Advanced Makerspaces for PiLot production by micro-Enterprises

Thin Film Deposition

Metal and Organic Evaporator Chamber

Introduction

Evaporators are important tools for thin film deposition in research and industry. They function on the principle of physical vapour deposition (PVD), enabling precise and controlled coating of materials onto various materials, substrates and surfaces.

NanoPVD Thermal Evaporator

Applications

- Thin Film Growth: Create uniform and thin coatings for electronic and optical applications.
- Semiconductor Fabrication: Photovoltaics, microelectronics, and photonic devices.
- Metallisation: Deposit metal layers for conductive and reflective purposes.
- Optical Coating: Develop anti-reflective, optical interference, and protective coatings.
- Nanomaterial Synthesis: Enable growth of nanomaterials with specific properties.

Inside View of Evaporator Chamber

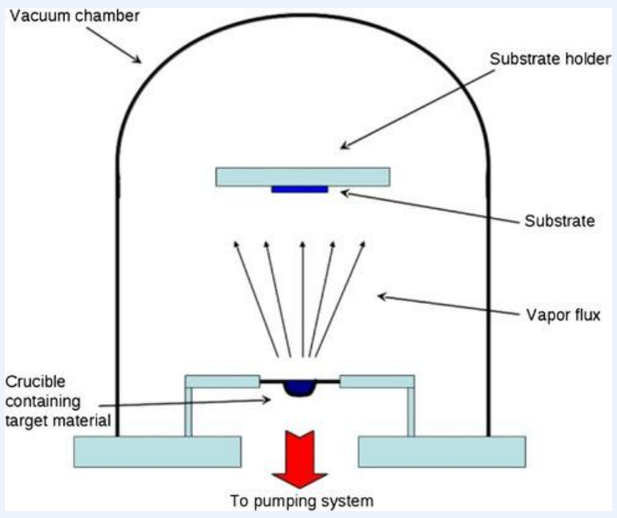
How Does it Work?

Evaporators employ resistive or electron beam heating to vaporise source materials. These vapours then condense onto the substrate to form a thin film. The process is controlled by factors such as temperature, pressure, and deposition rate.

Gold Pellets in Crucible

Technical Specifications

- Wide range of source materials: metals, oxides and organics.
- Precise control over deposition thickness.
- Operates under high vacuum conditions to minimise impurities.
- Compatible with various substrates, including glass, silicon, and polymers.



Schematic of Evaporator Chamber

Interreg
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