



# Immersion Silver Line 12" x 10"

(PART No: 500-117)

***Instruction Manual***

# **IMPORTANT**

## **ELECTRICAL SAFETY NOTICE**

### **CONNECTIONS TO MAINS ELECTRICAL SUPPLY**

This equipment is designed to safety class 1.

Before connecting this equipment to the mains electricity supply, examine the information on the apparatus rating label.

Ensure that the mains supply is single phase alternating current (ac) of the stated frequency (Hz), with neutral nominally at earth potential.

Check that the supply voltage is in the range stated on the rating label.

The equipment rating label states the value of the fuse fitted to the apparatus itself. Ensure that the plug or outlet circuit is fitted with an appropriate fuse of higher value.

### **WARNING : THIS APPARATUS MUST BE EARTHED**

The wires in the mains lead are coloured in accordance with the following code:

|              |   |         |     |
|--------------|---|---------|-----|
| Green/Yellow | - | Earth   | (E) |
| Blue         | - | Neutral | (N) |
| Brown        | - | Live    | (L) |

Connect the wires to a non-reversible 3 pin plug as follows:

|  |                       |    |
|--|-----------------------|----|
| Green/Yellow wire to terminal marked : | E (earth)             | or |
|  | G (ground)            | or |
|  | Coloured Green        | or |
|  | Coloured Green/Yellow | or |

|                                |               |    |
|--------------------------------|---------------|----|
| Blue wire to terminal marked : | N (neutral)   | or |
|                                | Common        | or |
|                                | Coloured Blue | or |

|                                 |                |    |
|---------------------------------|----------------|----|
| Brown wire to terminal marked : | L (live)       | or |
|                                 | Phase          | or |
|                                 | Coloured Brown |    |

**LIVE PARTS SHOULD NEVER BE EXPOSED UNLESS THE EQUIPMENT HAS BEEN SWITCHED OFF AND ISOLATED FROM THE MAINS ELECTRICITY SUPPLY.**

## CORRESPONDENCE

In the event of any correspondence concerning this equipment, please quote the catalogue number and serial number shown on the rating label together with the voltage and frequency of the local mains electricity supply. This will help to process your enquiry quickly.

Any spare parts which may be required, are supplied on the understanding that the replacement of these requiring the exposure of live electrical connections will be undertaken by an electrically qualified person.

Motor driven appliances should not be run unless all covers have been properly replaced.

## POSITIONING AND SETTING UP

### (A) Position

Position the silver unit in a well ventilated area with access to mains cold water inlet supply and drain and near a 13 amp single phase 50Hz 220/240v a.c. supply socket.

### (B) Contents      **The PL903S /PL904S should include the following:-**

- (1) 1 Silver Line
- (2) 1 Washing Machine Hose
- (3) 1 Washing Machine Tap
- (4) 5 Lids with Baskets
- (5) 1 Set of Operating Instructions
- (6) 1 32mm push fit T piece with blanking plug.

### (C) Electrical Requirements

A single 13 amp 220/240v 50Hz single phase socket will be required. It must be properly earthed and it is recommended that an earth leakage (RCCD) device should be fitted in case of heater breakage - available from us if required at £16.50 (part number 161053)

### (D) Mains Water Supply (Spray Wash)

The Silver unit is supplied with a washing machine hose and threaded washing machine type tap. One end of the hose is connected to the mains water inlet at the back of the unit and the other end is connected to the threaded end of the tap which should first be fitted to a standard 15mm copper pipe supplying cold water at a minimum pressure of 1.5 Bar by means of its compression type fitting.

## Water Waste Outlet (Spray Wash)

The unit is supplied with a standard 32mm push fit type T piece with a blanking plug in one side of the T. From here the unit can be plumbed into a suitable drain using standard 32mm polypropylene pipe and push fit joints. N.B. If you experience difficulty getting the pipe or joints we can supply these.

## Pre-Test

In order to ensure the unit has suffered no damage in transit it is best to test the unit with water first prior to filling the tanks with chemicals.

For This Reason:

- (1) Fill each tank with water to 10mm from shoulder where the lid sits on.
- (2) Switch on the green mains ON/OFF switch which should illuminate.
- (3) Check all the functions are working by depressing all the function switches. Leave these switches on and allow the tanks to reach their operating temperatures of 40-50°C, 25-30°C, 20-30°C, 60°C and 30-40°C respectively, when the orange indicator light will then go out.

**N.B.** It is important that these temperatures are correct and although factory set they could change depending on the ambient temperature.

If this is the case open the cabinet doors and you will see a white bracket fixed to each heated tank to which the thermostat controller is fixed. To alter the temperature turn the brass control spindle anti-clockwise to decrease and clockwise to increase.

**N.B.** If you decrease when the heater is on, the orange heater indicator light will go out and if you increase when the heater is off, the orange indicator light will go on.

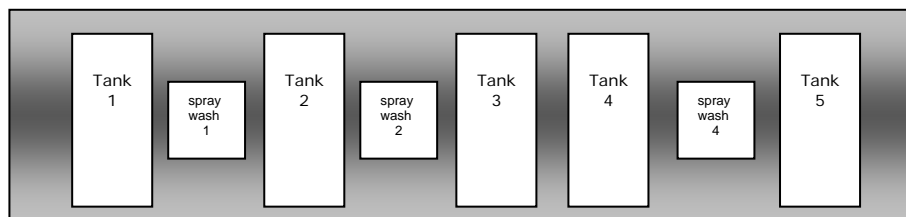
- (4) Leave the heated tanks on and preferably turn the unit off at the end of the day and leave standing overnight.

- (5) Check the next morning that there have been no leaks and ensuring all function switches are in the OFF positions empty the tanks through drain taps provided and remove any excess water in the bottoms with paper towels.

**N.B.** In all cases before filling the tanks make sure that the drain hose ratchet clips and drain taps are closed and that the taps have been clipped back into the clips provided.

The tanks are now ready to be filled with the chemicals as shown below.

## Silver Line Layout



### TANK 1 1302 ACID CLEANER (Part No: 500-172-2)

**Operating Temperature:** 40° - 50°C

**Immersion Time:** 3 minutes

**Chemical Makeup:** Half fill the tank with de-ionised water then add 1 litre bottle of 1302 Acid Cleaner concentrate while stirring.

Finally top-up to working level with de-ionised water.

### BATH MAINTENANCE:

Top-up losses due to evaporation and drag-out with mixture of 1 part 1302 Acid Cleaner with 4 parts of de-ionised water.

Change solution after processing 50m<sup>2</sup> of laminate.

## **TANK 2 COPPER ABC MICROETCH (Part No: 500-168)**

**Operating Temperature:** 25-30°C  
**Immersion Time:** 1 minute  
**Chemical Makeup:** Half fill the tank with de-ionised water. Slowly add 500grams of ABC Microetch powder stirring continuously.  
Then add the 1 litre container of 10% Sulphuric Acid.  
Finally top up with de-ionised water to working level.

### **BATH MAINTENANCE:**

Top-up losses with de-ionised water.  
When solution turns a mid-blue colour – CHANGE IT !

## **TANK 3 IMMERSION SILVER PRE-DIP (Part No: 500-750)**

**Operating Temperature:** 20-30°C  
**Immersion Time:** 1 minute  
**Chemical Makeup:** Pour 2 litres of de-ionised water into the tank. Add 2.5 litres of Pre Dip Solution while stirring.  
Finally top-up to working level with de-ionised water.

### **BATH MAINTENANCE:**

Top-up loses with a 50% solution of Pre Dip and De-ionised water.  
Maintain pH at 7.5 by addition of 50% Ammonia Solution.  
Change bath after processing 80m<sup>2</sup> of laminate.

## **TANK 4 IMMERSION SILVER (Part No: 500-750-1)**

**Operating Temperature:** 60°C  
**Immersion Time:** 3 minutes  
**Chemical Makeup:** Pour 2 litres de-ionised water into the tank and then add 2.5 litres of Silver solution while stirring.  
Finally top up with de-ionised water to working level.

### **BATH MAINTENANCE:**

Top-up losses with:  
50% Silver solution and 50% de-ionised water.  
Maintain pH at 9.0 – 9.5 using 50% Ammonia solution.  
Change bath after processing 60m<sup>2</sup> of laminate.

## **TANK 5 IMMERSION SILVER ANTITARNISH ANT-39 (Part No: 500-750-2)**

**Operating Temperature:** 30°C  
**Immersion Time:** 3 minutes  
**Chemical Makeup:** Pour 3 Litres of de-ionised water into the tank and add 1 litres of Antitarnish solution. Top-up with de-ionised water to the working level then stir the solution.

### **BATH MAINTENANCE:**

Top up losses with a mixture of 80% de-ionised water and 20% Antitarnish.  
Change bath after processing 25m<sup>2</sup> of laminate.

## **IMPORTANT NOTES**

**Always keep the lids on.**  
**When placing the board in each mesh basket, move the basket up and down several times to ensure the liquid goes through the holes.**

# ***GOLD PLATING PROCESS CHART***

## **TANK 1:**

1302 ACID CLEANER (PART No: 500-172-2)  
Temperature: 40°-50°C Time: 3 minutes



**SPRAY WASH – 30 seconds**



## **TANK 2:**

COPPER ABC MICROETCH (Part No: 500-168)  
Temperature: 25° - 30°C Time: 1 minute



**SPRAY WASH – 30 seconds**



## **TANK 3:**

IMMERSION SILVER PRE-DIP (Part No: 500-750)  
Temperature: 20°c - 30°C Time: 1 minute



## **TANK 4:**

IMMERSION SILVER (Part No: 500-750-1)  
Temperature : 60°C Time: 3 minutes



**SPRAY WASH – 30 seconds**



## **TANK 5:**

IMMERSION SILVER ANTITARNISH ANT-39 (Part No: 500-750-2)  
Temperature: 30°C – 40°C Time: 3 minutes



**SPRAY WASH – 30 seconds**



**HOT AIR DRY**



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