

The invention relates to equipment for electron beam welding. Cathode node of an electron beam gun with electronic heating comprises a cathode secured in a perforated cathode holder, a threaded cathode fastener, and a heater. According to the invention, the cathode comprises an inner central part in the shape of a truncated cone, oriented in the cathode node with the cone facing the heater, which is connected via the outer cylindrical portion of the cathode to the portion of the cathode that contacts the perforated cathode holder. The cathode is made of tantalum or lanthanum hexaboride. The invention provides a reduction in the power consumption of the electron heater and an improvement in the quality of welded joints.