

<ABSTRACT>

There is provided a plasma generating apparatus having a plasma gun which can remove droplets mixed with plasma efficiently without reducing the effective amount of plasma generated by vacuum arc discharge and in which a droplet removing portion can be constituted easily and inexpensively, and precision of surface treatment of films by high purity plasma can be enhanced. Periphery of a cathode (407) of said plasma gun is surrounded by an enclosure member (420) and a droplet removing device (406) constituted by laying a plurality of droplet collecting members (411) in multilayer is provided on the inside of the enclosure member (420). The enclosure member (420), the collecting member (411) and a plasma advancing path (402) have no relation connected with an arc power supply (409) and are held in an electrically neutral floating state.