12V 5A Digital Electroplating Machine User Manual

This electroplating machine is designed for metal plating electro-conductive materials with such popular metals as copper, silver, gold, nickel, brass, zinc, rhodium etc. As our machine has an inbuilt digital controller, it can work in two modes – Voltage stabilisation or Current stabilisation. With the help of this machine you can also remove old layers of metal from your items. Moreover, you can use it for electrochemical cleaning of electro-conductive items before you start plating. This machine also has an agitation system, which utilises compressed air to mix your chemical solutions.

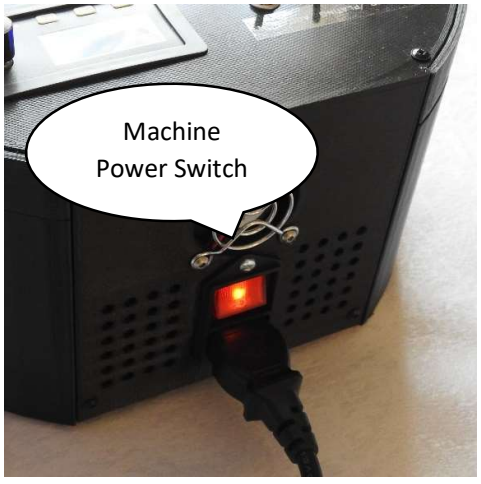
Our machine is very safe to use as it works at low amperage (5A) and low voltage (12V).

Technical Specifications:

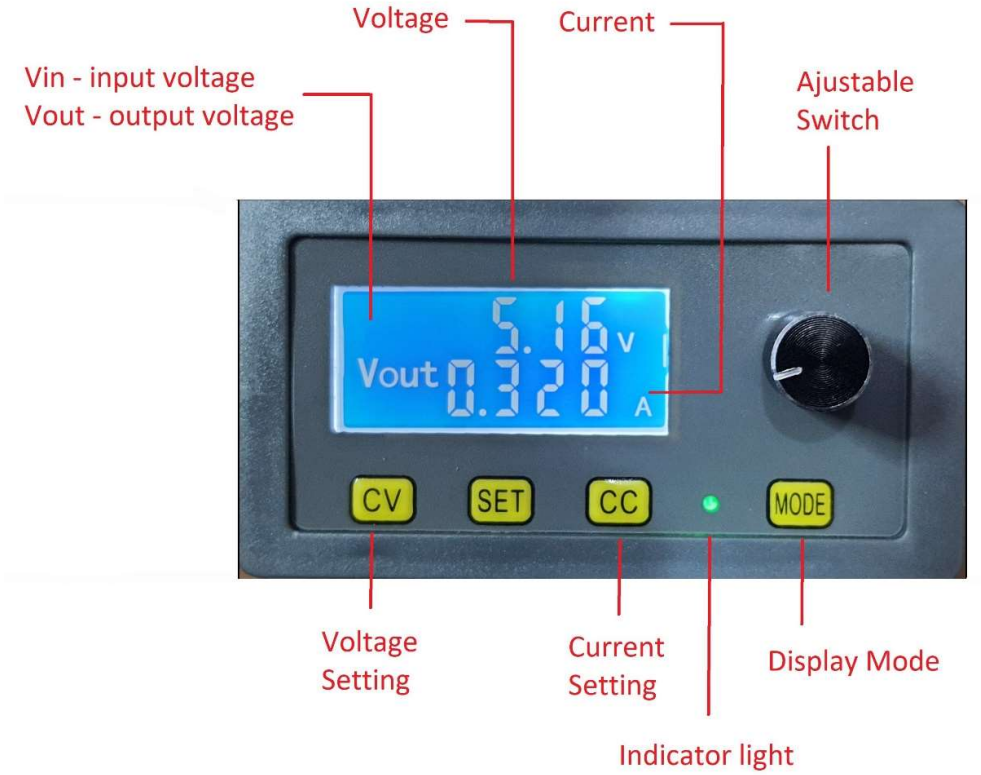
Model:	DEPM-12V5A
Input AC:	110V – 230V (+/- 10%)
Output DC Voltage:	0.01V – 12V (0.01V step)
Output DC Current:	0.01 – 5A (0.01A step)
Plating/Stripping option:	Yes
Overload power off:	Yes
Agitation option:	Yes
Ammeter/Voltmeter:	Yes
Tank with closure quantity:	3 pcs.
Useable Tank volume:	200 ml. solutions
Tank dimensions:	90 mm (H) x 62 mm (Diam.)
Tank body material:	Polypropylene
SS316 Anode:	1 pcs.
SS316 Anode rod to hang the items on:	1 pcs. 4 mm Diam.
Operating Temperature:	0℃ to +60℃
Machine dimensions:	140 mm (H) x 260 mm (L) x 180 mm (W)
Weight:	1.5 kg.

Installation and Operation

1. Connect the machine to a power point.
2. Choose a tank that you will be working in.
3. Pour the required amount of solution into it.
4. Lower the anode you will be working with into the tank and connect it to the positive terminal (+ Red) with the red cable (crocodile clip goes on the anode).
5. Insert the stainless steel cathode rod through the holes to position it above the tanks.
6. Connect the cathode rod to the negative terminal (- Black) via black cable (crocodile clip goes on the rod).
7. Switch the machine power on (find the button on the back wall of the machine).
8. Ensure that the controller power switch on the front panel of the machine is in the "off" position, plating/stripping switch is in the correct position for the process you want to perform, and that agitation is "off".
9. Secure the item you are about to plate on the cathode rod above the tank (you can use a piece of conductive material; the best choice would be a copper wire).
10. Ensure the item is fully immersed in the plating solution.
11. Switch the controller power on (front panel of the machine).
12. Use the power supply controller to set the Voltage and Current you require for plating. For more information on how to adjust the settings on the controller please keep consulting this manual.
13. Start the process by pressing the adjustable switch down. You will know that the power is delivered to your item when the indicator lights up green.
14. Once enough time has passed and your process is finished push the adjustable switch again. The green light should switch off.
15. If you use our machine in combination with brushes or pens, please ensure you connect your item to the negative terminal and brush/pen to the positive one.
16. If you need to mix the solution during your process, insert the air-agitation system hose into the tank and switch on the air compressor.







Controller setting method:

1. **The output voltage setting.**

- Short press "CV" for voltage setting mode.
- Turn the adjustable switch to change the current voltage value. Please take into account: When you turn the adjustable switch, you will be changing the digits after the decimal point. When you push the adjustable switch you will be changing the digits before the decimal point.
- Once you have the desired voltage set, short press "CV" again to save adjustments and exit the voltage setting mode.



2. **The output current Settings:**

- Short press the "CC" button to enter the current settings mode.
- Turn adjustable switch to adjust the current value. Please take into account: When you turn the adjustable switch, you will be changing the digits after the decimal point. When you push the adjustable switch you will be changing the digits before the decimal point.
- Once you have the desired current set, short press "CC" again to save adjustments and exit the current setting mode.



3. **Display MODE Settings:**

- Short press "MODE" to switch to display MODE.
- “Vin” is display internal power supply voltage, “Vout” is display machine output voltage.





4. Switch output Settings:

Short push the adjustable switch button to open or close the output terminal voltage. The current position will display OFF when closed.



Some useful tips:

- It is very important to keep temperature of your plating solutions under control because if the temperature reaches more than 60 C (167 F) it will destroy your solutions in a few seconds.
- Please ensure that anode avoids short-cut contact with an object to be plated/cleaned in tank/s because it can cause damage to the internal power supply.
- If you are a beginner and never worked with electroplating processes before, it may be very useful to first find more information and watch some videos about required electroplating processes on YouTube or Google. It may save you time, equipment, money and help you work without any disappointments.
- To prepare the items for high quality electroplating finish, it is very important to ensure that all oil, grease, paint, and old layers are removed properly prior to electroplating. The most common cause of poor quality plating result is insufficient preparation of plating object/s. The usage of electromagnetic or ultrasonic cleaners is excellent for the purpose of removal of some grease; however, vigorous brushing with soapy water is sufficient. You can also electro-clean these objects in a tank. The electro-cleaning process takes just 5-10 minutes and this is a very short period of time compared to the time you may waste trying to plate an object which was not sufficiently cleaned.
  Make sure that the Plating/Stripping switch is on the "Plating" position. Now switch this unit “On”, set the required Voltage (usually about 9-10 Volts) and commence the process. You can repeat this procedure as many times as you want.

Please do not forget about health and safety. When working, please use goggles, respirator, gloves, and work in a well-ventilated room!