Conformal Coating Machines

*SimpleCoat* (basic) & *SimpleCoat TR* with tilt and rotate

Reliable conformal coating machines for polyurethane, acrylic, copolymer, silicon, UV, and more.

SimpleCoat and SimpleCoat TR are ideal for selective conformal coating and dispensing applications that require a high level of accuracy and repeatability. Both are ideal solutions for medium and low volume. A **stand-alone configuration** is available for manufacturing that does not require a conveyor.

Some applications require coating on products with a complex geometry. For these types of products, a standard top-down coating may be insufficient. The **tilt and rotate model** - SimpleCoat TR - allows the spray valve to be tilted ±45° and rotated ±90° to reach four sides of a product.

Both models are equipped with a robust 3-axis motion platform that, in the base configuration, includes a spray valve and a needle valve. An optional volumetric pump may be used in place of the needle valve.

Fluid is supplied to dispense valves via external reservoirs. Level detects and large reservoirs are available.

The stainless steel surfaces of the work area are easily cleaned in the event of a spill. An exhaust port, located below the work surface, maintains a minimal fume level. A flow sensor in the exhaust port inhibits operation if exhaust flow drops below a set level.

Software is installed on a user-supplied laptop computer. Programming is easy and can be done either by manually teaching a program or by using a JPG image. All dispense and motion parameters can be easily altered with the easy-to-use user interface. Standard patterns for coating of line, dot, and various area fill shapes are available.

Programming via JPG image (before and after).

**Standard Features**

- Reliable XYZ Motion System
- Full-featured Programming, including Teach from JPG
- Inline Operation with SMEMA Communication
- Spray and Needle Valve
- Purge and Solvent Cups
- Stainless Steel Surfaces
- Bottom Side Fume Extraction with Exhaust Flow Sensor
- External Reservoirs for Fluid Feeding
- Internal Black Light for Coating Inspection
- Keyed Maintenance Mode
- Light Tower

**Tilt and Rotate Spray Valve**

**Needle Valve Dispense**

**Solvent Cups**
Selective Conformal Coating Machines

Additional Benefits

- For extended operation, add fluid level detect sensors.
- For higher levels of accuracy, volumetric pump may be exchanged for needle valve.
- For frequent change-over, multiple reservoirs with a quick purge manifold may be added.

Options

<table>
<thead>
<tr>
<th>COMMON OPTIONS*</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Level Material Sensor</td>
<td>Detects fluid level in reservoir</td>
</tr>
<tr>
<td>External Pail with Scale Level Sense</td>
<td>Large volume reservoir</td>
</tr>
<tr>
<td>Volumetric Pump</td>
<td>Alternative to needle valve.</td>
</tr>
<tr>
<td>Multiple Reservoirs</td>
<td>Easy fluid exchange.</td>
</tr>
</tbody>
</table>

* Contact GPD Global about additional options and features.

Specifications - Coating System & Valves

Capacity

Dispense valves .................. Up to 2 valves
Spray valve* ...................... Tilt ±45°, Rotate ±90°

*Tilt and rotate functions are available on SimpleCoat TR model.

Valves

<table>
<thead>
<tr>
<th>Viscosity range</th>
<th>1-20,000 cps</th>
<th>1-500,000 cps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>525 g (1.2 lbs)</td>
<td>490-650 g (1.1-1.4 lbs)</td>
</tr>
<tr>
<td>Material pressure - maximum</td>
<td>35 bar (508 psi)</td>
<td></td>
</tr>
<tr>
<td>Control air pressure - minimum</td>
<td>5-6 bar (73-87 psi)</td>
<td>5-6 bar (73-116 psi)</td>
</tr>
<tr>
<td>Spray air pressure</td>
<td>At least 0.5 bar (7 psi) less than the control air pressure</td>
<td>n/a</td>
</tr>
<tr>
<td>Operating temperature - max.</td>
<td>80°C (176°F)</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>24 VDC</td>
<td>n/a</td>
</tr>
<tr>
<td>Size</td>
<td>Nozzle sizes: 0.5 mm, 1 mm, 1.5 mm</td>
<td></td>
</tr>
<tr>
<td>2.5 mm material passage way</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Features

- Precise stroke adjustment for material volume control
- Nozzle shapes (flat or round) and air caps depending on final application
- High opening and closing forces
- Double acting pneumatic actuation
- Electric or pneumatic control
- Withstands high pressures

Coating Area

Clearance .................... 100 mm (4"

Work Area (X, Y, height):

<table>
<thead>
<tr>
<th>SimpleCoat (Basic model)</th>
<th>SimpleCoat TR (with Tilt &amp; Rotate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>430 x 430 x 50 mm</td>
<td>394 x 394 x 50 mm</td>
</tr>
<tr>
<td>(17” x 17” x 2”)</td>
<td>(15.5” x 15.5” x 2”)</td>
</tr>
<tr>
<td>457 x 430 x 50 mm</td>
<td>457 x 394 x 50 mm</td>
</tr>
<tr>
<td>(18” x 17” x 2”)</td>
<td>(18” x 15.5” x 2”)</td>
</tr>
</tbody>
</table>

Motion Control

XYZ Axis Drive .................. Stepper motors plus ball screw
XYZ Repeatability ................. 50 µm (0.002")

Speed .................. 350 mm (13.78") per second

Conveyor

Conveyor Type .................. Pin Chain
Edge Clearance .................. 6 mm (0.25”)
Transport Height ................. 940 mm - 965 mm (37” - 38”)
Communication .................. SMEMA

Conveyor Width:

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</tr>
</thead>
<tbody>
<tr>
<td>Minumum conveyor width</td>
<td>50 mm (2&quot;)</td>
</tr>
<tr>
<td>Maximum conveyor width</td>
<td>430 mm (17&quot;)</td>
</tr>
</tbody>
</table>

Facility Requirements

Air Supply .................. 6 bar 85 PSI dry clean air
Exhaust Port .................. min 250 CFM, 127 mm (5") dia
Power .................. 110/220 VAC, 50/60 Hz

Dimensions & Weight

Footprint (W x D x H) ............. 1.0 m x 1.40 m x 1.55 m
(39.37” x 55.12” x 61.02”)
Weight .................. 275 kg (605 lbs)

Operating Control

Minimum requirements ............... Customer-supplied laptop with Ethernet connection and Windows® 7 or newer.

CE Certification

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