



High-Vacuum Single Magnetron Target Desk Sputter Coater – DST1-300



DST1-300

**High-Vacuum Single
Magnetron Target
Desk Sputter Coater**

Vac Coat Ltd.

The Products & Specification



Vac Coat Ltd. is manufacturer of the Sputter & Vacuum Coaters.

Vac Coat Ltd.

8b Accommodation Rd., Golders Green, London, UK. NW11,8ED

Tel: +44 20 8427 8606

Mob: +44 7828 824 005

E-mail: info@vaccoat.com

Web: vaccoat.com

[For technical and applications advice including online order for spares and consumables parts please visit www.vaccoat.com](http://www.vaccoat.com)

High Vacuum Single Magnetron Target Desk Sputter Coater DST1-300

The high-vacuum magnetron desk sputter coater model DST1-300 is a compact coating system capable of performing durable deposition of uniform coatings of semiconductors, dielectrics, and metals (Oxidizing and non-oxidizing) with fine-grain sizes in a large 300 mm dia. chamber.



The large chamber DST1-300 with a 2, 3, or 4-inch water-cooled magnetron cathode 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 layers. The system is equipped with a 600 W DC power supply, or a 300 W RF power supply (Optional) with an auto matching box. The system can deposit a wide range of oxidizing and non-oxidizing metal (Such as gold (Au), platinum/palladium (Pt/Pd) alloy, silver (Ag), chromium (Cr),

tungsten (W), iridium (Ir), etc.), metal oxides (Like TiO₂, ZnO, etc.), and dielectrics on different surfaces for thin film applications such as micro and nano electronic, and SEM sample preparation.

The DST1-300 is configured as a sputter coater that fulfills research purposes as well as 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.

Features

Hardware:

- Built-in turbo pump (Leybold)
- Two stage rotary vane vacuum backing pump (Diaphragm and scroll pump)
- Full range vacuum gauge (Leybold)
- DC power supply 600 W
- Quartz crystal thickness monitor with precision of 1 nm and resolution of 1 Å
- Electronic gas valves
- Sample rotation, height, and tilt adjustable
- Thermal evaporation feed-throughs (Optional)
- Electronic shutter
- Easy-to-change specimen stages (Rotation stage as standard)
- Two-year warranty
- CE standard conformity

Automation:

- Intuitive touch screen to control the coating process and rapid data input
- User friendly software, updatable via network
- Controls coating rate to achieve finer grain structures
- Semi-Full automatic coating process (Optional)
- Repeatable and programmable sputtering process in the automatic mode
- Manual or automatic timed and thickness sputtering deposition
- Able to record and plot coating parameters graphs

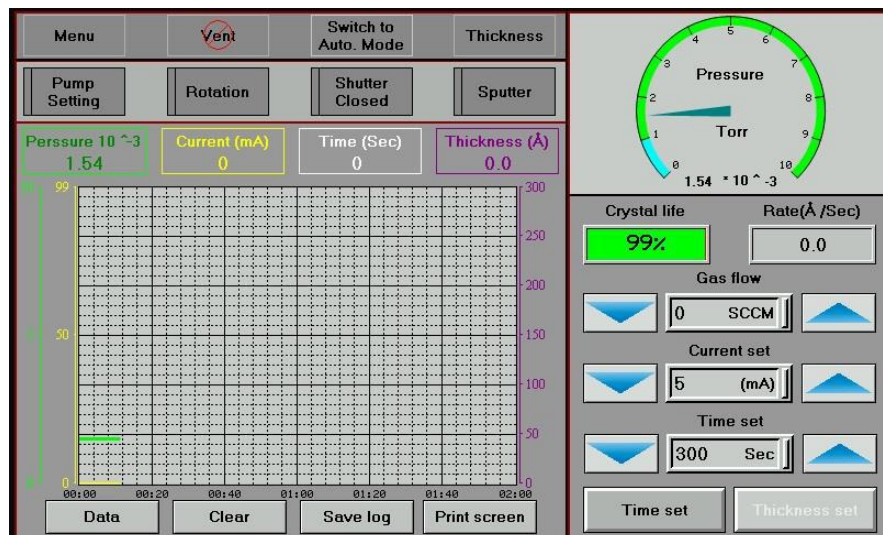
- Storing coating recipes for repeatable depositions

Clean Vacuum

The vacuum chamber is Cylindrical Pyrex. The DST1-300 is fitted with an internally mounted 90 L/s turbo molecular pump, backed by a 6 m³/h two-stage rotary vane pump. It introduces clean vacuum without oil contamination which normally exists with ordinary diffusion pump.

Touch Screen Control

DST1-300 is equipped with a 7" colored touch-screen panel and full automatic control using a user-friendly software to control and adjust the deposition process data. The vacuum and coating sequence information can be observed as digital data or curves on the touch screen. The last 300 coatings information is saved on the history page.

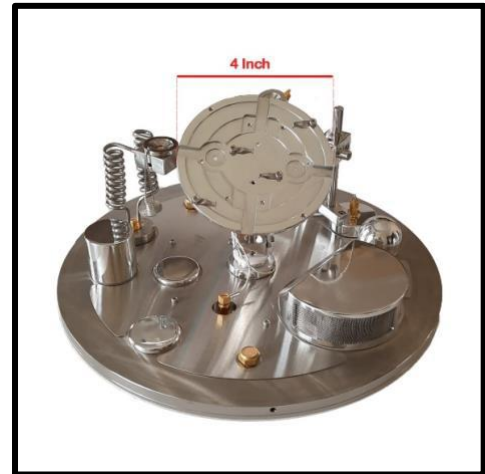


Sample Holder Stages

The samples in DST1-300 can be mounted on different rotatory sample holder stages. The standard sample holder stage is rotatable with adjustable height and angle and can be changed easily.



Standard 2-inch Sample Stage



Standard 4-inch Sample Stage

Applications

- Metal, semiconductor, and dielectric films
- Nano and microelectronic
- Solar cell applications
- Optical components coating
- Thin film sensors
- Magnetic thin film devices
- Computer memory applications
- Able to perform Glad sputtering (With optional planetary rotation)
- Fine grain structural deposition of metals for SEM, FE-SEM, and TEM sample preparation

Specification

- High-vacuum level with built-in turbo pump (Leybold)

Pumping Speed	90 l/s	350 l/s
Ultimate Pressure	8×10^{-6}	8×10^{-7}

- Suitable for deposition of a wide range of materials
- 300 mm OD x 210 mm H vacuum chamber
- Dimensions: 580 x 500 x 630 mm (H x W x D)
- Precise control over the sputtering rate to achieve finer grain structure
- Automatic control of the deposition power independent of pressure
- Automatic control of the cathode's temperature to protect the lifetime of the magnets
- Rapid data input through fully automatic touch screen panel
- Real-time plots of coating parameters
- Deposition process data transfer to PC by a USB port
- Utilities: 220 V-110 V, 50/60 HZ – 2 kW
- Shipping weight: 50 kg

Options and Accessories

- Substrate bias voltage
- RF generator and auto matching box
- Substrate heater (Up to 500 C)
- Quartz crystal sensor
- Thermal evaporation boats/baskets
- Planetary rotating sample holder
- Plasma cleaner
- Spare glass chamber
- Vacuum cylindrical spare glass chamber
- Sputtering targets
- Sealing gaskets