
BT 300

Benchtop Coaters



ADVANCED
Technologies

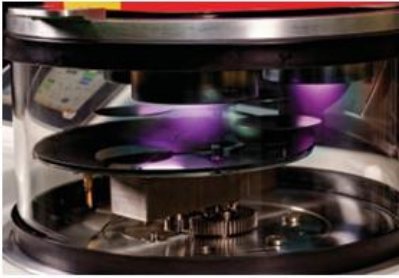


BT 300 bench top coating systems are compact and economical solutions designed to suit the needs of electron microscopists and researchers across various disciplines. These systems feature a fully automated interface to provide a hassle free single-touch processing capability.

SPECIFICATIONS

S No.	Specification Category	Technical Details
1	Name of the equipment/ Mechanism/ Purpose	- Models: BT 150 and BT 300 - DC Magnetron Sputtering - Applications: SEM, TEM and others - Dimensions: ~ 700 mm (Width) x 600 mm (Height) x 610 mm (Depth). - Weight:< 70 Kg. - Sputters metal and multi-metal (Au, Pt, Cu, Ag, Ni, Fe, Pd, etc.) at room temperature.
2	Vacuum Chamber	- Borosilicate glass cylinder chamber with acrylic implosion guard. - External size of the chamber is ~ 300 mm dia. x ~200mm height. - Chamber is mounted on a 12-inch stainless steel base plate with SS collar. - Sealing and insulation with L gaskets for the chamber. - Process gadgets and related feedthroughs are attached to the top plate, which is designed as a 'swing-up open' style, for easy loading/unloading of substrates/target/ chamber cleaning. - Feedthrough ports for a range of specimen holders/ inserts/ film thickness sensors will be provided. - The chamber is designed for minimal virtual leaks and vacuum leak-tight in the range of 1×10^{-7} to 1×10^{-9} mbar L/Sec or lower.
2	Vacuum System	- A rotary pump with pumping speed of 6m³ /hr. - A turbo molecular pump with pumping speed of 80 l/s. - M/s. Edwards makes Pirani and Penning gauges. - Vacuum gauge display is integrated into the HMI screen. - Ultimate vacuum (with turbo pump): 5×10^{-5} mbar in < 20 min - Ultimate vacuum (with rotary pump): 5×10^{-2} mbar in < 12 min - The pumps are connected directly to the chamber. - The speed of the pump is controlled through a PLC with an HMI.
3	Sputter Head and Power Supply	- The sputtering chamber possesses three DC magnetron sources in BT 300 and one DC magnetron source in BT 150. - Magnetron sources allow the fixation of 54 mm metal target discs. - The thickness of the metal target is 1 mm. - Automatic shutter operation controlled through the HMI.
4	Rotary Work Holder	- Adjustable distance between sputter target and specimen - The thickness uniformity is < 10% over a 2" substrate. - Rotary stage for substrates up to 100 mm (dual target), 150 mm (triple target) - The substrate stage includes a rotary drive mechanism. - Rotation speed is variable – 10- 30 rpm
5	Film thickness monitor	- The sensor head is non-cooled & position can be adjusted within the vacuum chamber. - Deposition rate resolution of 0.1 nm/sec. - Quartz crystal oscillator, feedthroughs, necessary cables and spare crystal. - The thickness Monitor is interfaced to the GUI. - Maximum sputtering time is 60 minutes (with built-in rest period, without 'breaking' vacuum)

CHAMBER CONFIGURATIONS



BT 300 Chamber



Dual Sputter Source



Triple Sputter Source

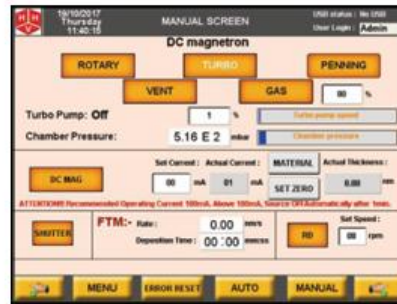
CONTROL OPTIONS

Touch-screen HMI based operation with manual and auto modes.

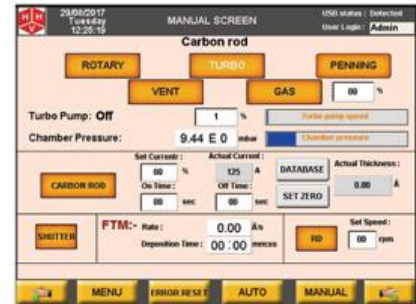
MANUAL MODE



Manual Mode

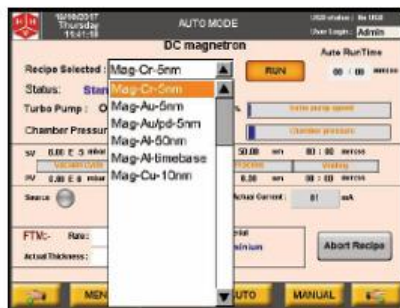


Magnetron Source



Carbon Source

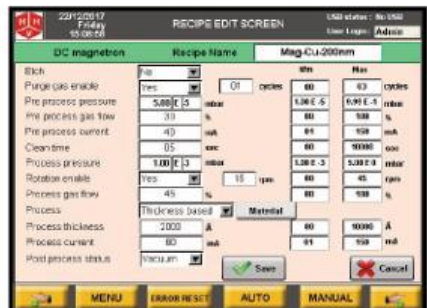
AUTO MODE



Recipe Selection



Recipe Edit



Auto Cycle Operation

Uniformity of $\pm 5\%$ as standard. Custom designed configurations to get better than $\pm 3\%$

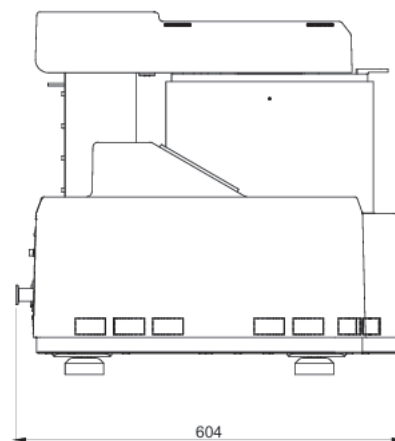
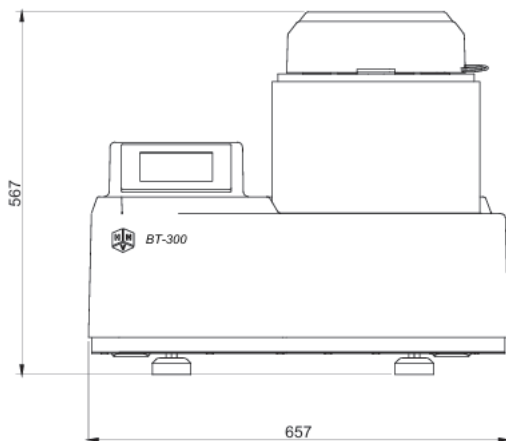
FEATURES

- Single touch automated process
- Process data output to mass storage device or PC
- Easy source change-over
- Automatic recognition of deposition accessories
- Maximum flexibility in programming process sequence
- Compact unit minimizing footprint

APPLICATIONS

- Electron microscopy
- Metallization
- Surface modification
- Two layer contacts for electronic devices
- TCO coatings
- X-ray microanalysis

LAYOUT



All dimensions in mm



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