

The present invention relates to an electron gun with a linear hot cathode designed for electron-beam heating, melting, and evaporating metals in vacuum. The purpose of the invention is to improve the performance of the electron gun. The electron gun contains an acceleration anode, a hot cathode, and a focusing electrode. The acceleration anode is installed at a high-voltage insulator. The hot cathode is installed in the casing of the electron gun at two holders. One of the holders is designed as a movable one and is hinged to the casing via a planar insulator. The hinged coupling of the movable holder with the casing allows the thermal expansion of the hot cathode to be compensated. To the focusing electrode, negative electric potential relative to the hot cathode is applied. The negative potential value can be controlled.