DC 2002
Precision Dip Coater

ENGINEERING RELIABILITY IN ELECTRONICS

General Description

The model DC2002 is a safe, easy to use, high volume batch coating system for the application of conformal coating materials and photo resists to substrates by high precision dipping.

The DC2002 features a regulated speed control that can be accurately adjusted to suit the viscosity of a wide range of materials. In operation it is able to provide an extremely smooth, even coating to a thickness tolerance of just ± 5 %.

The DC2002 also employs a pneumatically driven, air-over-oil system that can enables the substrate carrier to operate in a smooth, "judder free" motion for both immersion and withdrawal strokes.

The immersion and withdrawal strokes also have variable operating speeds that the user can program and control.

In addition, Material Viscosity monitoring is provided as standard.

Operating speeds are independently adjustable from 25 to 300 mm per minute (1 - 12"/min) for immersion and 25 to 150 mm per minute (1 - 6"/min) for withdrawal.

Dipping accuracy is ± 0.5 mm and the dip depth can be adjusted by moving a sensor to achieve the desired height.

The system requires compressed air at 0.0024 m^3/s (5 cfm) at a pressure of 550 kPa (or 80 psi).

Model DC2002 Batch Precision Dip Coater

The equipment includes:

- Constant level re-circulating system with double diaphragm pump, weir and drain plug
- Flow cup and stop-watch for material viscosity monitoring
- Argon gas manifold
- Fume extraction cover and spigot
- Lift cylinder and air-over-oil reservoirs
- Adjustable upper and lower dip limit switches
- Fixed steel rule and stop-watch to calibrate process speeds
- Stroke reversing valve

The control panel includes:

- Start/Stop switch with restart
- Variable process speed, dwell time and re-circulating pump
- Argon gas flow meter
- System air indicator
- Emergency 'E' stop button with key-switch

The model DC2002 is totally pneumatic and safe to use with all flammable liquids. It is capable of processing in excess of 400 assemblies per hour

Scope of Supply

The DC2002 measures (approximately) 1300 mm (51") long x 600 mm (24") wide x 1735 mm (68") high. It is constructed using an aluminium box frame chassis that supports the dip tank. This tank in turn is surrounded by solvent resistant coated steel panels.

The DC2002's control panel is mounted to the right of the working space at eye level.

The electro-polished stainless steel tank is nominally 600 mm (24") long x 250 mm (10") wide x 350 mm (14") deep. Larger tanks are available to a maximum length of 900 mm (36").

An integral fume hood and extraction vent is located at the rear plus a perforated aluminium screen to control solvent vapour release.

Material Viscosity monitoring is provided with the system, compromising a GEN3 SYSTEMS flow cup, stop-watch and conversion table.

Production Capacity:

The quantity of substrates that can be processed in each batch will depend upon the size of each substrate but is anything up to 400 units per hour.

The tank dimensions are determined by the maximum size of substrates to be processed.

GEN3 SYSTEMS

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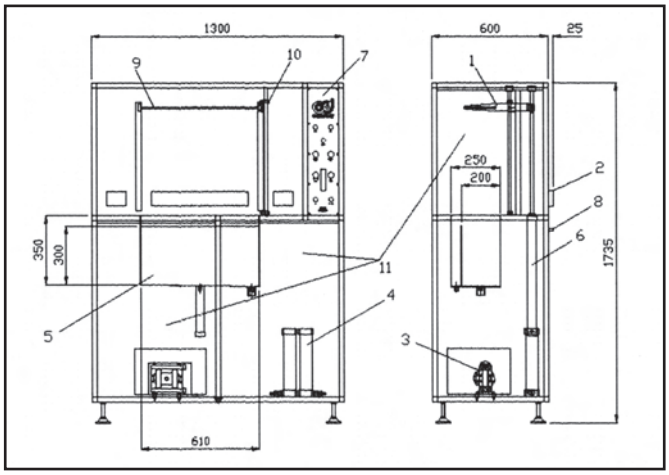
Key to drawing:

1. Support arm
2. Fume extraction duct 150 mm diameter, requiring 0.17 m^3/s (360 cfm) at the spigot
3. Re-circulating pump housed in soundproof box
4. Air/oil reservoir
5. Dip tank. The standard tank contains 46 litres of material
6. Lifting cylinder
7. Control panel
8. Gas/air connections. The system requires compressed air at 0.00024 m^3/s (5 cfm) at a pressure of 550 kPa (or 80psi)
9. Jig cross rod
10. Limit switches
11. Lift-out access panels for ease of maintenance



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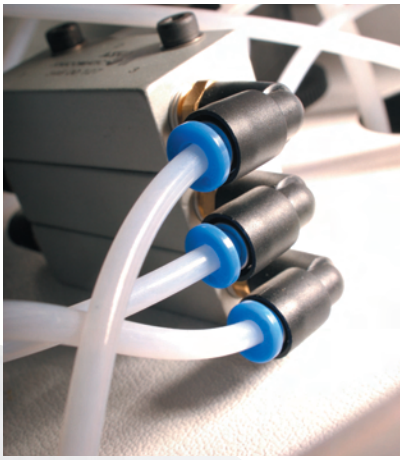

Options

- Micro filter with bypass to suit client's material
- Xylan® coated tank
- Stainless steel catch tray
- Non-standard dip tanks
- Precision dipping to ± 250 µm

Accessories

- UV inspection & repair booth
- Drying cabinets
- Dehumidifier unit
- Ultra violet inspection lamp and stand
- Telescopic adjustable magnifier
- Hygrometer (temp/humidity) gauge
- Substrate carriers

Information required to determine machine spec

- Substrate dimensions
- Quantity to be processed per hour
- Specification of coating material
- Viscosity of coating material
- Drying time/temperature
- Coating thickness required

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