Electroplating Standard Operating Procedure

Model #: GPS-1830D  Serial #: A681220-042  Work Order #: 6083

General Notes and Specifications

- DC Power supply
- Adjustable current and voltage
- Voltage between 0 and 18 volts
- Current between 0 and 3 amps
- Digital operation

**You can switch the display between volts and amps with the switch to the right of the digital display

Operation

1. Wear gloves, face protection, and observe all clean room policies
2. Prepare stand with materials to be electroplated
3. Fill with electrolyte solution to desired level (Above the sensors)
4. Insert prepared stand into solution between heating coils and tank wall
5. Connect positive terminal (red) to anode (i.e. nickel)
6. Connect negative terminal (black) to cathode (i.e. copper)
7. Slide top into place
8. Connect positive terminal to power supply (+)
9. Connect negative terminal to power supply (-)
10. Turn on heating supply located directly to the right of the right hood
11. Adjust heater to desired temperature and wait for temperature to rise to desired level (max. 70°C)
12. Determine if constant voltage or constant current is desired
13. Check that power supply is plugged in (cord is in back)
14. Press power button on power supply
15. Adjust current or voltage as desired first with the coarse adjustment knob, then with the fine adjustment knob (current is on the left, voltage is on the right)
16. The C.C. light will be lit if the device is operating in constant current mode
17. The C.V. light will be lit if the device is operating in constant voltage mode
18. If the C.C. light is not lit, increase the voltage until C.C. is lit and vice versa for the C.V. light
19. At end of electroplating, simply switch off the power
20. Disconnect tank from power supply
21. Remove top
22. Disconnect the cathode and anode and remove stand from tank
23. Return electrolyte solution to its original container and wash tank with DI water
24. Clean up all electrolyte solution

**It is difficult to pour accurately from the tank, so it is best to first pour into a large flask, then into the bottle.

Precautions

- Operate between 0 and 40 deg C and less than 80% humidity
- Store between -10 and 70 deg C and less than 70% humidity
- Keep alligator clips and wires out of electrolyte solution
- Wear gloves and face protection
- Consult manual if you need to do series or parallel operation of multiple power supplies
- If constant voltage operation is desired, you should set the current limit before connecting the power supply to the electroplating tank

Setting the Current Limit

1. Determine max safe current for electroplating process
2. Temporarily short the (+) and (-) terminals of the power supply together with a test lead
3. Rotate the coarse voltage control away from zero sufficiently for the C.C. indicator to light
4. Adjust the current control for the desired current limit and read the current value on the Ammeter
5. The current limit (overload protection) has now been preset. do not change the current control setting after this step
6. Remove the test lead
