**Universal magnetron deposition system**

**Equipment:** universal magnetron deposition system

**No. of Equipment: UJEP1**

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**Equipment Description**

**Description of equipment:**

The magnetron deposition system with variable system up to 3 magnetron with 2in targets in diameter. Various power supplies are available RF, DC, RF pulsed, DC pulsed for sputtering of metals or metal oxides. The deposition table can be heated up to about 200 oC or rotated. The RF bias can be induced on the substrate during the deposition and synchronized to target sputtering RF plasma.

Available target materials: C, Cr, Cr, Al, Si, Ti, TiO, SnO, ZnO, ITO

Available gases: Argon, Oxygen

Other possible gasses: Nitrogen, Hydrogen

The coated samples have to be flat in size up to 20 x 20 mm.

**Specification of expertise relevant to NanoEnviCz workpackages:**

**WP3**a,e-h, **WP4**a,b,c **WP5**a,b**,**c, **WP6**a -f, **WP8**b-e

**Detailed description of expertise**

**Please, specify the main research topics connected with equipment**:

Deposition of thin films for general purposes - the deposition of thin films from available targets and their combinations with possibilities of reactive processes.

Grain size and orientation control during growth is possible.

**Please, specify the secondary research topics connected with equipment**:

**Keywords describing research area:**

Magnetron sputtering, thin film growth,

**Competence**

**Relevance for applied and industrial research:**

Flexible system for thin films deposition with controlled properties. The coatings can be used in wide range of application from hard coatings, oxygen barriers,

**Relevance for fundamental studies:**

Model surfaces of various kinds can be prepared for properties research.