ALIGN

Air • Liquid • Interface • Generator • Nozzle

Precision Ultrasonic Spraying Platform

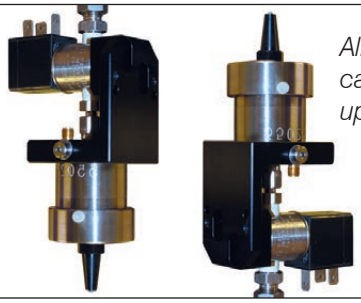
A complete ultrasonic spraying platform designed to easily integrate with existing equipment. The system provides full control of the ultrasonic nozzle, spray shaping, control enclosure, and choice of liquid delivery systems. Reductions in spray material of up to 75% are seen when changing from conventional air spray to a Sono-Tek ultrasonic atomizer, with tighter process control and improved efficiency.

- Designed to retrofit into existing equipment
- Requires only a trigger signal to operate
- Highly repeatable performance and reduced wasteful overspray
- Self-cleaning ultrasonic nozzle prevents clogging
- Controlled velocity will not harm or disturb delicate substrates
- Spray pattern width ranging from: 2 - 200mm (0.080”- 8”), depending upon nozzle configuration
- Utilizes ECHO generator technology
- Designed for precise on/off triggering of spray sequence, maximizing efficiency of programmed spray processes
- Ultrasonic nozzles can spray in any orientation (up, down, or at any angle)
- Integrates with many different Sono-Tek precision liquid delivery options

▲ Impact ▲ Vortex

▲ AccuMist

The system is commonly used with AccuMist, Impact, or Vortex air shaping



All nozzles can spray up or down

The control module is a compact, self-contained module consisting of a touchscreen HMI/PLC, ECHO ultrasonic generator, liquid delivery and gas regulator, and additional electrical inputs and outputs.

SONO•TEK Corporation

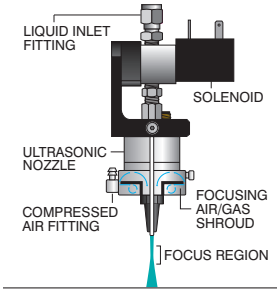
ALIGN is a compact, versatile ultrasonic spray platform. The platform is paired with customer choice of ultrasonic nozzle, liquid delivery system, and air/gas control system, all controlled through a simple touch interface display.

Many different options are available for the ultrasonic nozzle, liquid delivery and air/gas control, depending upon application requirements. Sono-Tek's application engineering experts will provide recommendations for each.

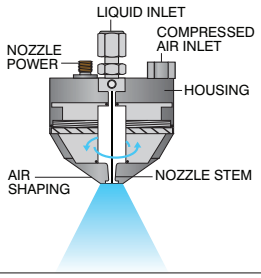
OPTIONS FOR PLATFORM INTEGRATION

ULTRASONIC NOZZLE OPTIONS

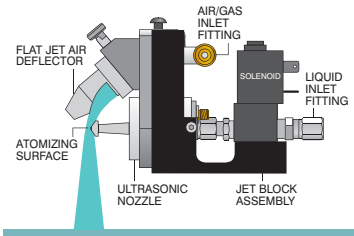
AccuMist - Produces a thin, bow-shaped spray pattern.



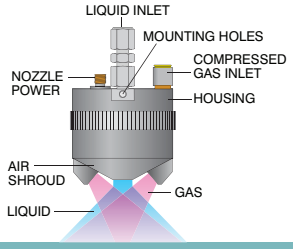
Vortex - Rotational air/gas produces a conical shaped spray pattern.



Impact - Creates a fan shaped spray pattern.



Propel - Creates a wide, fan shaped spray pattern.



LIQUID DELIVERY OPTIONS

Syringe Pump TI
Touch Interface programmable syringe pump
Flow rate range: 0.01-50 ml/min

Pressure Reservoir
Pressure Reservoir with optional auto refill
Flow rate range: 0-100 ml/min

Gear Pump
Pulseless gear pump for continuous or intermittent flow
Flow rate range: 2-20, 10-70 or 40-200 ml/min

MicroFlow
High accuracy positive displacement pump
Flow rate range: 1µl/min-25ml/min

SonoFlow Fusion
Continuous syringe pump compatible with SonicSyringe or Stirring Syringe
Flow rate range: 0.5-15 ml/min

AIR/GAS CONTROL OPTIONS

Pressure regulator
Manual adjustment flow regulator

Precision programmable air flow regulator
Digital touch screen adjustment

ALIGN SPRAY SYSTEM SPECIFICATIONS

Ultrasonic Nozzle Specifications

Materials of Construction

Nozzle Body*	Titanium alloy 6Al-4V
Nozzle Housing	316 stainless steel
O-rings*	Kalrez®
Liquid Inlet*	316 stainless steel (6 mm)
Air/Gas Inlet	Nickel-plated brass(4 mm barb)

Air Shaping

AccuMist

Air Shroud Materials	Delrin®/316 stainless steel
Spray Pattern Diameter	2 mm - 6.4 mm (0.080"- 1.5")
Air Pressure	0-14 kPa (0-2 psi) typical

Impact

Air/Gas Jet Materials	Ertalyte®, Delrin®, stainless steel, Acetal
Spray Pattern Diameter	50 mm - 150 mm (2"- 6")
Air Pressure	0-200 kPa (0-30 psi) typical

Vortex

Air/Gas Jet Materials	Delrin®, stainless steel
Spray Pattern Diameter	50 mm - 200 mm (2"- 8")
Air Pressure	0-70 kPa (0-10 psi) typical

Propel

Air/Gas Jet Materials	Stainless steel
Spray Pattern Diameter	50 mm - 200 mm (2"- 8")
Air Pressure	14-170 kPa (2-25psi) typical

Liquid Solenoid Valve (2 Different Types)

Wetted Materials	*Type 1:* 316 stainless steel, Chemraz®, 400 series stainless steel or *Type 2:* Teflon and Kalrez

Service Requirements

Input Power	100-240 VAC, 50/60 Hz Single phase, 3A max (10A service recommended)
Compressed Air	Clean, dry and oil-free
Air/Gas Consumption	2-170 lpm, application dependent
Exhaust	Application dependent

Control Module Specifications

Dimensions	370mm W x 408mm H x 266mm D 14.6"W x 16"H x 10.5"D *(+152mm/6" additional space needed for electrical connections clearances)*
Display Interface	4.3" LCD, capacitive touch
External Trigger Input	Switch closure, 5 VAC/DC 24 VAC/DC
Alarm Output for nozzle malfunction	Relay,N/O, N/C, attaches to users alarm
Operating Temperature	0 - 40° C (0 - 104° F)

**Wetted materials. Teflon®,Kalrez® and Delrin® are registered trademarks of E.I.DuPont de Nemours & Company. Specifications may change without notice.*

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