

# Principle design of microwave drying sterilizer for traditional Chinese medicine pill



Conventional drying methods of traditional Chinese medicine pills will waste a lot of energy and time in drying process because of preheating of equipment, heat transfer loss and heat dissipation loss of shell. In order to save more energy and time in drying process of traditional Chinese medicine pills, the new drying technology is used to reduce the drying of various kinds of traditional Chinese medicine pills. A major factor in pill cost

When [microwave drying machine technology](#) is used to drying Chinese medicine pills, most microwave energy can be absorbed and converted into heat energy. Through rational design of the shell, the heat transfer loss of the shell can be minimized, and the microwave can be reflected back into the box to improve the energy utilization rate. The principle of "body heat source" is changed from the traditional drying principle, which uses high temperature medium to heat transfer, so that most microwave energy can be absorbed by materials and converted into temperature rise, so that water can be evaporated, and the utilization of energy can be greatly improved.

It is expected that energy saving can be up to 30%-50% compared with traditional heating and [drying methods](#). The development of this drying sterilizer also promotes the use of microwave technology in other thermal processing industries, and achieves a wider range of energy saving and emission reduction. Microwave heating is completely different from traditional heating methods. It penetrates materials from all directions and reaches a depth of 2-4 cm. The material is heated at the same time inside and outside, neither

heat transfer medium nor convection is needed. The surrounding air is not heated, and the heat energy loss is small. High thermal efficiency and rapid temperature rise.

It only takes about a quarter of the time of the traditional heating method. (2) Energy saving: Because microwave heating material directly without any other heat loss, it has high thermal efficiency. It saves energy greatly. (3) Uniform heating: because of internal and external heating, there is no endogenous phenomenon of external coke. (4) Health: When microwave heating, there is no smoke and dust, neither polluting materials nor polluting the environment, especially low temperature sterilization and anti-mildew effect. (5) Convenience: Some materials can be heated together with packaging bags, which is very convenient. (6) Controllability: Microwave can be turned on and off immediately, when the material is heated, once stopped, the heating will stop immediately. Thermal, inertia free, easy to control and easy to a