

PRISM

Bench-top XYZ Coating System

The PRISM Bench top is a high performance coating system with programmable X-Y-Z motion and positioning for USI's proprietary nozzle-less ultrasonic spray head technology. The system delivers a thin, uniform application of a wide variety of coatings more precisely than other coating application techniques. This bench-top platform is ideal for lab scale operations.

Features & Benefits

Proprietary ultrasonic spray technology

- Thin, defect free coating application
- Thickness down to sub-micron
- 95-99% transfer efficiency

Fully programmable X-Y-Z platform

- Precision ball screw actuators
- Bench-top platform for R&D
- Windows 7 graphical user interface

Markets

- Display
- Fuel Cell
- Semiconductor Packaging
- Electronics Assembly
- Solar
- Medical

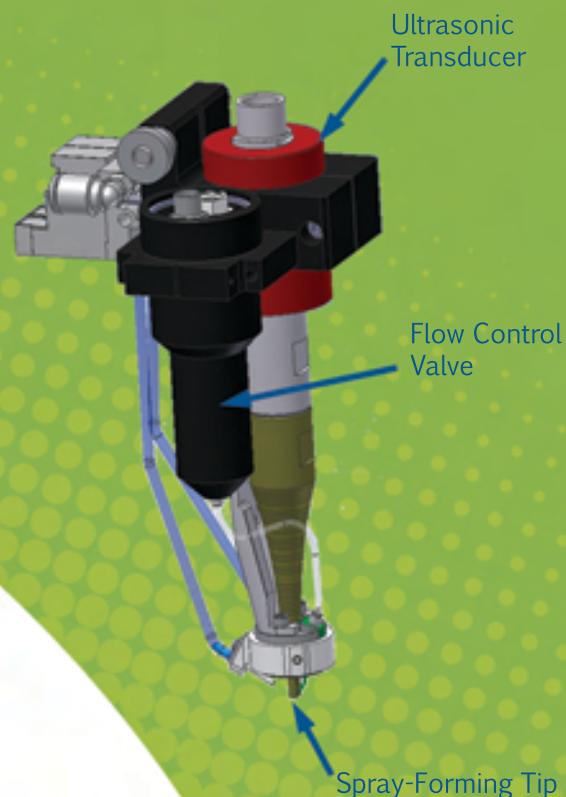
Options

- Precision metering pump liquid delivery
- Integrated liquid stirring or agitation
- Substrate heater with vacuum
- 90-degree pneumatic head rotation



Nozzle-less Ultrasonic Spray Head Technology

USI's core technology consists of proprietary nozzle-less ultrasonic spray head technology for the thin, uniform application of a variety of low viscosity materials. The spray head consists of an ultrasonic transducer with a spray-forming tip, an ultrasonic generator, an external liquid applicator, and air directors. Spray is produced with ultrasonic energy and shaped with low pressure air for a more precise and controlled coating application.



PRISM Coating System Specifications			
Coating Technology	Ultra-Spray CAT Head Assembly <ul style="list-style-type: none"> - Ultrasonic frequency - 35 kHz, 45 kHz or 60 kHz - Ultrasonic generator - Electronic controls for liquid flow w/ PMP LDS - Manual setting of air flow - Single head operation 	Programming	- Teach mode with laser pointer
Application Area (X,Y, Z)	<ul style="list-style-type: none"> - 410x410x100 mm (16x16x4 in) range of motion - 390x390x100 mm (15.5x15.5x4 in) max coating area 	Control System	<ul style="list-style-type: none"> - PC with Windows 7 - Ethernet motion controller
Gantry Mechanism (X,Y)	<ul style="list-style-type: none"> - Precision ball screw actuators - Brushless servo motor drive 	Liquid Delivery (option)	Precision Metering Pump <ul style="list-style-type: none"> - 100 ml capacity glass syringe (PMP-100) - 50 ml capacity disposable syringe (PMP-50) - Stepper motor drive - Liquid stirring option for suspended materials - Graphical User Interface for ease of use - Data logging for traceability
Z-Axis	<ul style="list-style-type: none"> - Lead screw actuator - Stepper motor drive - 100 mm travel & above substrate clearance 	Standards	<ul style="list-style-type: none"> - CE - NFPA 79
Θ Motion (optional)	- 90-degree pneumatic rotate	Footprint	99 x 86 x 84 cm (39 x 34 x 33 in)
Positioning Resolution	0.025 mm (0.001 in)	Weight	181 kg (400 lbs)
Positioning Accuracy	+/- 0.05 mm (0.002 in)	Power Requirements	<ul style="list-style-type: none"> - 120 VAC, 50/60 Hz, 2KVA - 220/240 VAC, 50/60 Hz, 2KVA
Gantry Speed (X-Y)	<ul style="list-style-type: none"> - 500 mm/sec (19.7 in/sec) maximum - 100 - 250 mm/sec - typical process 	Pneumatic Requirements	<ul style="list-style-type: none"> - Clean, dry compressed air at 5.5 bar (80 psi) @ 142 l/min (5 SCFM) - 2,850 l/min (100 SCFM) exhaust in a 127 mm (5 in) duct - Compressed nitrogen at 5.5 bar (80 psi)
Other Options	<ul style="list-style-type: none"> - Pressurized liquid delivery systems - Substrate heater with vacuum hold - USI dual mode, air-atomizing spray valve - Micro-Line digital dispensing head - USI dispensing valve w/ assorted needles 		



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