

ARTIFICIAL DIAMOND PLASMA PRODUCTION DEVICE

ABSTRACT

An artificial diamond plasma production device has a reaction chamber, a microwave emitting module, and a microwave lens. The microwave emitting module emits a circularly-polarized microwave into the reaction chamber. The microwave emitting module has a polarizing tube, a directing tube, a first waveguide, and a first linearly-polarized microwave source serially connected along a microwave traveling path. The microwave emitting module further has a second waveguide and a first matched load. The polarizing tube is configured to convert a linearly-polarized microwave into a circularly-polarized microwave or the other way round depending on traveling direction of the microwave. The directing tube has a first opening and a second opening which face toward different directions. The first waveguide is connected to the first opening. The first matched load is connected to the second opening via the second waveguide. Therefore, reflected microwave can be channeled out of the reaction chamber.

Fig. 1