Small-Size Electroplating Unit
COMFORT II

INSTRUCTION MANUAL

Thank you for choosing a Jentner brand device.

For 40 years, Jentner stands for quality, perfection & competence in metal finishing.

With our sophisticated electroplating program, we specifically address goldsmiths, jewelers, watchmakers' workshops, schools, universities, institutes and laboratories, restorers and museums - in short: businesses that want to finish small to medium-sized pieces of jewellery or workpieces independently and easily.

Jentner – Quality Made in Germany

Contents

1. Advice and Security

1.1 Advice for the operator

The operating instructions are an essential part of the product. The operator is responsible for ensuring that the operating personnel take note of these operating instructions and comply with the specifications contained therein.

Ensure that the workspace is well ventilated.

It must be ensured that the operating personnel operates the unit with proper protective equipment.

Rinsing water and used chemicals must be disposed of properly. Please observe the regulations of the locally responsible water authority.

Please observe the instructions in the Material Safety Data Sheets (MSDS). Your chemical supplier will be happy to provide you with this.

Repairs to the unit may only be carried out at the manufacturer's factory!

1.2 Automatic circuit breaker

The automatic circuit breaker is mounted at the rear. In the event of a fault e.g., if the anode plate triggers a short circuit by touching the anode and cathode rods at the same time, the automatic circuit breaker ⑱ switches off. Eliminate the fault by pressing the safety pin on the automatic circuit breaker.

1.3 Fuse

The fuse is located on the rear of the unit in the mains connection socket ⑳ in the fuse holder ⑰.
Only fuses with the following data are allowed to be used:
Fine-wire fuse 2.5 A slow-blow, 250 V ~, 5* 20mm

2. Electroplating Unit Comfort II

2.1 Description

The compact, universal Comfort II small electroplating unit is ideal for electrolytic degreasing, rhodium plating, gold plating, silver plating and many other electroplating surface coatings.

2.2 Dimensions and weight

Width 475 mm, depth 320 mm, height 250 mm, weight 15.5 kg

3. Scope of delivery and accessories

3.1 Scope of delivery

- 6 x 1,5L tanks PPH (150x100x150 mm)
- 1 Protective contact power cable
- 1 Thermometer with titanium holder

Check the completeness and integrity of the scope of delivery. Contact your supplier immediately if any parts are missing or defective.
Do NOT use a defective or incomplete unit!

3.2 Available accessories (not included in the scope of delivery)

- Tank lid PP for 1.5-liter tank
- Jig with 12 hooks for rings
- Jig with 12 hooks for chain
- Titanium immersion heater, 200 Watt
- Titanium holder for immersion heater
- Anodes made of stainless steel, platinized titanium, mixed oxide (MOX) with holder
- Silver, copper and nickel anodes without holder
- Titanium anode holder for silver, copper and nickel anodes
- Copper tie wire
- Electroplating pen for bicolor work

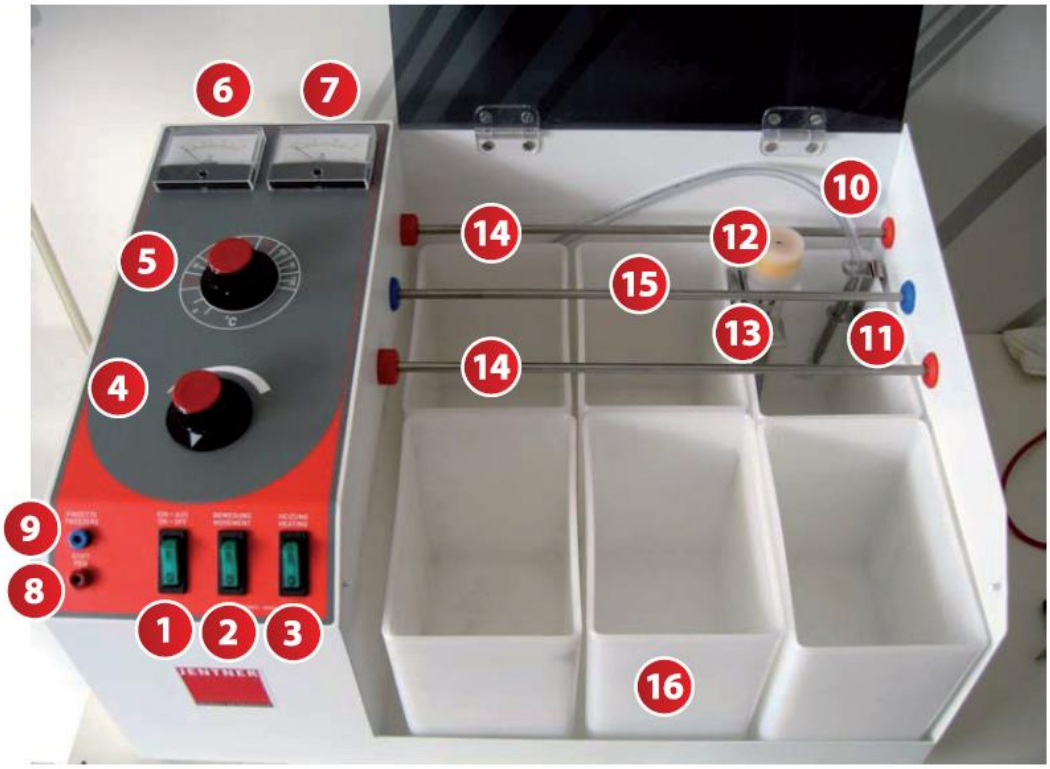
3.3 Chemicals

You can obtain the bath chemicals to be used from us or from specialist dealers. Please read and follow the manufacturer's product descriptions carefully. After finishing the work, cover the baths with the transparent plastic lid.

Any accessories and electrolytes can be ordered safely and quickly online in our electroplating store at shop.jentner.de

4. Operating and display elements

4.1 Picture of Comfort II with inscription



1	Toggle switch "On-Off" for switching the device on and off
2	Toggle switch "movement" for the goods movement on the cathode rod
3	"Heater" toggle switch for switching the immersion heater on and off
4	Rotary knob for setting the working voltage
5	Rotary knob for setting the temperature (heater)
6	Voltmeter
7	Ammeter
8	Connection socket red for electroplating pen (anode)
9	Connection socket blue for goods tweezers/goods clamp (cathode)
10	Temperature sensor
11	Titanium holder for temperature sensor
12	Titanium immersion heater, 200 Watt (not included)
13	Titanium holder for immersion heater (not included)
14	Anode rod (2 x)
15	Cathode rod
16	1,5L tank PPH (150x100x150mm)
17	Fuse holder for fuse 2.5 A slow-blow 250 V ~, 5* 20 mm
18	Automatic circuit breaker
19	Protective contact socket for heater (bath heater)
20	Mains connection socket with fuse holder for socket 230 V ~, 50 Hz

The outer two anode rods 14 can be easily pulled out, the middle cathode rod 15 can be unscrewed by turning it to the right.

4. 2 Goods movement (movement of the goods and cathode rod)

The goods are moved by an integrated drive motor that can be switched on by means of a toggle switch 2.

The low-current cathode rod 15 is then moved horizontally with the help of a gear motor. The goods movement enables a uniform metal deposition on the goods.

4. 3 Bath heating

The bath is heated by a titanium immersion heater, which is available as an accessory. This is suspended in the corresponding galvanic bath with the aid of a special holder, also made of titanium. For operation, the immersion heater is plugged into the socket on the rear wall of the housing 19 and inserted through the hole in the rear wall of the unit. The temperature is regulated steplessly via a special temperature sensor. The temperature sensor is included in the delivery.

The temperature sensor 10 is located in a transparent tube. The temperature sensor must always be placed in the bath that need to be heated. The immersion heater heats the bath to the set temperature. When this is reached, the heater switches off automatically. If the temperature drops by 2°C, the heater switches on again automatically. The temperature should be checked with the help of a thermometer. By gently stirring the electrolyte, you will achieve an even temperature distribution.

The heater may only be used for its intended purpose!

Attention! Heater and temperature sensor must always hang together in one tub.
The heater may only be switched on when the working tub is filled with sufficient liquid.

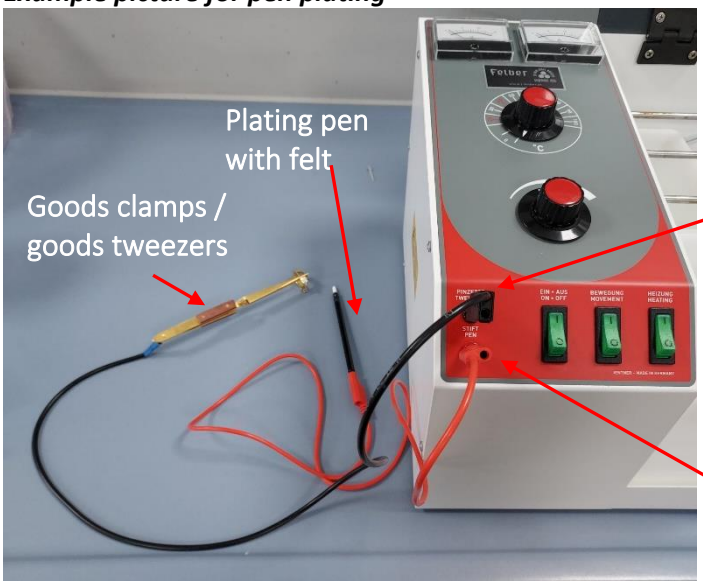
The heater is switched on by the toggle switch 3. The temperature is set via the control element 5 (see bathroom description). The heating is then controlled automatically via the temperature sensor.

Attention! If the filling level is too low or if the immersion heater is outside the working tank, there is a risk of fire and destruction of the working tank and immersion heater. The brackets of the immersion heater and temperature sensor may only be attached to the side of the plastic tub and not to the anode rod.

4.4 Electroplating pen (available accessories)

With our unit you also have the option of selective/partial electroplating. For this purpose, the plating pin and a pair of goods tweezers/goods clamp are connected to the provided sockets 8 and 9 plugged into the left front of the unit. The required voltage (volts) is regulated via the voltage regulator. 4 The special chemicals for pen electroplating (rhodium, gold and silver baths) are available from us or from specialist dealers.

Example picture for pen plating



9 Connection socket for goods tweezers / goods clamp (cathode)

8 Connection socket for the ectroplating pen (anode)

4.5 Housing cover

The housing cover protects the sensitive and valuable galvanic baths from dust and dirt.

Attention! When working with heated baths, the cover must be open. When the cover is closed, the heat accumulation can deform the cover.

5. Working with Comfort II

5.1 Preparation

Carefully remove the Comfort II from the box and place it on a stable surface.
The operator is recommended to wear protective clothing.

5.2 Start-up

The mains cable supplied with the unit is plugged into the mains socket 20 on the back of the unit and connected to an earthed socket. With the "On-Off" toggle switch 1 the unit is switched on. Do not switch on the unit until all steps for preparing for electroplating have been completed **(see 5.3)**. The power of the rectifier is 15V/15A.

After switching on, the unit is under direct current!

5.3 Working steps (preparation for electroplating)

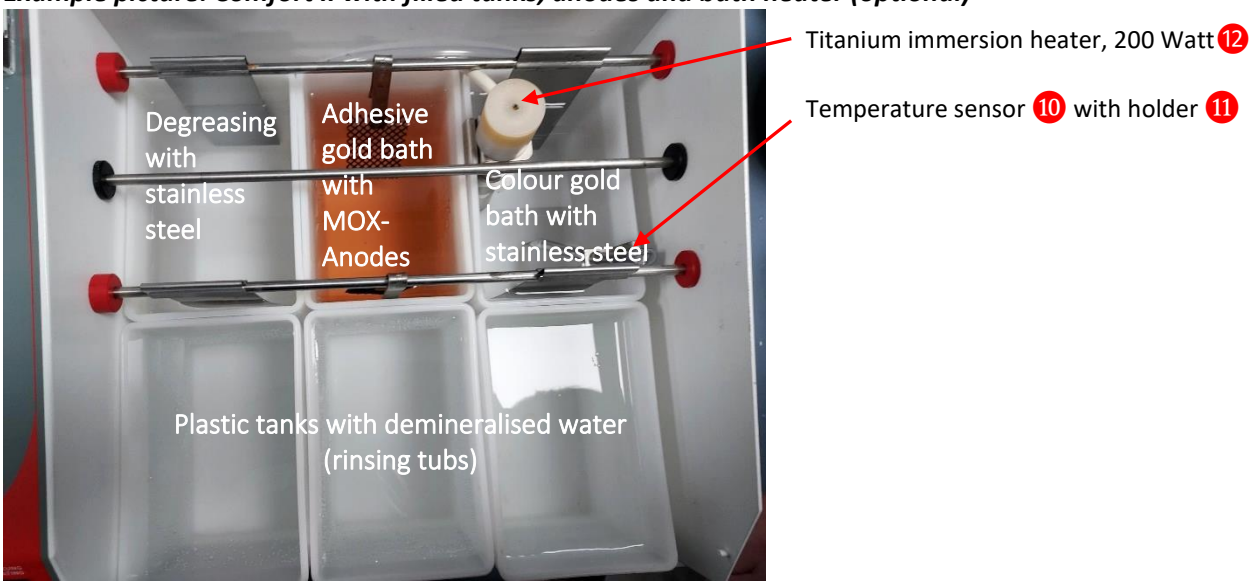
5.3.1 Filling the plastic tanks

The plastic tanks are now filled with 1.5L electrolyte and pushed under the cathode/anode rods. A maximum of 3 tubs can be filled with electrolyte and placed next to each other.
Fill the plastic tubs with rinsing water (demineralized water) and place them in front of the electrolyte tanks.

5.3.2 Anode selection

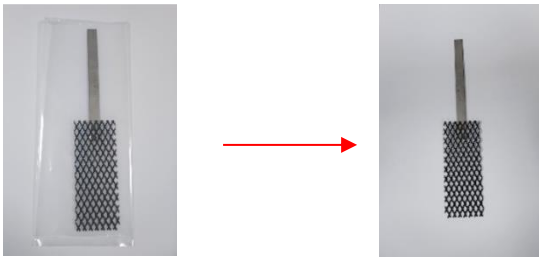
The required anode material depends on the electrolyte. Please follow the instructions in the product descriptions of the chemical supplier. Anodes made of stainless steel, platinized titanium, mixed oxide (MOX), silver, nickel and copper are available as accessories. The anodes are attached to the outer anode rods 14 or inserted in such a way that good contact is ensured.

Example picture: Comfort II with filled tanks, anodes and bath heater (optional)

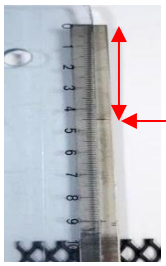


5.3.3 Professional bending of the anode lugs

Unpack the anode from the original packaging

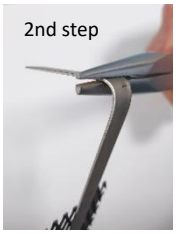


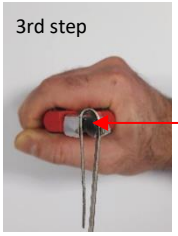
1. **Mark anode for bending**



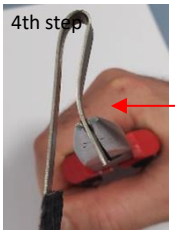
Mark anode at 4.5cm

2. **Bending the anode lugs with flat nose pliers**





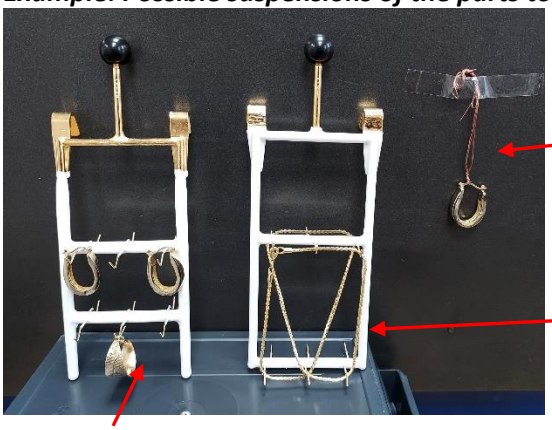
When bending, make sure that the eyelet does not exceed 6mm to ensure good contact with the anode rod.



At the end of the anode holder, another bend is bent so that the anode can be better inserted onto the anode rod.

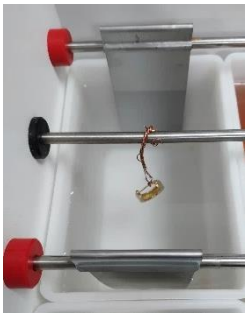
5.3.4 Suspension of the parts to be galvanized

Example: Possible suspensions of the parts to be galvanized



5.3.4.1 Suspension with a copper wire

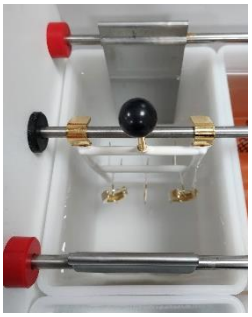
The part to be electroplated is attached to a copper wire. Contact between the wire and the part must be ensured. The part to be electroplated must be completely immersed in the electrolyte.



If the voltage is too high, the copper wire can become hot.

5.3.4.2 Suspension with a jig

The part to be electroplated is fixed or hung on the jig (accessory), make sure that there is good contact. The jig is now attached to the cathode bar ⓯. The cathode rods and also the anode rods should be cleaned regularly.



5.3.5 Exposure time (deposition time)
Please refer to the corresponding product descriptions of your chemical supplier to find out which exposure times the parts to be electroplated should have in the respective electrolyte.

5.3.6 Adjusting the voltage
The specified voltage for the respective electrolytes can be found in the corresponding product descriptions of your chemical supplier.
The desired voltage is set by an infinitely variable and loss-free toroidal regulator using the rotary knob 4. You can read off the set or achieved values on the voltmeter 6 or ammeter 7.

5.4 Working steps (electroplating, electrolytic degreasing)
1. Switch on the Comfort II 1 → 5.2
2. If necessary, adjust the temperature of the electrolyte (see corresponding product description) by means of bath heating.→ 4.3
3. Set the voltage on the unit 4 → 5.3.5
4. Attach or suspend the prepared parts to be galvanized → 5.3.3) on the cathode rod 15
Make sure there is good contact between the suspension and the cathode.
5. Set the exposure time → 5.3.4

At the end of the exposure time, the part to be electroplated is rinsed in the rinsing tank.
Make sure that the rinsing water is changed regularly.

Be sure to switch off the unit and the heating at the end of work!

If you need assistance with the start-up or the use of the unit, please feel free to contact us.

We are glad to help you!

For further information on the unit, bath chemicals or the galvanic processes, please contact:

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