

ABSTRACT

The present disclosure provides an electron beam generator and ion beam etching equipment. The electron beam generator includes: an electron beam generation chamber having an extraction opening; and a shielding assembly movably disposed outside the electron beam generation chamber. The shielding assembly is configured to shield the extraction opening, and is able to adjust an extraction area of the extraction opening by adjusting a position of the shielding assembly. In the present disclosure, the extraction area of the extraction opening is adjusted through the shielding assembly according to a magnitude of a plasma density value inside the electron beam generation chamber, so that the extraction area is able to adapt to a plasma sheath morphology change, and electron extraction efficiency is always maintained at a relatively large value, thereby effectively improving performance and stability of the electron beam generator.