AEROSOL JET® 200 SERIES SYSTEMS

Printed Electronics Exploration and Development

Aerosol Jet® 200 Series is ideally suited for universities, ink developers, and others exploring the benefits

Aerosol Jet 200 series systems provide a professional grade, compact benchtop print solution specifically developed for printing electronics. The system utilizes an innovative aerodynamic focusing technology that produces electronic and physical structures with feature sizes from 10 microns to millimeters.

Aerosol Jet 200 Series System

The Aerosol Jet System comes standard with a fine feature print head, ultrasonic atomizer, 200mm square heated vacuum platen, alignment and process cameras.

The Aerosol Jet system supports a wide variety of materials, including conductive nanoparticle inks, polymers, insulators, adhesives, etchants, and even biological matter that can be accurately deposited by the system onto planar and nonplanar substrates.

FEATURES

- Features ranging from 10 microns to millimeters
- Supports wide variety of inks / materials
- Repeatable recipe driven dispense
- Planar and non-planar capabilities
- Alignment and process camera package
- CAD import eases toolpath generation

RESEARCH AND DEVELOPMENT APPLICATIONS

- Curriculum development and delivery
- New Inks and other materials
- Print process development
- New product development
- Advanced manufacturing solutions
- Advanced biologics R&D

OPTOMEC®
Production Grade 3D Printers... with a Material Difference
www.optomec.com

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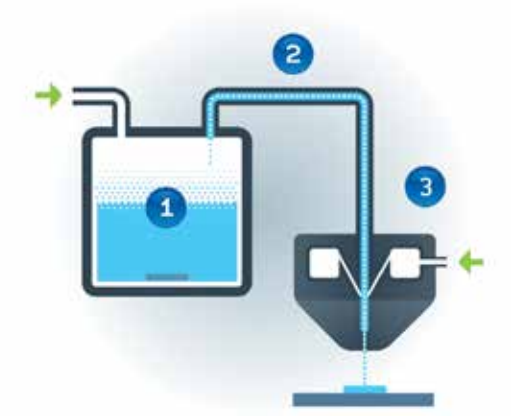
Aerosol Jet Process



How the Aerosol Jet Process Works:

1. A liquid sample is atomized, creating a dense aerosol composed of droplets with diameters between approximately 1 and 5 microns.

2. The aerosol is transported to the deposition head using an inert carrier gas. [In-flight aerosol heating is optional].

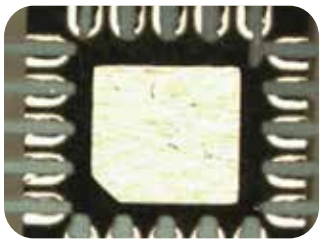
3. The aerosol is focused within the deposition head by an annular sheath gas. The resulting high-velocity jet is deposited onto planar and 3D substrates, creating features ranging from 10 microns to one millimeter in size

Features

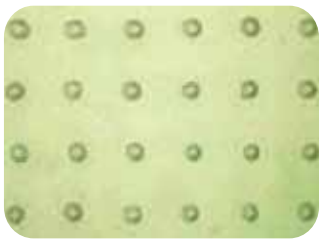
Aerosol Jet 200 Series Systems Details

Print Head	Fine Feature with features sizes from 10 to 200 microns
Nozzle to substrate stand-o height	Up to 5 mm
Mechanical Shutter	2 millisecond response time
Standard Atomizer	Ultrasonic – viscosity < 10cP at room temp, material dependent. (Temperature stabilized water bath required)
Platen	200 mm x 200 mm w/ vacuum & heating
Print Speed	100 mm/s max.
Motion accuracy	±25 microns
Electrical	110 – 220 VAC 50 / 60 Hz
Utilities	28 LPM Nitrogen Gas Input
CE Certification	Fully Compliant.
System Dimensions	AJ 200 motion platform: 711 x 660 x 381 mm (28" x 26" x 15") Electronics rack: 533 x 444 x 508 mm (21" x 17.5" x 20")
System Weight	AJ 200 platform 45.4 Kg (100 lbs); Electronics Rack 22.7 Kg (50 lbs)
Optional Features	▶ Swappable Wide Nozzle print head with feature sizes from 0.50 mm to 2.0 mm ▶ Fine Feature print head manual tilt with up to 45° of freedom ▶ Pneumatic atomizer - viscosity of 1 to 1000 cP. Comes with in-line heater/stirrer

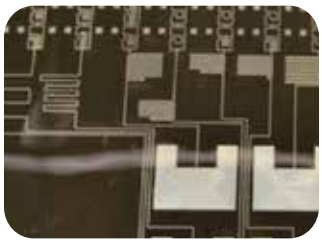
Aerosol Jet Printing Examples



QFN Chip



Printed Biologics



Phased Array Antenna, Ag Printed on Kapton

ABOUT OPTOMEC

Optomec® is a privately-held, rapidly growing supplier of Additive Manufacturing systems. Optomec's patented Aerosol Jet Systems for printed electronics and LENS 3D Printers for metal components are used by industry to reduce product cost and improve performance. Together, these unique printing solutions work with the broadest spectrum of functional materials, ranging from electronic inks to structural metals and even biological matter. Optomec has more than 200 marquee customers around the world, targeting production applications in the Electronics, Energy, Life Sciences and Aerospace industries. For more information about Optomec, visit http://optomec.com.

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