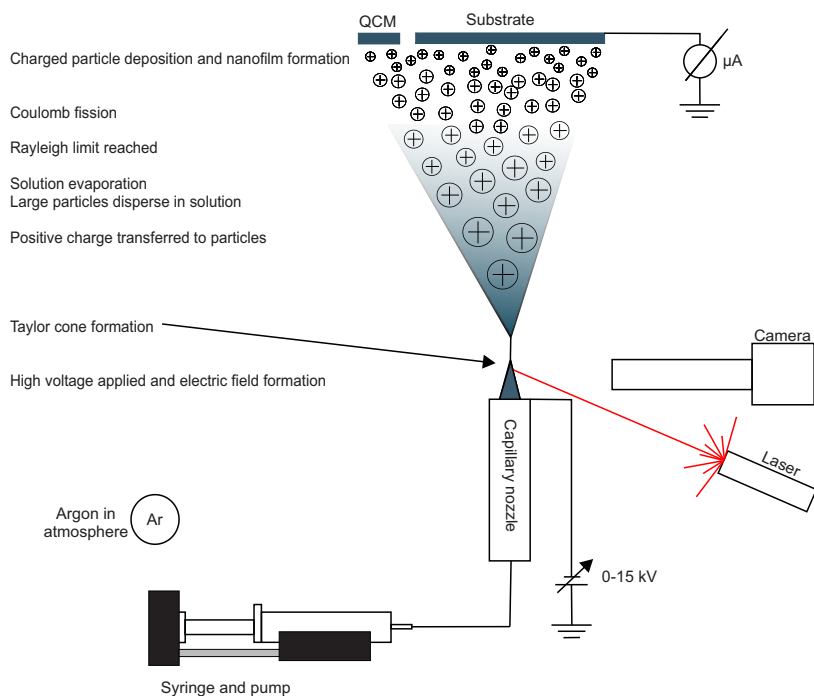
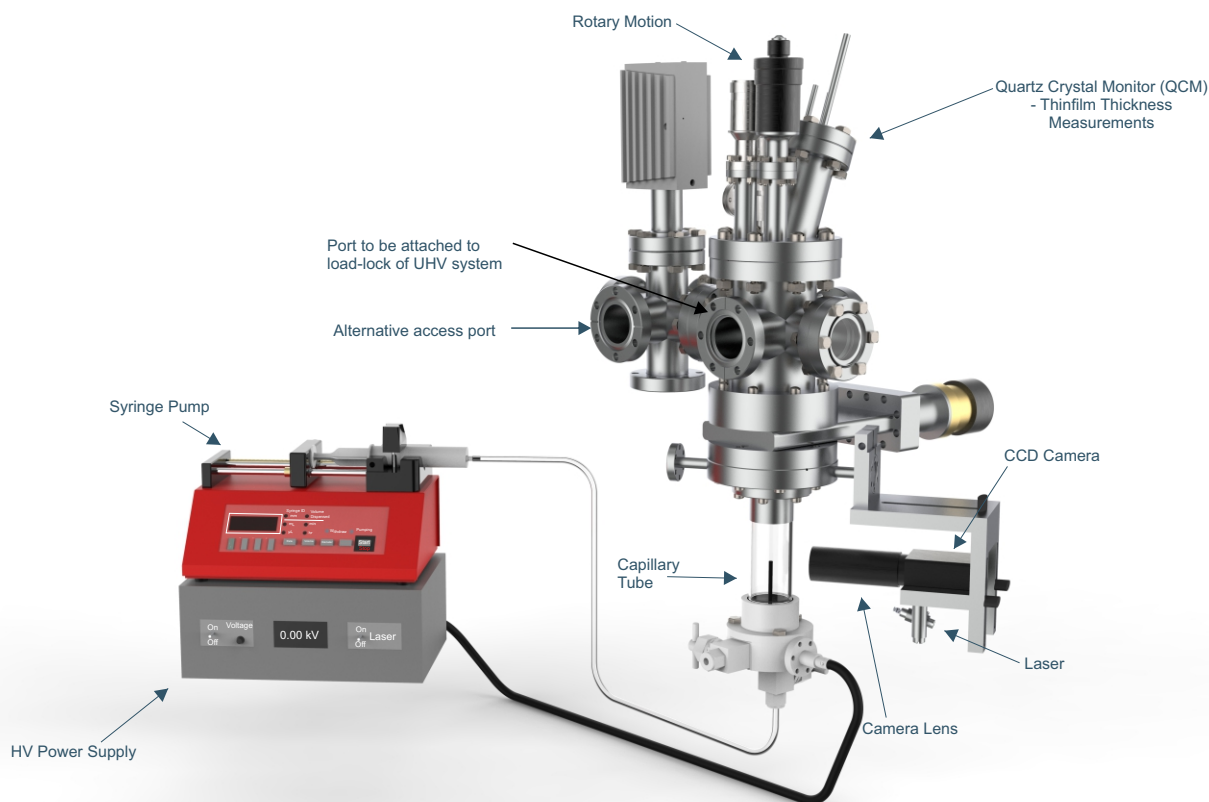


Electrospray Ionization Deposition System with UHV Compatibility for growing nanofilms

Model: ESID-UHV-75



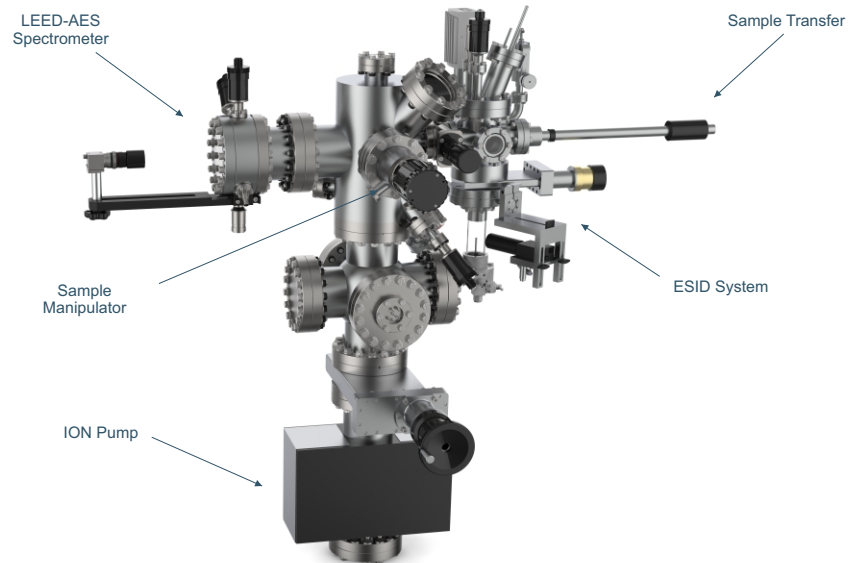
Principle of Electrospray Ionization Deposition

The electrospray ionization deposition method (ESID) is based on the atomic dispersion of fluid that contains molecules or nano-articles under high electric field onto a substrate. The spray nozzle is connected to a high-voltage power supply while the target substrate is grounded. This creates a potential difference and therefore, a strong electric field which builds up at the end of the nozzle which forms a Taylor cone. The Taylor cone then deforms into a jet at the tip and disperses into a fine mist. Within the mist there are charged clusters that deposit onto the substrate due to ionic attraction which form a nanofilm.

During the fluid dispersion, there are several processes occurring such as Taylor cone formation, charge transfer, solution evaporation, Coulomb fission, impact on the surface, nucleation, diffusion and nanofilm growth.

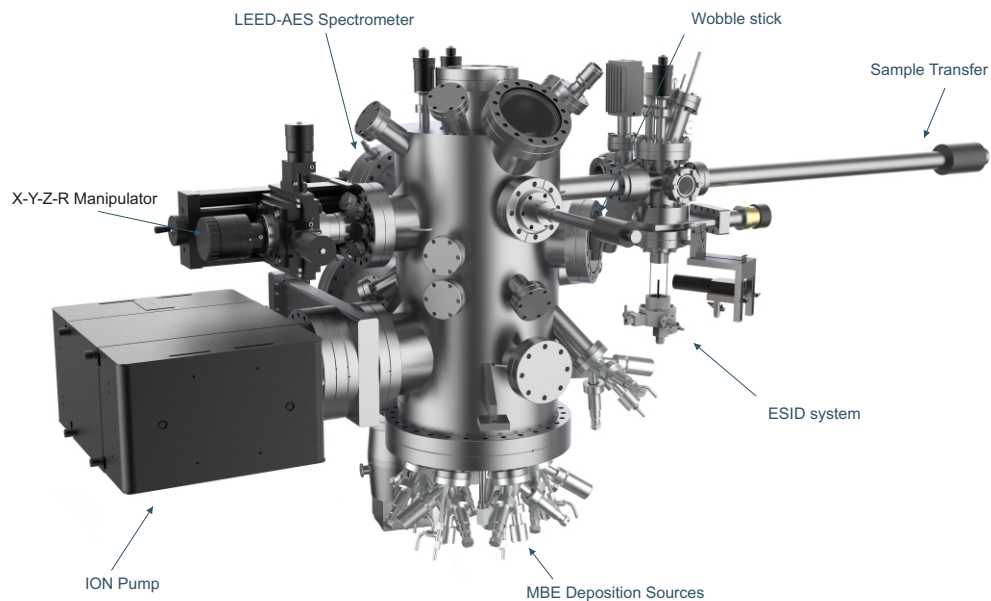
Integration to UHV system

UHV SYSTEM



ESID chamber integrated to basic UHV system with LEED - AES spectrometer

MBE SYSTEM



ESID chamber integrated to basic MBE system with LEED-AES spectrometer