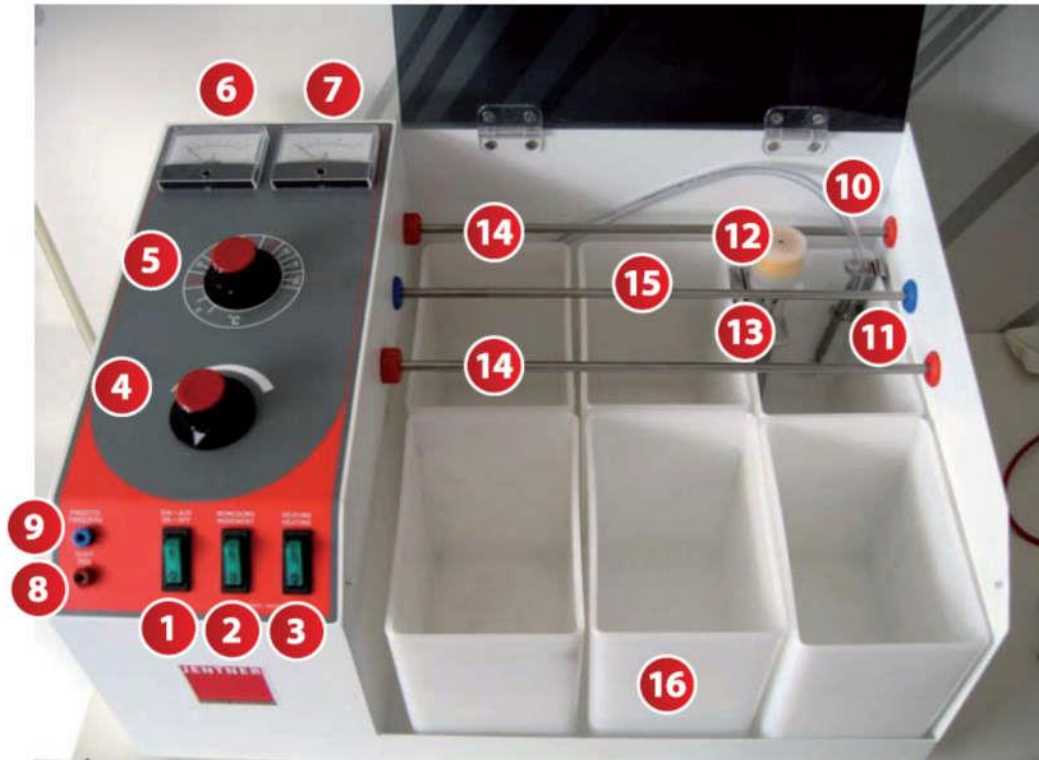


Operating Instructions

Small-Size Electroplating Unit Comfort V



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The universally compact electroplating unit is applicable for all current plating solutions, such as electrolytic degreasing, gold-, silver-, rhodium-, palladium and ruthenium plating baths; as well as for baths without precious metals like copper and nickel.

Dimensions and weight

Width 820 mm, depth 350 mm, high 260 mm, weight 30 kg net

In the machine are included:

- 8 tanks, PP (4 working- and 4 rinsing tanks)
- Dimension: 190 x 150 x 220 mm, volume 5 liter
- Volume rinsing tanks: 2,5 liter
- 1 safety protection cable
- 1 thermo couple with titanium holder

Available accessories/spare parts (not included)

- Working/rinsing tank, PP, 190 x 150 x 220 mm
- Tank lid, PP, for tank 5 Liter
- Jig for rings, 32 hooks
- Jig for chains, 16 hooks
- Immersion titanium heater, 200 Watt
- Titanium holder for heater
- Anodes of stainless steel, platinized titanium, mixed oxide (MOX), silver, copper and nickel
- Copper wire, filter pump MINI, plating pen for multicolour processing

Operating elements

- 1 Switch „On-Off“
- 2 Switch „Movement“(cathode rod)
- 3 Switch „Heater“
- 4 Turning switch for tension intensity
- 5 Turning switch for temperature setting
- 6 Voltmeter
- 7 Ammeter
- 8 Connection socket „red“ for plating pen (anode)
- 9 Connection socket „blue“ for tweezers/clamp (cathode)
- 10 Thermo couple
- 11 Fixture of titanium for thermo couple
- 12 Immersion titanium heater, 200 W
- 13 Fixture of titanium for heater
- 14 Anode rods (2 x)
- 15 Cathode rod
- 16 Tanks (4 pieces)

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- 17 Fuse holder for fuse 2,5 A (slow blow) 250 V ~, 5* 20 mm
- 18 Automatic cut-out
- 19 Isolated ground receptacle for titanium heater
- 20 Main connection socket with fuse holder for socket 230 V ~, 50 Hz

The anode rods 14 can be pulled out very easily, the cathode rod 15 in the middle can be screwed out (clockwise).

Agitation (cathode rod)

The movement is effected by a built-in driving motor. The movement can be started with the switch

- 2 "Movement

Heating of the bath

The heater is fixed with a special holder in the corresponding galvanic bath. The temperature is controlled continuously by an included temperature sensor. Attention! Heater and temperature sensor must always hang together in a tank. The immersion heater is inserted for operation on the case back to a socket 19. The immersion heater is switched on via a toggle switch 3. The heating is regulated automatically. Attention! The heater must be switched on only when the working tank is filled with liquid. When the level is too low, or if the immersion heater is outside the tank, there is the risk of fire and the destruction of working tank and immersion heater. The holders of immersion heater and sensor must be fixed to the side of the tank and not at the anode rod.

Anode materials

The anodes must be fixed on the outer anode rods 14. Attention! Pay attention for a good conductive contact. The required anode material (for example stainless steel, fine-silver, platinized titanium) depends on each plating bath. Please note the information in the data sheets of the chemical producer.

The working parts

The parts should be put on a jig (for example we deliver a special a jig for rings or for chains) and fixed on the middle cathode rod 15. Pay always attention for a good conductive contact. Please clean the cathode rod continuously.

Exposure time

The exposure time depends on the electroplating bath which is used. Please see the data sheet of the chemical producer.

Pen-plating

With this machine you have also the opportunity to galvanize partially. Therefore, you need the galvanizing pen and tweezers. You have to connect both to the allowed ports 8 and 9. These ports are situated in the left front of the machine. The required voltage can be set by the voltage regulator 4. The special chemicals for the pen-plating process (rhodium, silver, gold electrolytes) can be delivered by us or any other chemical producer.

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Covering of the machine

The cover takes care of the sensitive and valuable plating solutions, it protects them against dust and dirt whenever the machine is not in use.

Attention! When working with heated bathes the cover has to left open. If the cover is closed it is possible that the heat accumulation deforms the cover.

Start up

The delivered power plug which is equipped with protective earth contacts has to be connected with the power plug port **20** situated on the backside of the machine. Then put the other end of the cable into an electrical power point. The plating process will be started with the toggle switch "Ein – Aus" **1**. The power of the rectifier is 15 V / 15 A.

Function

The desired voltage can be adjusted through a smooth and loss-free working ring core regulator with using the rotary button **4**. The set respective the reached electrical values can be read on the voltmeter **6** and ampere meter **7** display. Which voltage or amperage is needed for the several plating processes, please see the data sheets of the chemical producer.

The required bath temperature must be also looked up in the current data sheets of the chemical producer. The setting of the temperature can be done with the rotary button **5** in the front. The most important temperatures, 20°, 40°, 60° and 70° are marked red.

The temperature sensor **10** is located in a transparent flexible tube. Together with the immersion heater it must always be in the tank to be heated. During heating the tank must be filled. As soon as the set temperature is reached the heating is immediately stopped. When the temperature is more than 2 °C drops, heating starts again. By a slight stirring, a uniform temperature is reached.

The machine

The unit includes 4 working tanks made of PPH with a volume of 5 liter each tank and 4x rinsing tanks with 2,5 liter. The weak current leading cathode rod and **15** the anode rod **14** are situated above the boxes. The rods are made of stainless steel. The cathode rod is horizontally movable. The movement can be activated with a toggle switch **2**. The movement function causes a better metal distribution on the work pieces.

Power supply: The delivered net cable must be put into the cable port **20** located on the backside of the machine and afterwards the cable must be connected to a protective power point 230 V – 50 Hz. The port for the immersion heater **19** is also located on the backside of the machine.

Safety cut out

The Safety cut out **18** is situated on the backside. In case of trouble e.g. if there will be short-circuit because the anode gets contact with the cathode, the safety cut out **18** will be activated. After eliminating the case of trouble, you have to push the safety cut out button **18**.



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Attention

Make sure there is good ventilation in the work area.

Rinse water and used chemicals must be disposed of properly. Please refer to the legal regulations.

Please observe the instructions of the Safety Data Sheets (MSDS). Your chemical supplier provides these.

The unit must be turned off after work necessarily!

The heater should never be operated unattended!

Chemicals

The required bath chemicals are available from us or from special producers. Please read the product information of the manufacturer carefully and follow the instructions. After finishing the work, the transparent plastic cover should be closed.

For more information on machine, bath chemicals, or the respective galvanic process, please contact us:

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