MAS-II *Plus*

Microwave Synthesis/Extraction Reaction Workstation

Technical parameters:

Power supply	220-240 VAC 50/60Hz 9A
Microwave source	2450MHz，0-1000Wcontinous and automatic adjustment with temperature programming, PID technology
Microwave oven cavity	Stainless steel cavity with large volume, multilayer anticorrosive PFA Teflon painting
Temperature measurement control system	Dual-channel temperature detection (DTD) technology, automatic judgement temperature measurement mode. infrared temperature measurement range 0℃ to 900℃ with deviation of ±1℃, Pt100 thermocouple temperature measurement range 0 to 300℃with deviation of ±1℃
Operating temperature	standard configuration instrument' s maximum operating temperature is 300℃ and the maximum theoretical operating temperature is 900℃ (peculiar configuration)
Video system	Standard configuration photographic device built-in furnace chamber and 7″ color TFT-LCD monitor. Reaction process will be displayed in time
Stirring system	Standard configuration magnetic stirring system with revolving speed of 30 to 1600 r/min, digital mechanical paddle-type stirring system with revolving speed of 30 to1700 r/min
Reaction vessel	50-1000ml standard reaction vessel, condenser, backflow and liquid adding accessory
Operating ambient temperature/humidity	0~40℃ / 15~80%RH
Complete machine physical size	450×515×510mm (width x depth x height)

Certificate No.1610/IN−IST−12

ISO9001: 2008 and UKAS certificate of quality system

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SINEO

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As the latest multifunction microwave chemistry reaction platform of SINEO Microwave Chemistry Technology Co., Ltd, MAS-II Plus microwave synthesis/extraction reaction workstation, that can meet various experiment plans, has a rational, friendly and simple operation design. It is widely used in researches, such as organic synthesis, pharmaceutical chemistry, organic extraction, food science, analytical chemistry, inorganic chemistry, protein research, petrochemical engineering and materials chemistry, etc. MAS-II Plus supplies a versatile reaction platform that is superior to regular heating method.

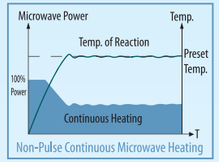
Adopting a unique patented technology, dual-channel temperature detection (DTD) technology, MAS-II Plus can detect temperature not only through PT thermocouple sensor but also non-contact infrared ray. Those two temperature measurement methods can be switched and automatically identified in accordance with test requirements. It is safe, convenient and reliable to be operated in an environment that is full of organic solvent. Besides, utilizing a world advanced closed-loop control PID technology, microwave power is precisely adjusted with the temperature, it realizes continuous-heating by a non-pulse microwave type to guarantee the uniformity and repeatability of reaction product. The sturdy and durable industrial grade furnace chamber structure and multilayer chemical-resistant spray can meet long-term use requirements under a rigorous chemical environment.

In order to run different reaction schemes, MAS-II Plus has 50 sets of various built-in reaction programs, which can be set, edited and saved at will. The reactant' s temperature curve will be displayed in real time during the reaction process, and the whole reaction procedure can be observed through a color screen.

In order to meet various reaction requirements, this product is specially equipped with an access entry of protective inert gas; being applied to different reaction substrate, two stirring methods, i.e. mechanical stirring and magnetic stirring, can be switched at any time, and the stirring speed can be adjusted continuously. Some operation, such as reflux condensation, dropping liquid and water diversion etc., can be done during reaction process. The highest theoretical operation temperature of the equipment can be 900 ℃ (Customerized reactor vessel and furnace chamber environment are required under this case).

Main Technical Parameters

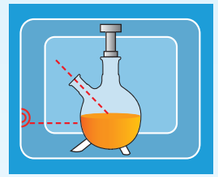
- Microwave power realizes inverter control through precise closed-loop PID technology during reaction process, with non-pulse microwave continuous-heating, automatic variation range of power: 0 to 1000W, and power can be automatically adjusted with temperature programming through Inverter technology and closed-loop control technology.



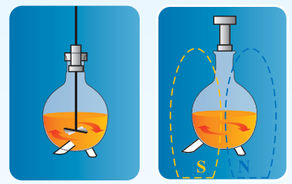
Non-Pulse Continuous Microwave Heating

- Stainless cavity with large capacity and multilayer Teflon spray. Any open mouth on microwave oven cavity is safe to human body, and microwave leakage is far lower than national standard and gets CE certification. The exhaust air rate of anti-corrosion high-power draught fan is 5.8 M^3/Min,realizing a fast cooling.

- Dual-channel temperature detection (DTD) technology can detect temperature not only through Pt100 thermocouple but also non-contact infrared ray. The system automatically determines temperature measurement type, monitor and control reaction temperature in real time. The infrared temperature measurement range is 0℃to 900℃with precision of ±1℃ and Pt100 thermocouple temperature measurement range is 0℃to 300℃with precision of ±1℃. The maximum operation temperature of standard equipment is 300℃.

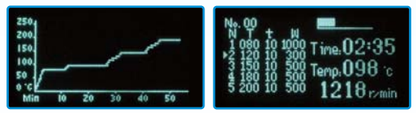


- Two stirring type, i.e. mechanical stirring and magnetic stirring, can be switched accordance with various reactive material at will and stirring speed can be adjusted and displayed continuously. Magnetic stirring revolving speed is 30 to 1600 r/min with stepless-speed and is applied to regular solution reaction; digital paddle-type mechanical stirring revolving speed is 30 to 1700 r/min with stepless-speed, which can be clockwise or anticlockwise stirred both and applied to reaction experiment of high viscosity liquid.



- Standard configuration products include reaction vessel with standard interfaces (volume 50ml to1000ml). You can choose various experiment conditions, and some devices, such as inert protection gas interface, reflux condensation, droplets, and water diversion, are equipped with.

- 50 sets of reaction programs are built-in, users can edit and save them at will. Each reaction parameter (scheme, step, temperature, time and power etc.) will be showed and controlled, and reaction temperature will be displayed by a curve with time.



- This equipment is equipped with software to trace display, record, invoke and save reaction procedure.

- Photographic device is equipped with in the furnace chamber and TFT color LCD monitor, which is equipped with at the external of furnace chamber to observe reaction process in time.

- Multiple application fields: this equipment is widely used in related fields, such as organic synthesis, pharmaceutical chemistry, organic extraction, food science, analytical chemistry, inorganic chemistry, protein research, petrochemical engineering and materials chemistry and supplies a new type reaction platform that is superior to regular heating platform.

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