# HIGH FREQUENCY REACTION TREATMENT DEVICE AND HIGH FREQUENCY REACTION TREATMENT SYSTEM


## ABSTRACT

~~Provided are a high frequency reaction treatment device and high frequency reaction treatment system capable of reducing energy loss in electromagnetic waves that pass through a propagation line while being continuously fed back thereto in a loop. The present invention comprises: an outer container (40) which is formed from a dielectric material and the internal space of which can be closed by two end surfaces; a coating conductor (43) that is formed from a conductive material and forms a spacial region between the coating conductor (43) and the outer surface of the dielectric outer container (40), with the potential of the coating conductor (43) being kept to be equal to the high frequency line grounding potential; one or more high frequency coupling parts (42) provided at an arbitrary position on the outer surface of the coating conductor (43); and one or two or more dielectric inner containers (41) that are formed from a dielectric material, do not contact the inner surface of the dielectric outer container (40), and are provided at a position at which incoming high frequency waves are received via the high frequency coupling part(s) (42), the internal space thereof being able to be closed by two end surfaces. Reaction treatment is conducted in the internal space of the dielectric inner container(s) (41) by electromagnetic waves introduced by the high frequency coupling part(s) (42).~~

A high frequency reaction processing apparatus and a high frequency reaction processing system capable of reducing a loss of energy of an electromagnetic wave continuously returning to and passing through a propagation line in a loop are provided. A dielectric outer container 40, a covering conductor 43 made of a conductive material and kept at the same potential as ground potential of a high frequency waveguide to form a spatial region with an outer surface of the dielectric outer container 43, at least one high frequency wave coupling portion 42, and at least one dielectric inner container 41 are comprised.

[Figure 1A & Figure 1B]