

Small Italian Plating Machine User Manual



Dimensions, weight and technical specifications of the machine

Tanks	nr	3 x Lt. 0,6
Heating	w.	100
Single-phase voltage	Volt/hz	220/50 Watt 150 vdc.0-12v
Dimensions	cm	22 x 32 x 22h
Weight	kg	63
Direct Current	Max Amp.	5

Purpose of the manual

This manual was written by the manufacturer and is an integral part of the machines equipment. The instructions contained herein must be carefully read before installing and using the system. The manual must be kept for future reference.

Expected Use

The Small Italian Plating Machine (or galvanic plant) is particularly suitable for goldsmith and jewelry workshops, and dental purposes. In fact this system allows you to do every galvanic operation, such as gold, rhodium, platinum, palladium, nickel, copper plating thickness, silver, etc. Built in steel, paint in furnace, the plant is equipped with borosilicate glass Pyrex containers. Worktop in anti-acid PVC and Plexiglas cover.

Packaging and Transport

The machine is supplied packed in order to be transported in safe conditions. The packaging is formed from cardboard box double pitch, filled with polystyrene or other material suitable to absorb shock. Given the low weight the individual machine is easily transportable manually.

The machine is placed on a pallet and is blocked with plastic strap and wrapped with the transparent film to facilitate handling in conditions of safety. The pallet containing more pieces is packaged so as to ensure the absolute balancing for the safety of transport.

Installation

Make sure the device does not show evident signs of damage due to transport. Use the equipment as prescribed in this manual. The electrical system of the installation site must comply with the regulations in safe and meet the flammability requirements.

Place .

Place the device on a completely flat and horizontal surface with dimensions such as to contain it without risk of capsizing and suitable to handle the weight, in a dry, dust-free environment.

The device must not be installed above sources of heat (i.e. heaters) or above sinks and the surface must be of such a height that the operator can work in a comfortable position.

Provide suitable extraction plan and disposal fumes above the place intended to house the equipment in order to allow the suction of the fumes produced from the baths.

Before making the electrical connection it is necessary ensure that the power of the supply mains complies with the rating plate's indications (230 Vac or 110 Vac, 50/60 Hz.) and that the line is protected by a magnetothermal differential switch and the circuit has the ground connection. Also verify the absorption and the installed power. In case of doubt about the type of available power, please contact your Electric Power Company

Make sure that the main switch is on the (0) OFF position, then connect the plug of the power cable to an outlet.

Electrical Control Panel

The control panel is provided with a main power switch, a selection switch for automatic or manual mode, a control thermostat for the temperature of the liquid(s), a timer 0-60 sec. for setting the processing time, a Vdc fine regulator, analog instruments for displaying voltage work and absorption, 2 indicator lamps, 3 fuses, anodes and objects connections. All in compliance with safety regulations.

Start Up Operations

press the main switch. Turn on the heater and select by thermostat the required temperature, taking into account that the survey is carried out on the hot plate and then you have to consider approx.10 °C higher to have the required temperature (Ex optimum temperature for bath rhodium 50 °C, place the thermostat at 60° C). This must be followed by heating of the two containers set aside for the galvanic baths. Do not select too high a temperature as it may cause the breaking of the vessels or overheating of solutions.

Electroplating Operations

A. Electrolytic Degreasing. This operation completely eliminates the objects any fat or organic stains (Contact with your fingers, etc) Operation to be carried out cold (heating off).
Connect the stainless steel anode to the appropriate clamp POSITIVE (+, RED) and deep into the bath No 1. Pour into the tank n°1 bath the electrolytic degreasing [not supplied with the machine] to a level equal to 2/3 of the tank capacity.
Immerse the object in degreasing taking care that the same does not come in contact with the anode. Turn on the machine using the appropriate switch and set by VDC regulator the working voltage = 6 V
Subjecting the object of degreasing operation for about 60 sec. Shaking it lightly, always making sure that does not come into contact with the anode.

B. Rinse

Rinse thoroughly and objects in the water (to be replaced frequently) or running water, taking care not to touch the objects with his hands. Drain objects thoroughly blowing away every drop of residual water.

C. Neutralization

Immerse the object in the neutralization bath [not supplied with the machine]. This operation serves for the elimination of possible alkaline residues of the degreasing, making it perfectly suitable for the reception of the galvanic bath: without any electrical connection, simply to immersion of the object, few seconds, then rinse in demineralized water.

D. Galvanic Bath (rhodium, gold, etc.)

Connect on the clamp positive (+, RED) the anode(s) = Titanium platinum to rhodium plating and gold plating operations – Pure copper or pure nickel or pure silver for its liquids. Insert inside the plating bath the anode previously connected.

Connect the object cable with crocodile clip to the appropriate connection NEGATIVE (-, BLACK)

Check needed temperature of liquid, (see point 4.2)

Fix the object to galvanized on clip, then deep inside the plating bath the object, making sure it does not come into contact with the anode.

Set the operating voltage required by VDC regulator (see specific instructions of each galvanic liquid). For example with respect to the bath of Rhodium consider a Voltage (V) of 3,5 – 4,0 V; shaking slightly, for time required. (See specific instructions). For example with respect to the bath of Rhodium consider a duration between 30 and 60 sec.

E. Rinse

Rinse thoroughly and objects in the water (to be replaced frequently) or running water or demineralized water (better), taking care not to touch the objects with his hands.

F. Drying

Immerse the object in Alcohol or sawdust to dry the same without the formation of halos on the part of the water drops possibly present.

G. Shutdown

At the end electroplating operation, turn off the heater using its own switch. Then turn off the machine by its main switch.

Warning and Suggestions

The manufacturer accepts no responsibility for any damage to people, things, or animals deriving from a bad or improper use of the machine.

Always wear appropriate protective clothing such as gloves, goggles and mask

By immersing the objects in degreasing, rhodium, etc, the instrument Ammeter (A) mark a value of current intensity (V) and the object's size. This value indicates the voltage absorption (max 15 Amp.) and then also the hypothetical wear of the bath itself.

Before becoming immersed in the bathrooms, the objects must be cleaned, washed and dried (without polishing and working residues, dirt, etc) because the galvanics are deposited only on what is metal.

The platinized Titanium anode, duly rinsed and dried, can be used both for the bath of rhodium that for that of gold plating, pure silver anode for silvering, pure copper anode for copper plating. The stainless steel anode should only be used for degreasing.

Check that the copper wire connecting the anode is outside the liquid, worth a possible pollution of the same.

Between one step and the other of working with your hands never touch the item, worth a possible oxidation of the same. If happen, you must re-start the operation from degreasing.

Some galvanic baths that are new can also be used without being heated.

To achieve an object of two different colors, cover with the special insulating paint the part that you do not want to galvanize; after making the bathroom delete the same with a diluent.

There are different colors of gilding:

I Yellow gold plating natural = pure gold color AU999

II Gilding Green = Commercial gold color 750-18KT

III Gilding rose = antique gold color 585-14KT

It is possible to obtain various shades of color relative to the bath of gold, operating on time-based control (Example of a light yellow color halve the voltage doubling the object dive time).

It is also possible to make copper plating bath to thicken the models to be vulcanized in the lost wax casting process.

Warning: When the machine is not in use always place the protective cover over the containers of the liquids

A good idea to protect the galvanic baths containers (rhodium, etc) with a own cover pr protective film in order to prevent pollution

Regular Maintenance

The galvanic plant does not require any particular maintenance. To clean the device, use a dry cloth and liquid detergent (do not use flammable liquids) then dry with a soft rag.

Do not put the device, for any reason whatsoever, under running water.

Cleaning operations must be carried out while the main switch is on the off (0) position and the power cable is disconnected. Before using any type of cleaning method, other than the one recommended by the manufacturer, the user must contact the manufacturer to make sure that the method he wants to use is not likely to damage the device.

Do not put any object on the power cables and do not place the cable in areas where it could get trampled upon. Disconnect the power cable if the device should not be used for a while. Use the original packaging if you should need to transport the device.

Instructions For Disposal

This product shall not be disposed of as mixed municipal rubbish. In case of decommissioning and/or demolition of the machine, due to the presence of particular materials, subdivide and the selective disposal of the same:

- Iron and Steel
- Aluminum
- Rubber and plastic
- Glass

everything from authorized or at controlled landfill recovery companies. For the disposal comply with the provisions of the rules in force.

Important Information

The manufacturing company declines any responsibility for any apparatus installed, utilized, modified, repaired and/or altered by non-competent and unauthorized personnel.

The apparatus has been designed and built only for the uses contemplated; consequently the Manufacturing company refuses any responsibility for damages to persons, animals, things and the machines itself caused by improper use of this apparatus. The improper use of this machine is dangerous!!

Subject the apparatus to a complete revision periodically by the manufacturer or service assistance. To clarify any doubt and/or technical explanation please contact our technical department.

Supplied Accessories

- > n°1 TiPt Anode
- > n°1 Stainless Steel Anode
- > n°1 Cable with Crocodile clip for object
- > n°1 Plastic Transparent Cover
- > n°1 Use and Maintenance Manual

Warranty Terms

- 1) The period of validity of the warranty is 12 months from the date of delivery of the merchandise to the purchaser stated on the shipping documents, listing the equipment registration number.
- 2) **The warranty does not cover manpower, travelling, shipment expenses, which will be charged to the purchaser.** It is advisable to keep the original packaging during the warranty validity period, with the purpose to avoid being charged for possible packaging expenses should the equipment need to be reshipped.
- 3) The warranty does not imply any reimbursement for direct or indirect damages of any nature to property or people resulting from the use and possible inefficiency of the equipment.
- 4) The warranty covers the free of charge substitution or repair of those components found defective. The substitution of the equipment during the repair period is not included nor a reimbursement for machine down-time can be requested.
- 5) The purchaser must contact the manufacturer or service centres suggested by the manufacturer for all interventions covered by the warranty.
- 6) The components to be substituted under the warranty terms must be returned to the manufacturer or to the service centre that will arrange for the shipment of the spare part. If the part to be substituted is not returned to the manufacturer its price will be charged to the purchaser.
- 7) In the event of controversy on the application of the warranty, on the quality or conditions of the equipment supplied, the purchaser is not entitled to delay the payment of the equipment.
- 8) The regulations of the Italian Civil Code are applied for any other circumstance not considered herein.

The warranty does not include:

- a) Light bulbs, fuses, glass parts and those parts subjected to normal wear.
- b) Breakdowns and damages which are the result of negligence, use or installation not in conformity with the instructions given, bad maintenance or lack of routine maintenance, negligence or lack of skilfulness on the part of the purchaser.
- c) Breakdowns and damages which are the result of interventions by non authorized personnel.
- d) Breakdowns and damages resulting from the connection of the equipment to voltages different from the ones stated or sudden voltage changes to the network to which the equipment is connected.
- e) Causes or damages not attributable to the manufacturer.

The warranty is no longer in force if:

- a) The equipment is repaired, modified or in any event tampered with by the purchaser or non authorized third parties.
- b) The equipment shows damages which are the result of a fall, exposure to fire, spillage of liquids, lightning, natural calamities or on any account from causes not attributable to the purchaser.
- c) The plate listing the registration number has been removed or if the registration number has been cancelled or modified.