UWave -1000

Microwave • Ultraviolet • Ultrasonic Synthesis/Extraction Reactor

2009 GOLD MEDAL

Based on the rich experiences in the R&D of microwave chemical instruments and in reference to user requirements, Sineo Microwave Chemistry Technology (China) Co., Ltd. originally developed UWave-1000 microwave ultraviolet ultrasonic synthesis/extraction reactor, a multifunctional chemical reactor that can randomly combine, overlap and regulate microwave energy, ultraviolet light and ultrasonic wave. This instrument can not only adapt to various chemical analyses but also create combined effect incomparable for single energy source in the field of synthesis and extraction.

Application

- *Synthesis of new nanometer materials*
- *Organic auxiliary synthesis*
- *Energy resource and chemical industry*
- *Extraction of natural products*
- *Biopharmaceutical industry and medicine intermediate development*
- *Lixiviation of POPs and pesticide residues*
- *Sewage treatment*

Sineo Microwave Chemistry Technology (China) Co., Ltd.

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Product performance

1. In temperature control mode, microwave power realizes automatic variable frequency control with the change of preset temperature and time, heating rate can be accurately fed back and adjusted, and non-pulse continuous microwave heating mode is adopted;

2. Unique safe mode of fixed microwave power and time control is favorable for establishing microwave efficacy evaluation system;

3. Immersed ultrasonic working probe has continuously adjustable ultrasonic power and self-check and alarm function;

4. It' s convenient to randomly combine or separately use microwave, ultrasonic wave and ultraviolet irradiation via an individualized system work platform;

5. Infrared temperature measurement and platinum resistance temperature measurement are adopted as two standard modes for automatic recognition and intelligent control of temperature measurement mode and max. temperature to meet the need of different reaction containers or media;

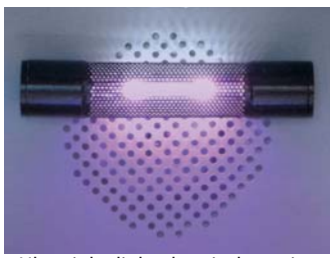
6. Mechanical mixing and magnetic mixing are adopted, and the mixing speed is steplessly adjustable and displayed in real time;

7. The product is equipped with condensation, reflux, fluid replacement, inert gas protection interfaces, etc.;

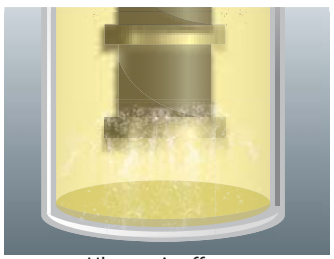
8. Computer connection software may be configured for bidirectional control, real time display and record of reaction parameters and reaction temperature change curve, infinite save of experimental schemes;

9. The process and status of reactions in a container can be observed and recorded in real time according to the TFT color liquid crystal display of instant camera system.

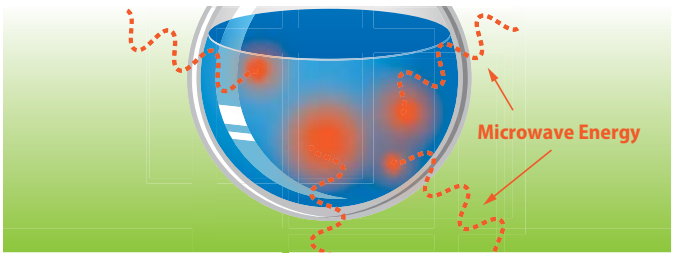
Basic principle



Ultraviolet light chemical reaction



Ultrasonic effect



Microwave heating

Main technical parameters

- Automatic variation range of microwave power: 0 to 1,000 W
- Ultrasonic working frequency: 26 to 28 KHz; power regulation range: 0 to 800 W
- Ultraviolet irradiation light source wavelength: 365 nm; power: 300 W
- Temperature control range: from room temperature to 300℃
- Reaction container volume: 50 to 1,000 ml (10ml and 20ml are optional.)
- Reaction container material: Quartz glass
- Operating time: 1 s to 6,000 min

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