PRISM-400

Benchtop XYZ Coating System

The PRISM-400 Benchtop 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 benchtop 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

OPTIONS

– Precision metering pump liquid delivery
– Integrated liquid stirring or agitation
– 590 ml reservoir with stirring for PMP refill
– Substrate heater with vacuum
– 90-degree pneumatic head rotation
– Tilt and rotate for spray head
– Electronic air flow control for spray head

System shown with optional stand

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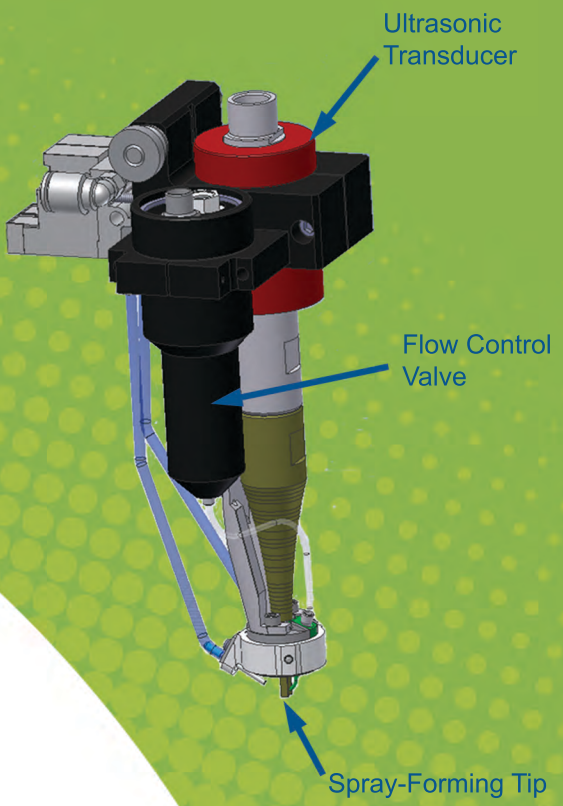
Ultrasonic Systems, Inc.

MARKETS

Semiconductor Packaging Electronics Assembly
Display Fuel Cell Solar Medical

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 - 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
Application Area (X,Y, Z)	- 410x410x100 mm (16x16x4 in) range of motion - 390x360x100 mm (15.5x14.2x4 in) max coating area
Gantry Mechanism (X,Y)	- Precision ball screw actuators - Brushless servo motor drive
Z-Axis	- Lead screw actuator - Stepper motor drive - 100 mm travel & above substrate clearance
⊖ Motion (optional)	- 90-degree pneumatic rotate - Pneumatic tilt & rotate
Gantry Speed (X-Y)	- 500 mm/sec (19.7 in/sec) maximum
Gantry Speed Control	- Closed-loop servo drive tuned for uniform speed
Applied Coating Control	- Total applied amount varies less than +/- 0.1 %* *with PMP-100 liquid delivery system
Other Options	- 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 - Electronic air flow rate to shpray head

Programming	- Teach mode with laser pointer - Teach camera (optional)
Control System	- PC with Windows 7 - Ethernet motion controller
Liquid Delivery (option)	Precision Metering Pump - 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
Standards	- CE - NFPA 79 - NRTL Certification (optional)
Footprint	99 x 86 x 84 cm (39 x 34 x 33 in)
Weight	181 kg (400 lbs)
Power Requirements	- 120 VAC, 50/60 Hz, 2KVA - 220/240 VAC, 50/60 Hz, 2KVA
Pneumatic Requirements	- 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)

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