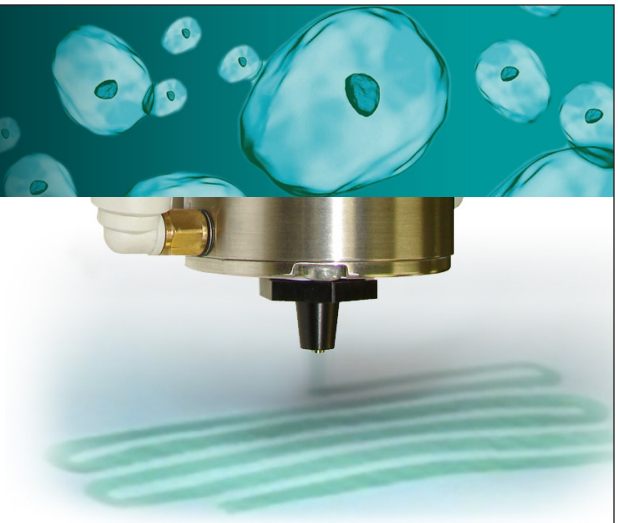
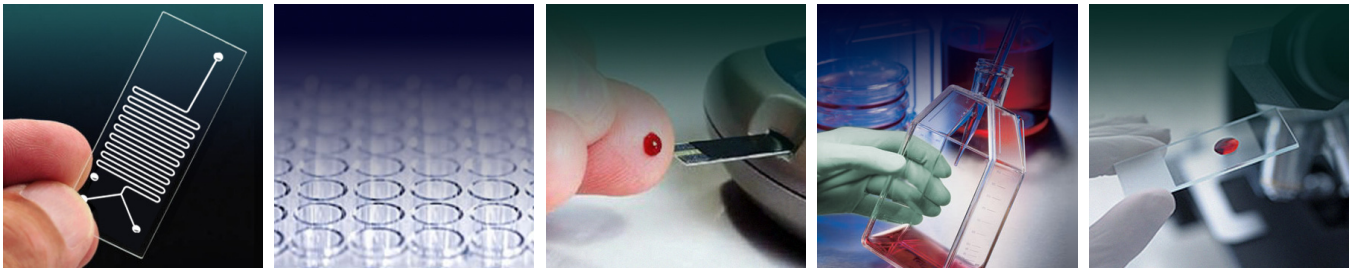
Diagnostic & Reagent Coating Systems

for Blood or Urinary Related Diagnostic Testing Devices



Rapidly expanding advances in point-of-care, in-vitro, and laboratory diagnostic medical devices has led to a greater need for precision coatings of active and non-active layers in manufacturing these devices. Coating materials that Sono-Tek systems are typically used to spray include:

- EDTA
- Biological polymers
- Heparin
- Lipids/proteins
- Bioactive peptides
- Amino Acids
- Enzymes
- Blood Plasma
- Preservatives
- Ultra-thin bonding layers



Sono-Tek ultrasonic nozzles feature:

- Up to 80% reduction in coating material
- Reduced wasteful overspray
- Non-clogging design results in minimal servicing and downtime
- Highly controllable spray produces reliable, repeatable, consistent results
- Ability to spray ultra thin, defined lines, often without masking
- Soft velocity spray has little kinetic energy and will not damage or alter delicate cellular structures.

Some examples of devices and applications that can benefit from ultrasonic spray technology:

- Microfluidic and microarray devices (lab on a chip)
- Point of care diagnostics and testing kits
- Cell culture vessels
- Genetic testing devices
- Blood glucose monitors
- Blood collection and analysis devices
- Molecular and protein diagnostic kits
- Immunoassay kits

System features include:

- Coordinated motion in all 3 axes
- Wide range of flow rate capabilites
- Numerous options for customizing to a specific application
- Spray patterns from 0.08 - 6” wide (2-153 mm)
- Windows-based programming software
- Process easily scalable from R&D to manufacturing environment.

ExactaCoat *and* **FlexiCoat** *are fully enclosed programmable 3-axis precision ultrasonic coating systems designed for spraying uniform thin films onto medical devices and implantables. From R&D to moderate volume production, these systems are fully integrated with Sono-Tek ultrasonic nozzles, spray pattern widths can be easily shaped to accommodate various size substrates, including those with complex geometries.*

Sono-Tek has over 2 decades of expertise coating precision implantable medical devices such as stents with anti-restenosis polymers and other drug solutions.

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XYZ Programmable Coating System Specifications

Work Area
ExactaCoat: *400 x 400 x 100 mm* (15.75 x 15.75 x 3.94 in)*
FlexiCoat: *500 x 500 x 100 mm**
**NOTE: Coating area may be reduced depending on nozzle configuration, options and accessories*

Repeatability
ExactaCoat: *± .025mm (0.001 in)*
FlexiCoat: *± .04mm (0.0016 in)*

Resolution
ExactaCoat: *±.015mm (0.0006 in)*
FlexiCoat: *±.005mm (0.0002 in)*

Motor: *Brushless DC servo*

Drive Mechanism: *Ball screw drive*

Work Payload: *11.4 kg (25 lbs.)*

Inputs/Outputs: *52*

Software Control: *Windows®-based (PC included)*

Power: *120V, 220V, +/- 10%, 50-60Hz*

Air: *80 PSI dry unlubricated air*

Certification: *CE certified*

Options

Heat plate temp - Up to 150°C

Vacuum plate
4 zones, user controlled

Camera
Adjustable (Passive Vision) viewing area

Laser Pointer

4th Axis - rotational

Low oxygen atmosphere with monitoring

MicroFlow recirculation pump for precise dispense of suspensions at very low flow rates

Dimensions

ExactaCoat: *944 mm W x 831 mm H x 794 mm D (37.2" W x 31.2" H x 32.7" D)*
FlexiCoat: *1219 mm W x 1505 mm H x 942 mm D (48" W x 59.3" H x 37.1" D)*

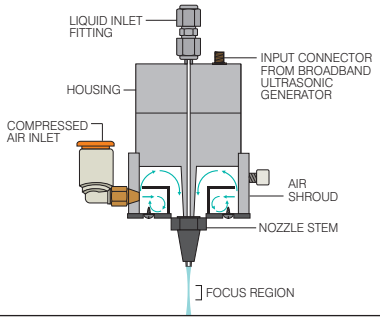
Sono-Tek ultrasonic nozzles create a wide variety of precise spray patterns.

The ***PicoSpray*** ultrasonic nozzle is designed to produce a very narrow, focused spray beam, making it ideal for applications requiring thin, repeatable, defined lines less than 1 mm wide.

Patented air shaping technologies enable precise shaping of the atomized spray into several different width patterns, depending upon the needs of each spray application. Typical air shaping systems used for diagnostic coatings include:

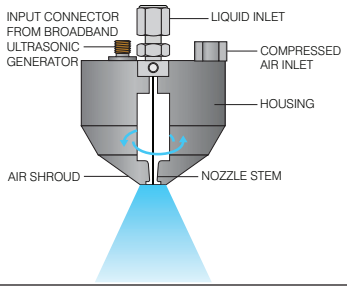
AccuMist™ air shaping creates a narrow, slightly bow-shaped spray pattern.

Pattern width adjustable from 0.070 - 0.250" (2 - 6 mm).



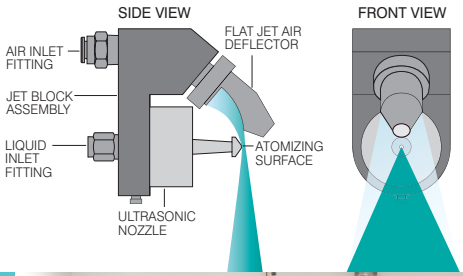
Vortex air shaping produces a wide, conical spray pattern.

Pattern width adjustable from 2 - 4" (50 - 102 mm) in diameter.



Impact air shaping nozzle creates a wide, fan-shaped spray pattern.

Pattern width adjustable from 2 - 6" (50 - 150 mm).



Sono-Tek Laboratory Services

Sono-Tek's in-house laboratory services offer the expertise of our engineering and technical staff in resolving process issues and tailoring our technology to meet our customers' needs.

SONO•TEK Corporation
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Corporate Headquarters:
2012 Rte. 9W, Milton, NY 12547 USA
Phone: 845•795•2020
Fax: 845•795•2720

E-mail: info@sono-tek.com
Web: www.sono-tek.com

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