

Reactor Black Magic BM II Flexible (Aixtron, Germany)



► **Specific components:** chemical vapor deposition system for the synthesis of nanomaterials; vacuum quartz reaction cavity with cooling; shower head reaction gas injector; carbon circular heating pad (1 1/2" diameter); plasma generator (800 V, 2.5 A, 1 kW) with direct current or variable frequency operation; Piranha and Piezo pressure sensors with linear interpolation; 8 gas channels; cooling components and high vacuum installation

► **Performances:** heating speed up to 1000 °C/minute; operating modes: thermal CVD and plasma-enhanced CVD; deposition at low temperatures and on cm² surfaces; uniform vertical synthesis gas injection; insulated heating support; efficient temperature control through a thermal gradient closed loop temperature system with an unlimited number of configurable parameters including the heating speed; independent pressure monitoring during the process; automatic process control and integrated recipe editor; remote command through the TCP/IP protocol (Transport Control Protocol/Internet Protocol); real-time video monitoring of the process.

► **Total value:** 1.081.280 Lei (aprox 240.000 Euro)

► **Aquisition year:** 2012

► **Applicability:** Fabrication of carbon nanotubes, graphene, nanomaterials on a solid substrate, two-dimensional nanostructures for fundamental research and/or transistors, LEDs, electronic devices, etc.

► **Availability for Access and Use**

Contact person:

Prof. Emerit Simion Astilean (email: simion.astilean@ubbcluj.ro, 0264454554/int 116)

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

Analysis price - extern UBB: Preliminary evaluation – free of charge, 350 lei/sample

Analysis price - intern UBB: free of charge