



Microwave sintering characteristics(1)

A frequency in the microwave is 300MHz-300GHz, the wavelength of the electromagnetic wave 1mm-1m, the frequency used in the application before sintering mainly 2.45GHz. Compared with conventional sintering microwave sintering technology, has the following characteristics.

1.1 Volumetric heating

Microwave sintering is the use of materials and the microwave electric or magnetic coupling microwave energy into heat. Because of the speed of light is an electromagnetic wave propagating electromagnetic wave penetration into the material close to the speed of light. Thus can very quickly be transformed into electromagnetic energy molecule substance energy inside and outside at the same time so that the material can be heated so that the material inside the temperature gradient is very small. even without temperature gradient within the material to minimize heat stress. so can effectively alleviate the material during sintering cracking and deformation of the material has better the mechanical properties.

1.2 Energy saving

Relative to conventional sintering microwave sintering technology can significantly reduce the sintering temperature; another fast heating rate makes microwave sintering sintering cycle shortened; at the same time, in the microwave field, the material itself is the source of heat. Microwave energy directly interact with the material to avoid contact with those for heating but not directly involved in sintering other member thereby significantly reducing power consumption saving than conventional sintering 70% -90%;... And can microwave sintering faster. significantly reduce the amount of gas using the sintering atmosphere. sintering process makes waste, waste heat emissions are reduced. environmentally friendly.