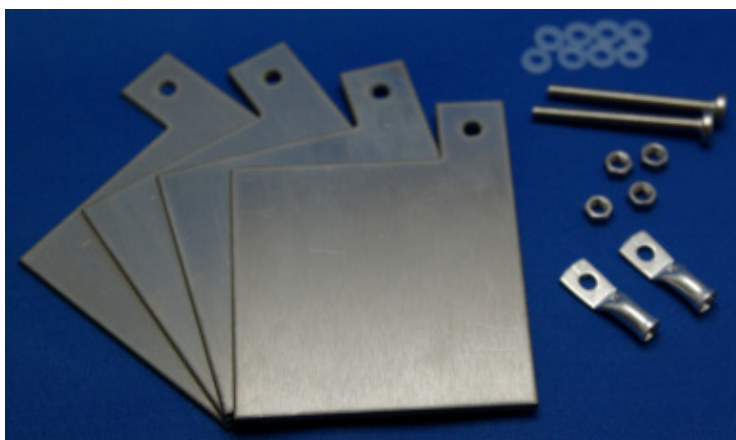
The kit uses bolts that will fit up to eight pairs of electrodes, but any stainless steel M5 bolts or threaded rod can be used for mounting them.

As few or as many pairs electrodes can be connected together to create a setup custom made for your needs.

These plates also can be used to make high voltage capacitors. In air the 8 pair unit will have a capacitance of about 1nF. You could also immerse it in oil to give a much higher voltage tolerance.

The image shown on the left shows a full set of eight pairs

Dimensions: 80mm x 100mm x 5mm(per electrode pair)  
Bolts: M5 x 50mm



## Package Contents

- High Grade Stainless Steel Electrode Plates
- High Grade Stainless Fixings
- Nylon Spacers
- High Power Crimp Terminals

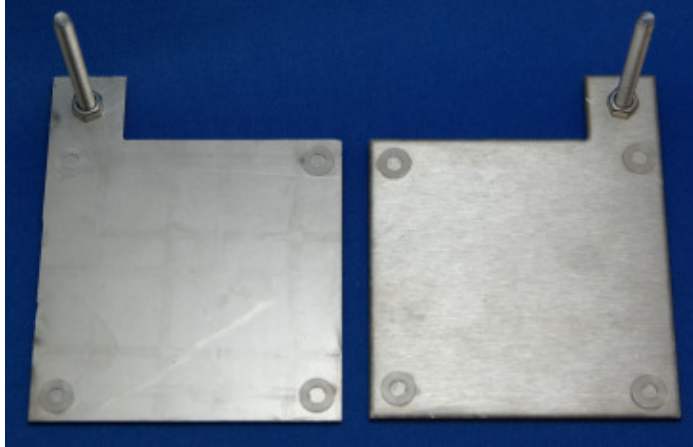
The number of electrodes in your kit will depend on which kit you chose.

## Features and Specifications

Extremely high power capability  
Close packed flat parallel plates  
High Grade Stainless Steel  
2mm thick plates for long life  
Rugged construction  
Highly compact

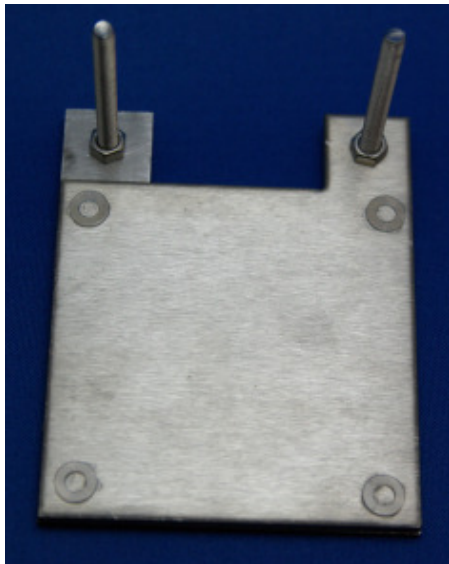
**Construction Guide**

Prepare a clean area to construct the electrodes and make sure to keep them as clean as possible as you put them together.



Take two plates, inset a bolt into the hole in each of them, and fix them tightly with a nut. Make sure that one plate is turned over relative to the other as shown in the image above.

Place a nylon spacer in each corner of the square area of the plates and fix it in place with strong superglue such as cynoacrilate.



Add some glue on top of the spacers and then place the second plate on top so that it looks like the image above.

Glue some more spacers and then place another plate over the bolts. Make sure the orientation is opposite to the plate below it.

Bolt this plate tightly in place, add more spacers and repeat until all your plates are used.



Add the crimp terminals between the plate and the last nuts to be added as shown in the image.

**Usage Recommendations**

**Water**

It is recommended that you use distilled water with an added catalyst such as Potassium Hydroxide. Tap water contains many different dissolved compounds which can react with the electrodes and reduce their life efficiency.

**Container**

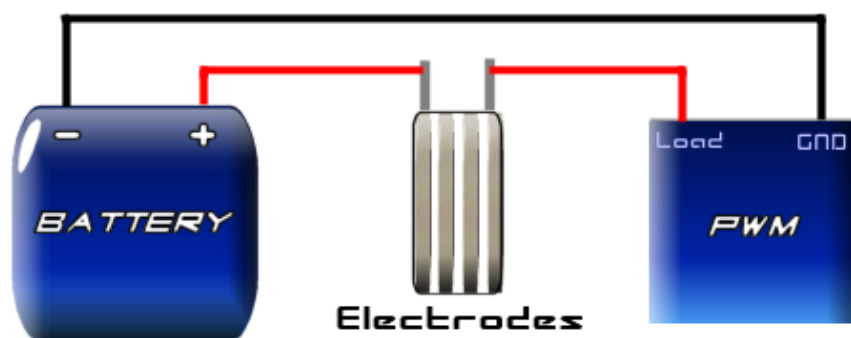
The electrodes should be placed in a suitable container. If used at high power for extended periods the container should be suitable for holding boiling water as the water would heat up. The container should be the right size so that no large gas volume exists inside as this could cause explosion if accidentally ignited. The lid should also be such that it will pop off so that the container would not rupture if the gas ignited.

The water level should be monitored or kept topped up by an automatic system if it is to be left running for extended periods.

## Wiring

This is a non polarized device and therefore it is not important which connector is positive or negative. Make sure that the cables used are thick enough for the current you intend to pass through the device. Make sure your connections are very secure and unable to move. Loose connections could cause sparking which could ignite the gas mixture.

The diagram below shows an example connection to pulse width modulation control circuit such as our PWM-OC70A



## Extra Safety Notes

Gas produced from using these electrodes in water will be a mixture of hydrogen and oxygen gas. The gasses are not separated and therefore the gas is an explosive mixture so all necessary precautions should be taken to avoid explosion. Do not try to store the gas in a container. If you are piping the gas from your electrolyser, make sure to use one way valves and bubbler systems to prevent any flashback.