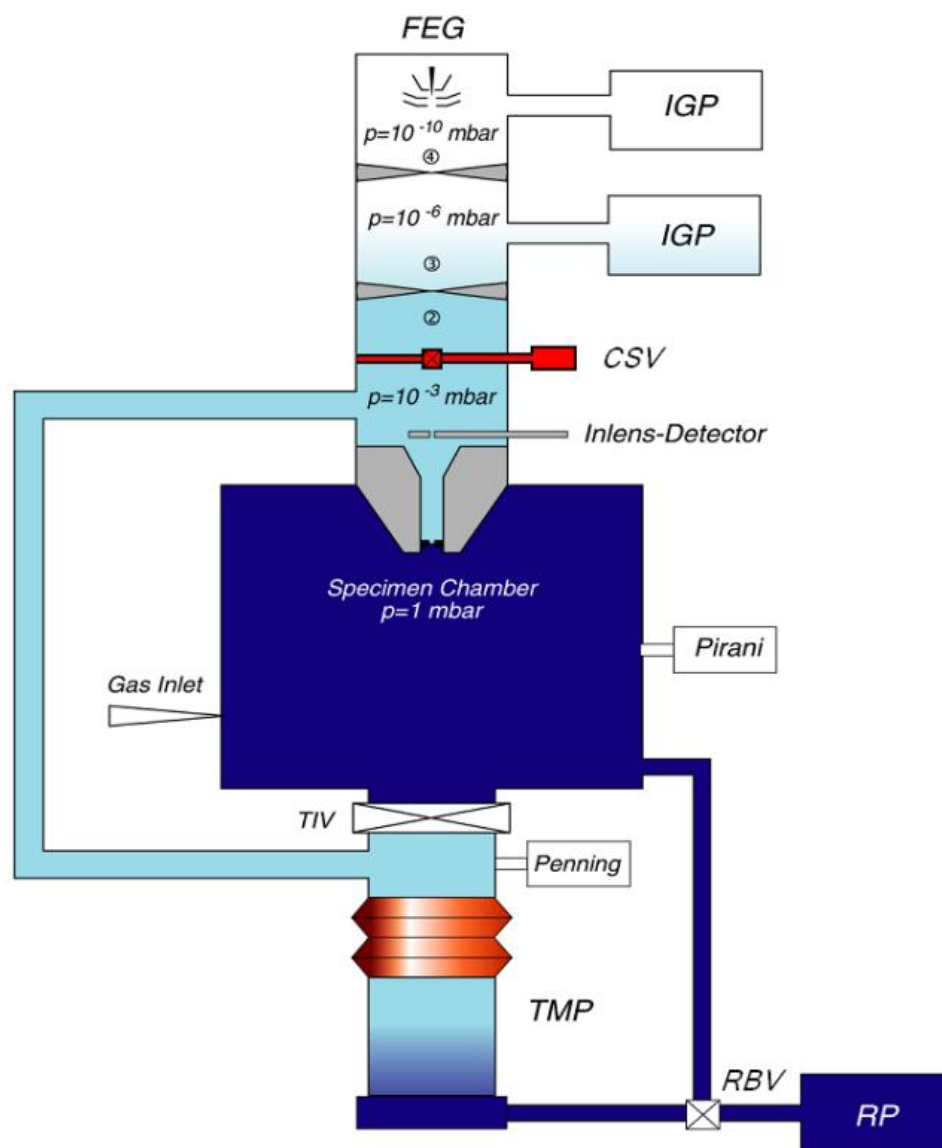


Variable Pressure Environmental SEM (VPESEM)

General Principles of VP-ESEM: Utilizing a Gas, i.e. the interactions of electrons in the gas and the subsequent formation of positive ion by-products, then the generated ions contribute to the compensation of the negative charge on the sample. In such a way, insulating specimens can be imaged without the need for a conductive coating under gassing or humid environments.



Schematic diagram shows the arrangement of zones and pressure-limiting (differential) apertures of the Zeiss Supra VPSEM at the EM Lab. By using the differential pumping system which allows setting of a partial pressure of 1 - 133 Pascal in the specimen chamber, while preserving a high vacuum or ultra-high vacuum in the gun area and in the beam path of the scanning electron microscope.