

SimpleCoat & SimpleCoat TR

Selective Conformal Coating Machines

Cost-effective Solutions for Conformal Coating

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 $\pm 45^\circ$ and rotated $\pm 90^\circ$ to reach four sides of a product.

Tilt and Rotate Spray Valve



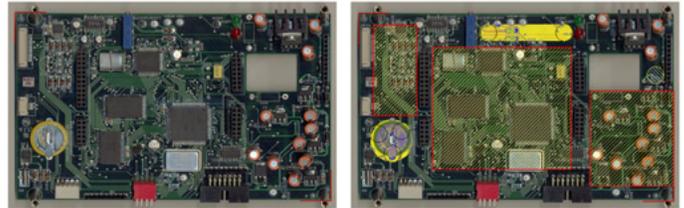
Both models are equipped with a robust 3-axis motion platform that, in the base configuration, includes a spray valve and a needle valve. An optional volumetric pump may be used in place of the needle valve.

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

Needle Valve Dispense



Solvent Cups



GPD Global
Precision Dispensing Systems

www.gpd-global.com • request@gpd-global.com

Headquarters 611 Hollingsworth Street, Grand Junction, CO 81505 USA • T: +1.970.245.0408 • F: +1.970.245.9674
GPD Global (Asia Pacific) Bayan Lepas, Penang, 11900 Malaysia • T: +60.12.555.0909

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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

COMMON OPTIONS*	DESCRIPTION
Low Level Material Sensor	Detects fluid level in reservoir
External Pail with Scale Level Sense	Large volume reservoir
Volumetric Pump	Alternative to needle valve.
Multiple Reservoirs	Easy fluid exchange.

* Contact GPD Global about additional options and features.

Volumetric Pump
(option)



Multiple Reservoirs
with Level Detect (option)



Specifications - Coating System & Valves

Capacity

Dispense valves Up to 2 valves
 Spray valve* Tilt $\pm 45^\circ$, Rotate $\pm 90^\circ$
 *Tilt and rotate functions are available on SimpleCoat TR model.

Valves

	Spray Valve SPV100	Needle Valve NDV250
Viscosity range	1-20,000 cps	1-500,000 cps
Weight	525 g (1.2 lbs)	490-650 g (1.1-1.4 lbs)
Material pressure - maximum	35 bar (508 psi)	
Control air pressure - minimum	5-6 bar (73-87 psi)	5-8 bar (73-116 psi)
Spray air pressure	At least 0.5 bar (7 psi) less than the control air pressure	n/a
Operating temperature - max.	80° C (176° F)	
Voltage	24 VDC	n/a
Sizes	Nozzle sizes: 0.5 mm, 1 mm, 1.5 mm	2.5 mm material passage way
Features	<ul style="list-style-type: none"> • Precise stroke adjustment for material volume control • Nozzle shapes (flat or round) and air caps depending on final application 	<ul style="list-style-type: none"> • 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):

	SimpleCoat (Basic model)	SimpleCoat TR (with Tilt & Rotate)
• XYZ Travel with two valves	430 x 430 x 50 mm (17" x 17" x 2")	394 x 394 x 50 mm (15.5" x 15.5" x 2")
• XYZ Travel with spray valve only without tilt and rotate	457 x 430 x 50 mm (18" x 17" x 2")	457 x 394 x 50 mm (18" x 15.5" x 2")

Motion Control

XYZ Axis Drive Stepper motors plus ball screw
 XYZ Repeatability 50 μ m (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:

	SimpleCoat (Basic model)	SimpleCoat TR (with Tilt & Rotate)
• Minimum conveyor width	50 mm (2")	
• Maximum conveyor width	430 mm (17")	394 mm (15.5")

Facility Requirements

Air Supply 6 bar 87 PSI dry clean air
 Includes quick disconnect for 8 mm hose
 Exhaust Port min. 250 CFM, dia. 127 mm (5")
 Power 100-240 VAC, 50/60 Hz, Single Phase, 10 Amp

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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