Industrial high temperature microwave tube furnace basic information introduction

Introduction

The industrial microwave oven is a typical microwave test station with advantages, such as rapid heating speed, high efficiency, and can make machined material in well consistency. It could provide a variety of work environment in the process of sintering, such as air, vacuum, protective gas, weak deoxidation atmosphere..etc. It mainly used in the process of sintering for below materials: magnetic materials, electronic ceramics, structural ceramics, metal compounds, nit-rides and other materials, especially for new materials' developing, equipment,and trial producing.

Main Feature

1,provide 3 operation model: manual, auto and constant temperature which can be free switched;
2,Touch screen with operating system, could set and save multiple curves, auto save running record;
3,Rapid heating speed, greatly improving the efficiency
4,Multi original special crucible can be chosen,material placed in the crucible will not be polluted
5,Could handle different coupling degree material with microwave, which will lead the popularization of microwave high temperature technique;
6,Set anti-corrosion exhaust way to exhaust gas produced in the heating process quickly;
7,Using step less adjustable, high stability and long life time industry level microwave source, measure sample temperature directly;
8,A variety of atmosphere, and sealed in chamber to keep the material from oxidation;
9,Real time temperature chart display can dynamic monitor the heating process.
10,Secure and reliable microwave shielding chamber design, multi leakage-proof protection
Requirements on working environment
1,Ventilated, clean, no dust, no explosive places
2,Ambient temperature : 0～40℃
3,Relative Humidity: 5～85%
4,Working place request: 700*600 (mm)

Application

This industrial microwave sintering is mainly used in compounding and sintering of below material and trial production or microwave expansion.
1,Carbide, Nit-ride, Oxide: Sic、VC、Si3N4、Al N、VN、CrN、ZnO、MgO、MnO2、ZrO2 、V2O5、TiO2, etc;
2,Metal oxide carbon-thermal reduction, metal sulfides' desulfurization;
3,Lithium-ion battery material: Lithium cobalt oxide, lithium management oxide, NCM, LiFePO4;
4,Molecular sieve catalyst material coasting: TS-1、HTS-1，ZSM-5, etc
5,Daily-used ceramics, arts and crafts ceramic;
6,Fluorescent powder : LED, three primary colors, long after glowing phosphor powder,etc;
7,electronic ceramics, magnetic materials, powder metallurgy, carbide, ceramic structure sintering;
8,Ashing and incineration of chemical analysis sample.

Industrial high temperature microwave tube furnace technical data:

Type： HY-SG1500	
Voltage	220V±10V 50Hz three-phase
Rating power	4KW
Microwave output power	0.2～1.10kW variable
Microwave output frequency	2.45GHz±25MHz
Max working temperature	1000℃
Rated working temperature	900℃
Temperature control	Thermocouple thermometer &IR pyrometer，synchronous
Temperature range	Thermocouple thermometer： 0℃-1050℃；
IR pyrometer	250℃-1200℃
Temperature accuracy	±0.5%
Atmosphere system	Air,oxygen,nitrogen(N2),argon(Ar), hydrogen atmosphere
Sintering space	120mm×100mm×60mm(L×W×H)
Tube Max loading space	φ30×80 mm (D×W)

Control system	40 segment parameters setting, 10 inch touch screen with storage function,
three optional model	manual/auto/constant temperature,display of real-time curve
Microwave leakage	＜0.5mW/cm2
System outside Dimension	700mm×540mm×600mm (L×W×H)

Device list:

Type	HY-SG1500
Main furnace body	1set Machine assembly
cabinet	1set Machine assembly
Machine assembly	1set Centrifugal and axial flow fan
Electricity system	1 set Schneider touch screen and Mitsubishi PLC
Insulation system	1 set 1400℃ preservation module
Microwave source	1 set 1.5KW
IR pyrometer	1 set Shanxi Ruiguang
Sagger	2 sets Spare 1 set
Microwave leak detection instrument	1set HT-M2
Crucible charge	4sets Silicon carbon and quartz
Teflon window	2 pcs 49.2×92.4×4mm
Shielding chamber	1 Metal elastic shielding cycle
USB	1 embedded