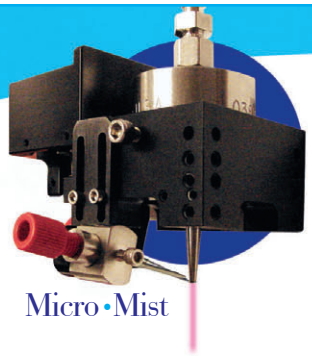
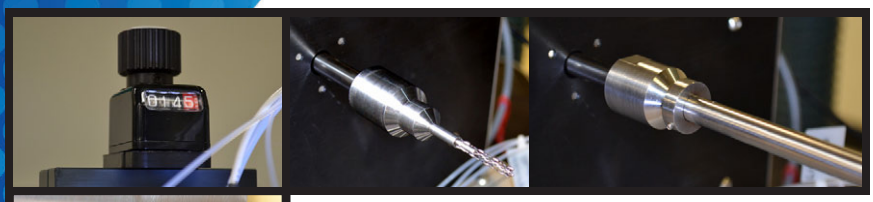
# Medi•Coat™ PSI

## Peripheral Stent Coating System

Micro•Mist

Accu•Mist



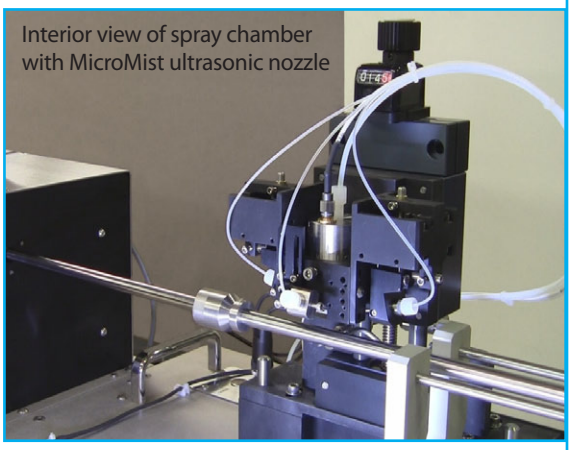
SIDE ACCESS DOOR

The MediCoat PSI offers the same cutting-edge precision stent coating features as Sono-Tek's cardiac stent coating machines, with a unique design making the system ideal for coating large peripheral stents. The system incorporates Sono-Tek's MicroMist or AccuMist ultrasonic nozzle with automated stent motion for complete coverage of large vascular peripheral stents. Sono-Tek Corporation has over 30 years of expertise in ultrasonic spray technology and the most advanced proven stent coating systems on the market, as well as systems for coating guide wires and catheters.

The MediCoat PSI is an advanced adaptation of our proven MediCoat DES benchtop stent coating system. It uses the same established method for coating peripheral arterial stents that is commonly used in coating cardiac stents. For manufacturers looking to implement the practice of coating large peripheral stents with polymer drug compounds, this system offers a full coating solution.

- Small ultrasonically generated drops provide excellent penetration and inhibit webbing
- Fully integrated continuous flow polymer delivery system provides the highest degree of accuracy
- Quick load/release stent loading rods interchangeable with different mandrel designs
- User friendly software with recipe programming and storage, multiple level security settings, and daily log for time stamped actions (login/out, process run/creation, comments)
- Integrated control of the nozzle, liquid delivery, and stent motion
- Large viewing windows in front and on top of coating chamber
- Easy access side door and illuminated sealed spray chamber
- Precision height adjust mechanism with simple knob rotation
- Self-cleaning ultrasonic nozzle prevents clogging
- Automated self-cleaning function
- Capable of layering multiple polymers
- All system components are compatible with the typical solvents and polymers used in stent coating

*(solvents such as: THF, acetone, DMAC, toluene, chloroform*
*polymers: urethanes, polylactides, polycarbonates, silicones, styrenes)*



Interior view of spray chamber with MicroMist ultrasonic nozzle

INTEGRATED ULTRASONIC STENT COATING SYSTEM

**SONO•TEK Corporation**

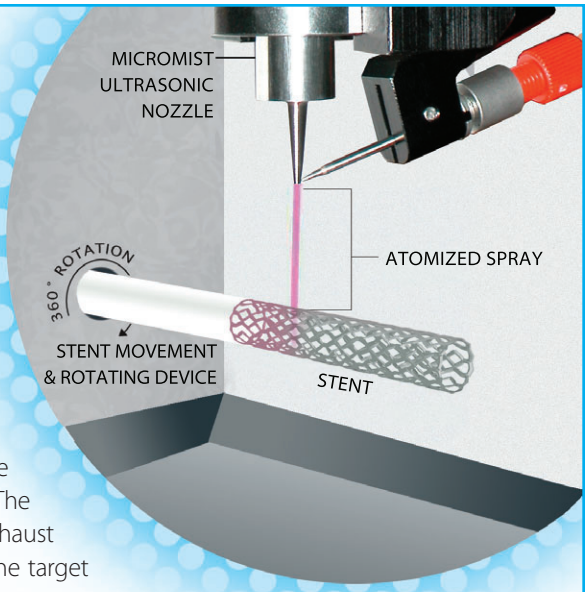
ISO CERTIFIED

# Operating Principle

The MediCoat™ PSI Benchtop Stent Coating system features Sono-Tek's unique MicroMist or AccuMist atomizing nozzles, which use low pressure gas to produce a soft, highly focused beam of atomized spray drops.

The small size of the nozzle tip and air orifice of the MicroMist™ produces a very fine, focused beam. An isolated hypotube delivers liquid to the nozzle tip while compressed gas, delivered through the nozzle orifice at a fixed low pressure, shapes the atomized droplets into a very precise, targeted spray. The AccuMist nozzle combines low pressure gas with liquid fed down the center of the nozzle to create a slightly bow-shaped pattern.

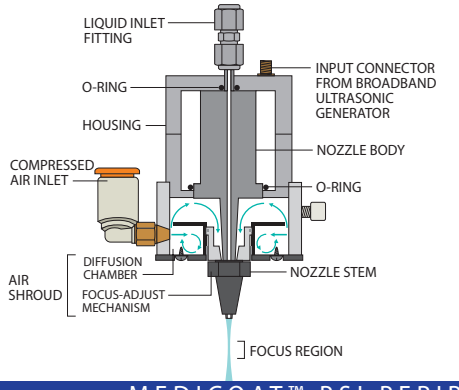
The customer has the option of attaching a custom stent holding device onto the rotating mandrels. Stents are rotated at a fixed speed, controlled by the user. The stent moves horizontally side-to-side beneath the target area. The number of horizontal passes made are programmable. A low-velocity exhaust maintains a negative air pressure to assure that any unwanted mist beyond the target area is removed.




The system's unique glove box design allows for safe and convenient access to the stent load and unload area. Large, unobstructed viewing windows and high-intensity internal LED lighting allow for easy observation.

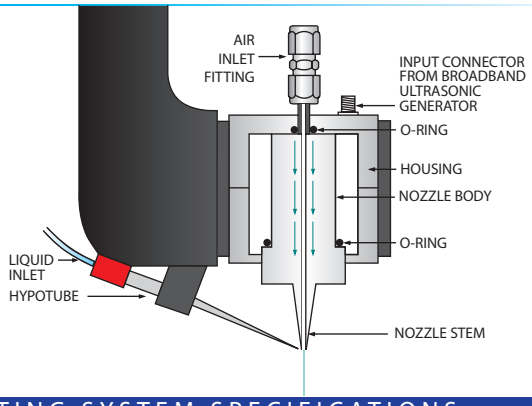
With integrated controls for triggering the ultrasonic atomization, liquid delivery and stent movement, the MediCoat™ PSI Stent Coating System provides a complete solution for developing a peripheral stent coating process and moderate volume production.

## Accu•Mist




*AccuMist and MicroMist nozzles use low pressure air to shape the ultrasonic spray into a finely focused beam of micron sized droplets. The soft, low velocity spray readily adheres to complex strut surfaces with very little overspray.*

## Micro•Mist




## MEDICOAT™ PSI PERIPHERAL STENT COATING SYSTEM SPECIFICATIONS

### Liquid Delivery Specifications

MediCoat™ PSI systems are typically used with Sono-Tek's Syringe Pump TI.

| | |
|---|---|
| Controls | 100-240 VAC, Trigger interface, PC connect |
| Non-volatile memory | Stores all settings |
| Capacity | One syringe, 25 ml |
| Flow Rate Range | 0.01 - 50 ml/min |
| Accuracy | ±0.35% |
| Drive Motor | 1.8° Stepper Motor |

### Requirements

| | |
|---|---|
| Power | 100-240 VAC, 50/60 Hz single phase, 2.5A |
| Compressed Air | 15-150 psi/100-1000 kPa, clean, dry air or gas |
| Exhaust | 3" Port - 100 CFM with damper |
| PC Controls | Windows 98 Operating System or higher*, Serial port |

**PC is available from Sono-Tek as a system option*

### Benchtop Specifications

| | |
|---|---|
| Construction | 316 stainless steel, Teflon®, Delrin®, tempered glass, anodized aluminum |
| Dimensions | 57" (144.8 cm) W x 26" H (66 cm) x 25" D (63.5 cm) |
| Max Travel Distance | 250 mm |
| Max Travel Speed | 15.4 mm/sec |
| Max Rotation Speed | 1600 PRM |

### Ultrasonic Nozzle Specifications

| | |
|---|---|
| Materials | |
| Nozzle Body* | Titanium alloy 6Al-4V |
| Nozzle Housing | 316 stainless steel |
| O-rings | Kalrez® |
| Precision Holder (MicroMist) | Anodized Aluminum |
| Air Shroud (AccuMist) | Delrin®/316 stainless steel |
| Liquid Inlet* | 316 stainless steel (1/8"or 1/16" tubing) |
| Air Inlet (1/4" tubing) | 316 stainless steel |
| Operating Temperature | 20 - 150° C |
| Air Pressure | 0 - 2 psi |
| Flow Rate | AccuMist: 1 - 100 ml/hr, MicroMist: 0.3 - 9 ml/hr |
| Spray Pattern Diameter | AccuMist: 0.070 - 0.250 inches (1.778 - 6.35 mm) MicroMist: 0.010 - 0.030 inches (0.26 - 0.27 mm) |

*Wetted materials



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