

**NanoStructured Coatings Co.**



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The Products & Specification

Nanostructured Coatings Co. is the owner and manufacturer of the Sputter & Vacuum Coaters.

## **NANOSTRUCTURED COATING CO.**

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## High Vacuum, Single Magnetron Target Desk Sputter Coater

### DST1:

The magnetron desk sputter coater model DST1 is a compact coating system with ability to coat semiconductors, dielectrics and metals (oxidizing and non-oxidizing). Uniform thin films with fine-grain sizes are formed in a fast cycle time.

The DST1 is equipped with a magnetron cathode with diameter of the cathode could be 2-4 inches depending on the requirement.



### DST1 - 2:

The DST1-2 is configured as a sputter coater and fiber carbon coater (optional) with interchangeable heads in one instrument suitable for Scanning Electron Microscope (SEM) sample preparation.

This high vacuum coater offers high quality uniform films with fine grain sizes which are suitable for specimens that require high resolution and high quality characterization such as FE-SEM, EDS/WDS, TEM, and EBSD.

The DST1-2 with a 2" magnetron cathode, 300 W RF power supply (optional) with matching box, 80 W switching DC power supply and high current power supply for carbon evaporation(optional), could be used for research and different thin film applications.

### DST1 - 4:

The large chamber DST1-4 with a 4" magnetron cathode, water-cooled, is ideally suitable for coating large specimens with diameters of up to 15 cm, or multiple

smaller specimens over a similar diameter.

The unlimited sputtering time makes it suitable for deposition of thick layer. The system is equipped with 800 W DC power supplies, 300 W RF power supply (optional) with matching box. The system can deposit wide ranges of materials on different surfaces for thin film applications such as Micro & Nano electronic and SEM sample preparation

## Features

- High vacuum turbo pump.
- Diaphragm backing pump.
- Full range vacuum gauge.
- Carbon fiber evaporation (DST1-2).
- Pulsed or flash carbon fiber coating modes (DST1-2).
- High precision quartz crystal thickness monitor.
- Intuitive touch screen to control the coating process and rapid data input
- User friendly software that can be updated via network.
- Controls coating rate to achieve finer grain structures.
- Manual or automatic Timed and Thickness sputtering.
- Able to record and plot coating parameters graphs.
- Equipped with electronic shutter.
- Easy-to-change specimen stages (rotation stage as standard).
- Two-year warranty.

## Clean Vacuum

The vacuum chamber is Cylindrical Pyrex with 300 mm OD and 200 mm H. The DST3 is fitted with an internally mounted 300 L/s turbo molecular pump, backed by a diaphragm pump. It introduces clean vacuum without oil contamination which normally exists with ordinary diffusion pump.

## Touch Screen Control

DST1, is equipped with a 7" colored touch screen and full automatic control and data input that can be operated by even inexperienced users. The vacuum, current and deposition information can be observed as digital data or curves on the touch screen. Information of the last 300 coating can also be saved in the history page.

## Applications

- Metal, Semiconductor and Dielectric Films
- Nano & Microelectronic
- Solar cell applications
- Co-Sputtering processes
- Optical components coating
- Thin film sensors
- Magnetic thin film devices
- Computer memory applications
- Fine grain structural deposition for SEM & FE-SEM sample preparation

## Specification

- Ultimate Vacuum: Less than  $2 \times 10^{-6}$  Torr.
- Controls the rate of sputtering to achieve finer grain structure.
- Automatically controls the power of sputtering independent of pressure.
- Precision Mass Flow meter (MFC) for fine control of the vacuum pressure
- Able to record and plot coating parameter graphs.
- Transfers curves and deposition process data by USB port to PC.
- Utilities: 220V- 50HZ- 16A.
- Shipping Weight (DST1-2): 28kg.
- Shipping Weight (DST1-4): 36kg

## Options and Accessories

- Carbon fiber evaporation head (DST1-2).
- High current power supply (DST1-2).
- Substrate bias voltage (DST1-4).
- Substrate heater (DST1-4).
- Quartz crystal.
- Planetary sample rotation (DST1-2).
- Spare glass.
- Sputtering targets.
- Fiber carbon (DST1-2).