

PRISM 500

Programmable XYZ Coating System

The PRISM 500 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 flexible and highly configurable platform is ideal for both R&D and production 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
- Configurable for specific requirements
- Fully integrated Windows 7 GUI
- State-of-the-art Ethernet based motion and I/O controllers

Markets

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

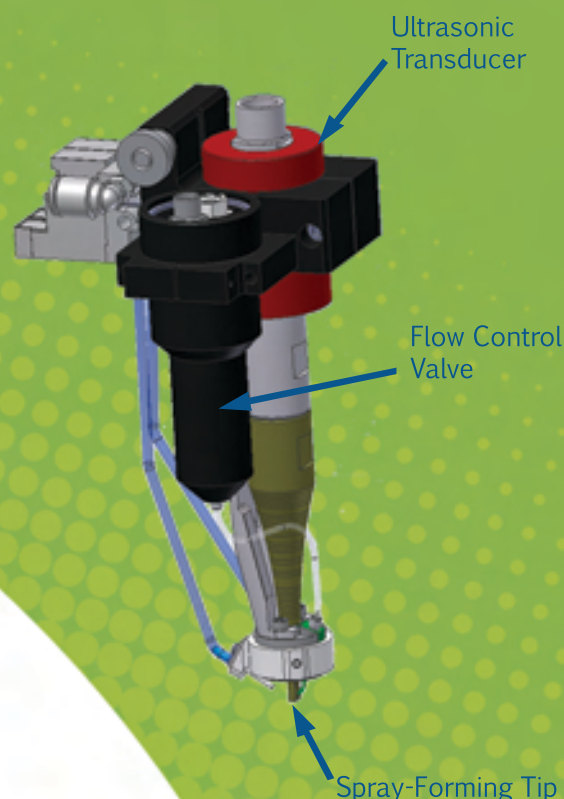
Options

- Batch or in-line conveyor configuration
- Up to two PMP liquid delivery systems to supply two coating heads
- PMP-200 with stirring and recirculation
- Integrated liquid stirring or agitation
- Substrate heater with vacuum
- 90-degree pneumatic head rotation
- 4th axis (head rotate)
- Active HEPA filter



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 500 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 - Electronic controls for air flow - Single or tandem head operation
Application Area (X,Y, Z)	<ul style="list-style-type: none"> - 500x500x100 mm (19.7x19.7x4 in) range of motion - 490x420x100 mm (19x16.5x4 in) coating area
Gantry Mechanism (X,Y)	<ul style="list-style-type: none"> - Precision ball screw actuators - Brushless servo motor drive
Z-Axis	<ul style="list-style-type: none"> - Lead screw actuator - Stepper motor drive - 100 mm travel & clearance above substrate
Θ Motion (optional)	<ul style="list-style-type: none"> - 90-degree pneumatic rotate - 0, 90, 180, and 270-degree rotation, stepper motor
Positioning Resolution	0.025 mm (0.001 in)
Positioning Accuracy	+/- 0.05 mm (0.002 in)
Gantry Speed (X-Y)	<ul style="list-style-type: none"> - 400 mm/sec (15.5 in/sec) maximum - 100 - 250 mm/sec - typical process
Conveyor (optional)	<ul style="list-style-type: none"> - 91 cm (36 in) pin chain conveyor, front fixed rail - 51-393 mm (2-15.5 in) board width - 813-965 mm (32-38 in) height - Clearance: 100 mm above & 100 mm below pins - Dual pneumatic substrate stops - Width adjust - SMEMA handshaking

Programming	<ul style="list-style-type: none"> - Teach mode with laser pointer - Barcode (optional)
Control System	<ul style="list-style-type: none"> - Windows 7 Graphical User Interface - Ethernet based motion and I/O controllers
Liquid Delivery	Precision Metering Pump (PMP) <ul style="list-style-type: none"> - 100 ml capacity (85 ml w/ stir option) - 590 ml coating reservoir (option) - Servo motor drive - Automatic pump refill (option) - Liquid stirring option for suspended materials - Dual PMP option for continuous operation
Standards	<ul style="list-style-type: none"> - CE - SMEMA - NFPA 79
Footprint	189 x 96 x 96 cm (74 x 38 x 38 in)
Weight	422 kg (930 lbs)
Power Requirements	<ul style="list-style-type: none"> - 200/220 VAC, 50/60 Hz, 2KVA, single phase - Voltage +/- 10% maximum variation
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)



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