

NSC-4000 and NSC-3000 SPUTTER COATERS



NSC-4000



**NSC-2000 (with PLC) and
NSC-3000 (with PC)**

Description:

The Sputter Coater NSC 4000 PC controlled stand alone system with a water cooled rotating 8" substrate platen, NSC 3000 is a PLC controlled table top sputtering system. The stainless steel and aluminum chambers are available. The system is pumped with a turbomolecular pump down to a low 10^{-6} torr pressure within 15-20 minutes. It can have up to three 2" or 3" planar magnetrons. The RF or DC power is applied to the individual magnetron through an RF switch followed with a manual RF tuner. A manual or stepper motor driven shutter which protects the unused magnetron during sputtering is available as an option. The magnetron and substrate distance is adjustable for adjustment of uniformity or deposition rate. This process is controlled through a PC and optional thickness monitor, makes it possible to run totally automatically. Magnetron targets are easily replaceable.

Features:

- 70 or 200 l/sec turbomolecular pump backed with a mechanical or a dry pump
- Commercial reliable 300-600 W RF and 1KW DC power supplies
- Water cooled high reliability, commercial magnetrons for multiple film sputtering
- Adjustable magnetron to platen distance to vary deposition rate versus uniformity
- Water cooled or heated, and electrically isolated platen
- Rotating platen with off axis magnetrons for better film uniformity
- Substrate RF or DC bias
- RF plasma cleaning
- Door with view port for easy wafer load and unload
- Thickness monitor
- Compact, PC controlled
- Optional load lock and surface preparation station
- Reactive Sputtering capabilities
- Other custom features such as surface temperature monitoring

Applications:

- Metal and dielectric coating of wafers, ceramics, glass blanks, and disk heads
- Optical coatings, and ITO Coatings
- Hard coatings with high temperature platens and Pulse DC power supplies
- Reactive sputtering with RF plasma discharge

Models:

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| NSC-2000 | PLC controlled table top multi-gun sputtering system |
| NSC-3000 | PC controlled table top multi-gun sputtering system |
| NSC-4000 | PC controlled, stand alone multi-gun sputtering system |



**Combinatorial Side Sputtering
System with Vertical Platen**



3019 Alvin Devane Blvd. Suite 300, Austin, TX 78741;

Tel. (512) 385-4552; Fax (512) 385-4900; <http://www.nanomaster.com>; main@nanomaster.com

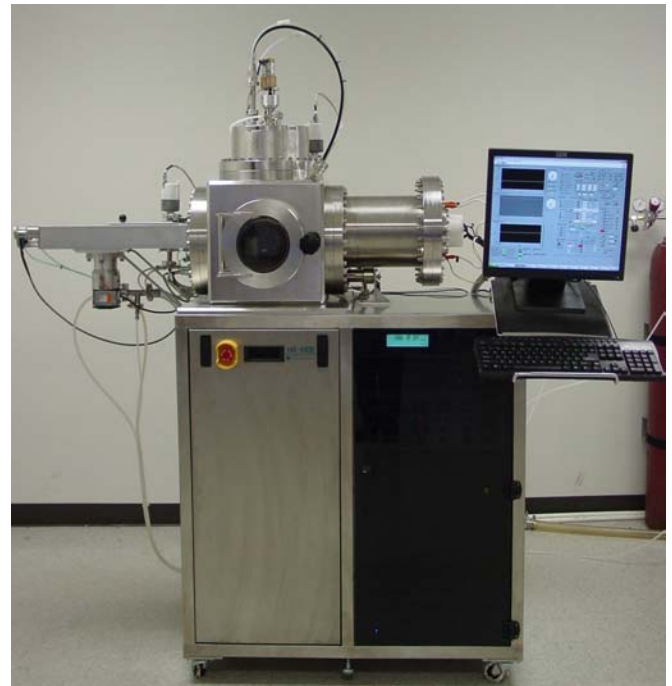
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NSC-3000 with Aluminum Chamber and Auto Load Lock



Sputtering/RIE Dual Chamber System



Eight Wafer Cassette Auto Load Un-Load Sputter Up System Sputter Coater/Ion Beam Etch System w/Auto Load Unload

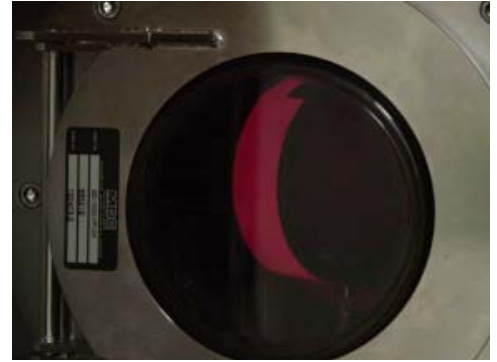
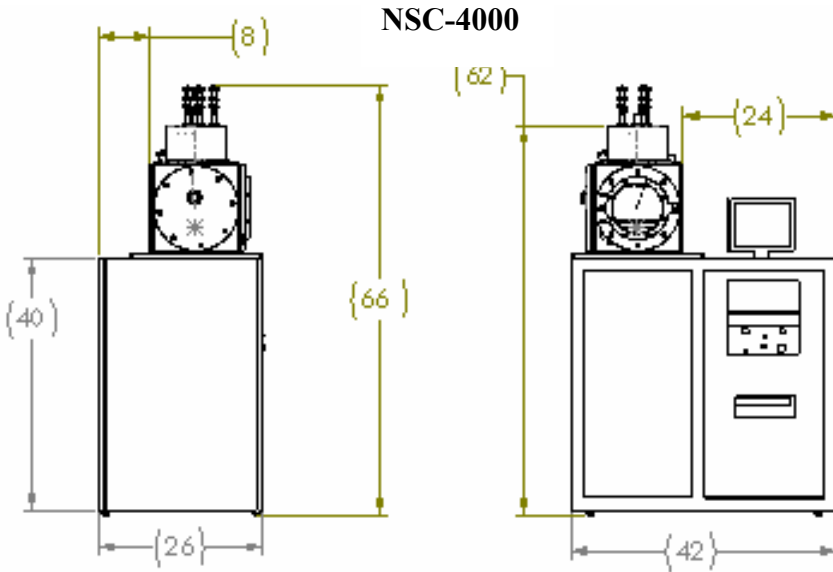


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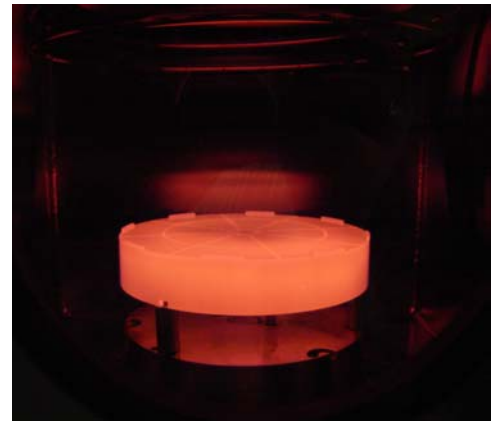
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Heated Vertical Platen



Heated Horizontal Platen (700C)

Options:

- B Floating electrode for DC or RF biasing
- D Dielectric sputtering (RF)
- H Heated platen
- L Load lock (with Aluminum chamber)
- M Al chamber with wafer load unload door
- T Thickness monitor
- P Plasma cleaning
- R Reactive sputtering

General Specifications

<p>Equipment control Chamber dimensions Maximum platen size Maximum number of magnetrons Maximum magnetron diameter Magnetron platen distance Vacuum Platen cooling Maximum platen heating DC power supply RF power supply DC bias RF bias Plasma clean Thickness monitor, multiple films</p>	<p>NSC-3000 PC (Lab View) 12", 12" Bell Jar/Aluminum Chamber 8" 3 3" 8" 5x10⁻⁶torr w/70 l/sec , 5x10⁻⁷torr w/200 l/sec turbo 20 °C 300°C , 500°C, 700°C 1000V, 1 Amp max. with 1400V ignition 300 to 600 W, 13.5 MHz 500 VDC or pulsed DC<100KHz 300 W, 600W, 1KW,13.5 MHz 300W, 13.5 MHz Up to 100 films, programmable</p>	<p>NSC-4000 PC (Lab View) 14"x14"x14" Metal Chamber 10" 3 3" 10" Low 10⁻⁷ torr or 200 l/sec turbo/5 cfm mech. 20 °C 300°C , 500°C, 700°C 1000V, 1 Amp max. with 1400V ignition 300 to 600 W, 13.5 MHz 500 VDC or pulsed DC<100KHz 300 W, 600 W, 1KW, 13.5 MHz 300W, 13.5MHz Up to 100 films, programmable</p>
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Facilities Required:

Power	110/220 V, 20 Amp/Phase, 50/60 Hz
Chilled water	15 °C, 7 liters/min
Process gasses	Ar, N ₂ , pressure 15 psi
Exhaust	For mechanical pump

Dimensions:

	NSC-4000	NSC-3000
Height	66"	30"
Length	42"	26"
Width	26"	26"
Weight:	700lbs	250lbs



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