

Equipment for deposition of thin metallic films (PREVAC, Poland)



► **Specific components:** electron beam evaporator EBV 40A1 (temperature range 160°C-2300°C); effusion cell EF 40C1, with integrated electro-pneumatic shutter and crucible (temperature range 250°C-1500°C); Manipulator on 2 axes (maximum movement on the Z axis of 50mm and spatial resolution 0.5mm; rotation in the XY plane with a maximum speed of 60 rpm); pumping system equipped with vacuum pumps – 10⁻⁸ mbarr; deposition chamber with quartz balance, controller and sample holder; computer with control software; water cooling system; vacuum controller; the power source for the effusion cell; compressor.

► **Performances:** allows the deposition of thin films of different thickness with controllable deposition speed of different metals: W, Ta, Mo, Pt, Cr, Ti, Fe, etc., in the form of wires or Ag, Au, Al from the melt in the crucible - currently the system is set to deposit Au films; deposition rate of 2 nm/min for high melting temperature material and 20 nm/min for high vapor pressure material; minimum range for working distance 25-75mm; temperature range: 160-2300 degrees C; evaporation by electron beam evaporation or by thermal evaporation (effusion cells); The system allows the deposition of organic materials or deposition by magnetron sputtering or PLD (pulse laser deposition) method by performing an upgrade;

► **Total value:** 973.152 Lei (aprox 218.000 Euro)

► **Aquisition year:** 2013

► **Applicability:** Deposition of metal films of controllable thicknesses on solid substrates for fundamental research, coating of various materials for protection, development of applications in biosensing and detection, materials science, food industry, solar cells, manufacturing of optical and electronic elements, etc.

► **Availability for Access and Use**

Contact persons:

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Available for a pre-evaluation of the complexity of the samples and estimation of the working time, in the **9:30 - 17:30 interval**, based on a preliminary email or phone appointment.

Usage conditions: exclusively by the personnel responsible for the mentioned specialty

Price extern UBB: deposition of a gold film with controlable thickness: 400 lei/sample

Price intern UBB: free of charge