

The plasma accelerator with a closed electron drift contains an annular discharge chamber having an external wall, an inner wall and a channel, formed by inner surfaces of these walls. The channel has an ionization zone of working gas and ion acceleration zone of this gas, placed in the area of discharge chamber exit section. In the channel there mounted the annular anode placed behind an annular gas distributor. There is a gas supply working channel to the ionization zone of the discharge chamber channel connected with a magnetic system. The magnetic system has external and inner magnetic poles connected to each other by a magnetic core of the magnetic system.