

Thermal evaporation & RF sputtering system

Manufacturer: Kurt. J. Lesker

Model: PVD75

Serial Number: PTN103000

Descriptions

The Lesker PVD 75 Deposition System provides both thermal and RF sputtering deposition of metal and non-metal films. Three thermal sources by DC power supply and a single RF sputtering source are housed in the process chamber. The system can process samples up to 8" in diameter. Materials approved include: Al, Ag, Au, Cu, Cr, Fe, Mg, SiO₂, ITO, etc. The system features recipe control for efficient use.

Specifications

Process chamber	<ul style="list-style-type: none">• Viewport and replaceable deposition shield• Appropriate pumping, process, gauging and instrumentation ports
Vacuum pumping	<ul style="list-style-type: none">• 260 l/s speed control compound turbo pump• 5.7 cfm oil-sealed mechanical roughing pump and foreline valve• Foreline trap, mist eliminator, roughing valve, and roughing hardware (when applicable)• Pneumatically actuated vent valve
Vacuum gauging	Wide range vacuum gauge reads from atmosphere to 10 ⁻¹⁰ Torr
Water distribution manifold	<ul style="list-style-type: none">• Manual shut off valves• Interlocked flow switches to critical components• Cryopump compressor requires separate water connection• 1" NPT connections (inlet and outlet)
Power distribution	<ul style="list-style-type: none">• Single service drop (208/220VAC, 50/60Hz, single phase, 3-wire, 30 Amps based on configuration)• Component wiring is routed to a centralized power distribution panel• EMO protection• Isolation transformer provides safe operation for sputtering while substrate heating• Appropriate safety interlocks
Magnetron sputtering source	<ul style="list-style-type: none">• A Torus magnetron sputter cathode, mounted to an adjustable 3/4" tube• O-ring sealed compression fittings to adjust source-to-substrate distance• Pneumatic source shutter KJLC 300W RF power supply with automatic matching network
Thermal evaporation sources	<ul style="list-style-type: none">• Three source assembly with water cooled high current feedthroughs (for sequential deposition)• DC power supply, 3.3V at 375A max

	<ul style="list-style-type: none"> • 3 position source switch • A single (one) pneumatically actuated shutter covers all sources • Cross contamination shielding
Substrate	<ul style="list-style-type: none"> • Include variable speed, motor driven rotating platen (up to 20 rpm) for primary rotation of the substrate • Substrate water Cooling platen
Upstream Pressure Control	<ul style="list-style-type: none"> • Two MKS 1179 flow controllers, all cables, and PID upstream pressure control electronics • MKS 626A Baratron 100 mTorr pressure transducer • System vent and purge pressure regulators • Pumping speed is regulated by the speed control turbo
Film Thickness Control	<ul style="list-style-type: none"> • PCI Card for interfacing with up to 4 crystal sensors • One standard crystal sensor (located near the substrate)
Basic Computer Control	<ul style="list-style-type: none"> • PC-based control system (Windows XP) • KJLC “C-Ware” Visual Basic based software • Rack mounted PC, touch-screen monitor, flip up keyboard with touch pad

