Laboratory Freeze Microwave Drying Machine

As early as ancient times, people began to use natural conditions for drying materials, including fire, sun, wind and other methods, clothing, food can be simply dried. With the development of the times, drying materials under natural conditions can not meet people's requirements. The emergence of microwave drying machine and other drying equipment has greatly improved the drying efficiency and drying effect.

Principle of Laboratory Freeze Microwave Drying Machine:
The microwave of microwave drying equipment is a kind of electromagnetic wave with short wavelength, whose wavelength is between 1 m m and 1 m, and its corresponding frequency is from 300 GHz to 1 m.Between 300 MHz. In order to prevent the interference of microwave to radio communication, broadcasting and radar, there are four frequencies for microwave heating and microwave drying, which are L-band, frequency 890-940 MHz, wavelength 330 mm; S-band, frequency 2400-2500 MHz, wavelength 122 mm; C-band, frequency 5725-5875 MHz, wavelength 52 mm; K-band, frequency 2200-22250MHz, wavelength 8 mm. Only L and S segments are used in domestic microwave ovens.

Microwave drying equipment is a kind of microwave drying equipment, which is obtained by the special movement of electrons in the magnetic field through DC or 50Hz alternating current on the electro-vacuum device or semiconductor device. This motion can be explained simply as follows: from the point of view of dielectric structure, one kind of molecule is called non-molecule dielectric, and the other kind is called molecule dielectric. Microwave drying equipment in general, they are arranged irregularly, if they are placed in an alternating electric field, the orientation of the neutral molecules of these media also changes with the electric field. Change by change, which is called change. The stronger the applied electric field is, the stronger the microwave drying equipment will be. The faster the applied electric field changes, the faster the microwave drying equipment will change. The more intense the thermal movement of molecules and the friction between adjacent molecules will be. In this process, the conversion of electromagnetic energy to thermal energy is completed. When the heated material is placed in the microwave field, the molecule of microwave drying equipment swings and rubs back and forth with the microwave frequency of billions of times per second. The heat generated by microwave drying equipment is enough to make the material hot-dry in a very short time.

Microwave drying equipment dries rapidly:Microwave drying equipment is completely different from traditional drying methods. It is a process in which the dried material itself becomes a heater without heat conduction. Therefore, although it is a material with poor heat conductivity, drying temperature can also be achieved in a short time.Drying uniformity of microwave drying equipment:Regardless of the shape of each part of the object, the microwave drying equipment can make the surface of the object penetrate electromagnetic wave uniformly at the same time and generate heat energy. Therefore, the microwave drying equipment has good drying uniformity and will not produce endogenous phenomenon of coke.

Because microwave energy of microwave drying equipment is controlled to work in metal drying chamber and waveguide, microwave leakage is less, radiation hazards and harmful gas emissions are not produced, waste heat and dust pollution are not produced, food is not polluted, microwave drying equipment is not polluted the environment.