

## PHOTOGRAPHS OF EQUIPMENTS/INSTRUMENTS

### RF/DC Magnetron sputtering unit

(Hind High Vacuum Co. Pvt. Ltd., Bangalore; Model: BC 300)



#### **Specifications:**

SS 304 Vacuum chamber (400 mm (W) X 400 mm (D) X 500 mm (Ht))

Magnetron source: 03 Nos. of HHV make of 2" size

DC Power supply: 2400 W DC Air cooled

RF Power supply: M/s SEREN USA MAKE of 300 watts with auto matching network

Mass flow controllers-2 Nos. of M/s. BRONKHORST Make

Cooling system for chamber, magnetron and diffusion pump

Applications: Preparation of Metal, Semiconductor, Ceramic nanostructured thin films, Nanocomposites and Nanomultilayers, Deposit thin films of various materials in integrated circuit processing, Semiconducting industry, metallisation, barrier layers, display circuitry, discrete components.

**Spin Coater- Thin film deposition unit**  
**(Spektrspin Spin coater)**



**Specifications:**

Actuator: PID based speed controlled  
DC motor  
Spinning speed: 500-10,000 RPM  
Multistep RPM/Time programming  
Speed accuracy:  $\pm 0.1\%$   
Time Prog. 1-1200 secs.  
Acceleration: 1000-3000 rpm/sec.  
Gas purging facility  
Operation 230 V & 50 Hz  
Applications: Preparation of Metal  
oxides and polymer thin films

**Dip Coater- Thin film deposition unit**  
**(Spektron model Dip coater)**



**Specifications:**

Dipping speed: 1mm-250  
mm/min  
Dipping length: 200 mm  
Dipping time: 60 min  
Drying delay: 60 min  
Voltage operation: 230 V & 50  
Hz.  
Software and interface  
electronics

Applications: Preparation of Metal oxide thin films

### Digital pH meter



### UV-Visible spectrophotometer



#### **Specifications:**

Wavelength range : 190 nm-1100 nm

Resolution :  $1 \pm 0.2$  nm

Wavelength accuracy:  $\pm 0.1$  nm

Photometric system : Double beam optics

Light source: 20 W halogen lamp,

Deuterium lamp

Detector: silicon photodiode

Sample compartment: 110×250×115  
mm (W×D×H)

Applications: Study of Optical properties of thin films and liquid samples

**Ultrasonic cleaner**



**Probe Sonicator**



**Muffle furnace 1000° C**



**Vacuum oven**



## Hot Air Oven

