Microwave sintering technology advantages

1. The sintering temperature is significantly reduced, as compared with the conventional sintering, the maximum cooling rate of up to about 500 $^{\circ}$ C.

2. Energy efficiency than conventional sintering 70% to 90%, lower sintering energy costs. Because microwave sintering time is greatly reduced, especially for some ceramic sintering process from the last few days or even weeks to reduce the use of microwave sintering of a few hours or even a few minutes, much too high energy efficiency.

3. Security pollution. Rapid sintering characteristics of microwave sintering makes during sintering as a sintering atmosphere of gases is greatly reduced, which not only reduces costs, but also to the sintering process waste gas, waste heat emissions are reduced.

4. Use the microwave method for rapid heating and densification can inhibit tissue grow grain, thereby preparing nano-powders, ultrafine or nano-bulk materials.

5. Sintering time is reduced compared to conventional radiant heating densification process accelerated, both inside and outside at the same time the material is uniformly heated so that the thermal stress within the material can be reduced to a minimum. Secondly, under the action of microwave electromagnetic energy, molecules or ions within the material kinetic energy increases, the sintering activation energy decreases, the diffusion coefficient is increased, it can be low-temperature fast sintering, so no time to grow up to be sintered powder.

6. Achieving spatially selective sintering.

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