

MEO Engineering Company, Inc.

High Tech on Small Scale Since 2004

GALEX™ Instruments FIB/SEM Deposition Precursor Gas Injector

DESIGN HIGHLIGHTS

- Easy installation, alignment, and start-up
- Compatible with deposition precursors
- User-exchangeable and re-loadable cartridges, self-service precursor exchange
- Port-mounted and always ready, no lengthy preparations prior to operation
- Most precursors ready for injection within seconds after sample pump-down
- Rapid switch, no internal absorption for most precursors, no lengthy degassing
- Injection of multiple gases without position correction or re-alignment
- Desktop or rack-mountable controller, push-button operation or computerized GUI control
- Self-sealed precursor cartridges improve handling and safety compliance
- Double-sealed shipping containers comply with safety regulations
- Fail-safe normally-closed process valves for safe power-loss shutdown
- Fail-safe retraction facilitates withdrawal in case of air pressure loss or power shutdown
- Customization for experimental precursors and application development support available
- Designed and built by people with decades of expertise in FIB instrumentation, gas injection and FIB GAE
- Gas Assisted Etching version is available
- UHV-compatible version upon request

PRECURSOR HANDLING

Number of cartridges:	3 – standard, 4- upon request
Precursor cartridge housing:	Heated and room temperature – standard Cooled – optional
Gas switch time:	10 Sec for chemically compatible precursors
Heated cartridge temperature:	Ambient to +65°C
Cooled cartridge temperature:	Ambient to +10°C
Precursor cartridge capacity:	2.0 cm ³
Precursor cartridge design:	Self-sealed, re-loadable and user-replaceable
Wetted materials (standard):	Al (Ni plated), Ni (plated on Al), SST-304, Viton (FKM), PBT, Ultra Chemically Resistant PVC.

Standard wetted materials are compatible with most typical deposition and etching precursors: Pt, W, Mo, C, SiO_x, XeF₂. Substitutions of wetted materials for other chemistries available upon request.



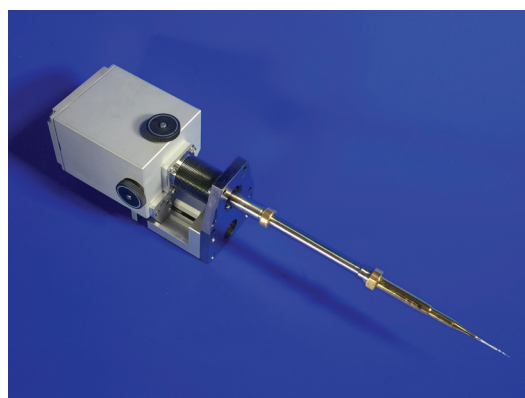
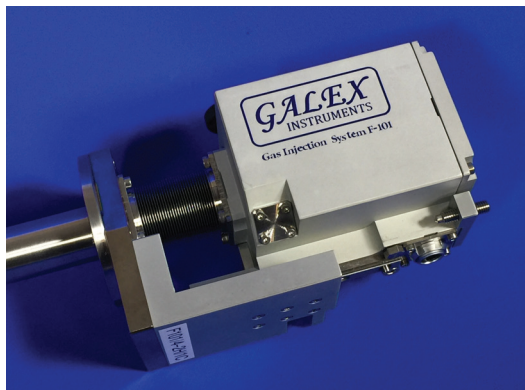
Patent Pending

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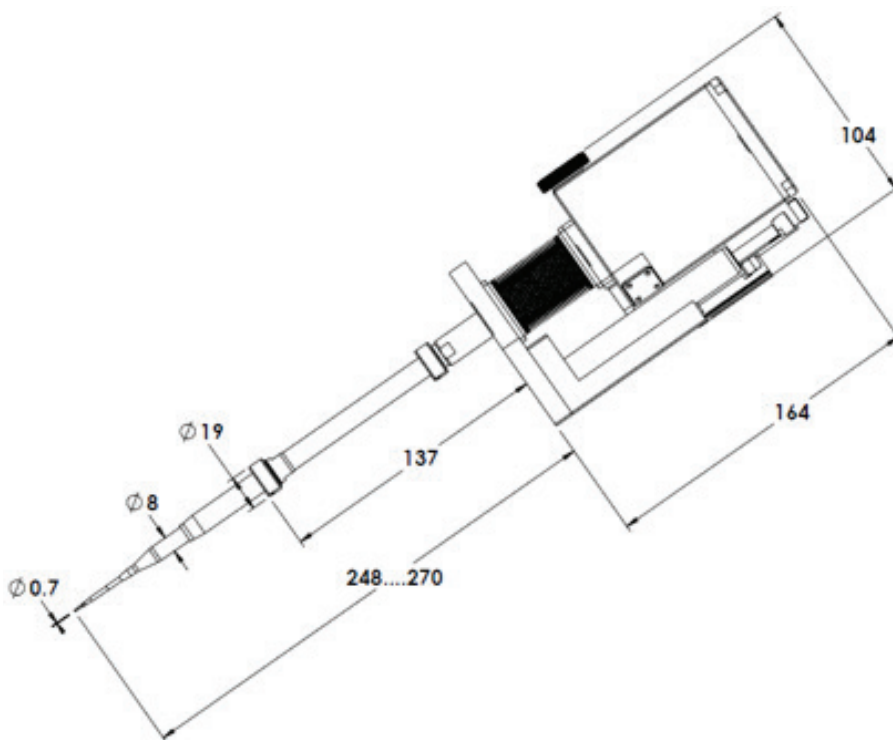
CONTROLLER

Configurable 1U desktop or 19" rack-mountable with push-button interface and GUI through USB PC interface.

UTILITIES

Vacuum:	10E-2 Torr or better by system or dedicated rough pump.
DN ₂ , CDA, or compressed air:	90PSI ± 15PSI stand-alone or integrated IN/OUT control
Purge gas (N ₂ , O ₂ , Ar) optional:	5PSI ± 1PSI
Computer interface:	USB

DIMENSIONAL SKETCH (mm)



Patent Pending

INJECTOR MOUNTING

Weight:	1.6 kG (3.4 lb)
Mounting:	Tool-specific adapter with Viton O-Ring
Insertion/Retraction stroke:	22mm
Insertion/Retraction time:	< 5 Sec
Needle insertion repeatability:	±5µm

SHIPPING CONTAINER

Dimensions:	22" x 18" x 11" (56cm x 46cm x 28cm)
Weight:	30lb (15kg)

CONTACT US FOR YOUR NEXT PROJECT

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