

## About ISSR

It is a public institution (based in Sulaimani city-Iraq) affiliated to the Ministry of Higher Education of the Kurdistan Region of Iraq (KRI).

### Vision

Becoming a reliable Centre of Excellence for strategic studies to address national and global challenges.

### Mission

- 1- Delivering cutting-edge research and strategic studies to find knowledge-based solutions to local, national, and global challenges and needs.
- 2- Fostering interdisciplinary research to tackle complex problems and drive innovation.
- 3- Producing reliable data and knowledge that can inform decision-making and empower communities, especially marginalized and underserved communities.
- 4- Building extensive networks and research collaborations, locally and internationally.
- 5- Developing high-quality research capacity building and consultation.

## Field and Application

Ultrasonic homogenizers which are used in lab and industry for numerous applications. it can be used for various applications, including:

1-Cell Disruption: Ultrasonic homogenizers can break open cells to extract intracellular components such as proteins, nucleic acids, enzymes, and metabolites.

2-Emulsification: Ultrasonic homogenizers can be used to create stable emulsions and nanoemulsions by breaking up and dispersing immiscible liquids, such as oil and water.

3-Dispersion: Ultrasonic homogenizers can be used to disperse solid particles in liquids to create stable suspensions.

4-Homogenization: Ultrasonic homogenizers can homogenize samples to create uniform and consistent mixtures.

5-Degassing: Ultrasonic homogenizers can be used to remove dissolved gases from liquids, such as degassing HPLC solvents or cooling fluids.

Ultrasonically-assisted 7-Chemical Reactions: Ultrasonic homogenizers can also be used for sonication-assisted chemical reactions, such as sonochemical synthesis, catalysis or degradation.



Handheld Ultrasonic  
Homogenizer mixer  
cell disruptor cell  
sonicator

# Description

this handheld portable ultrasonic Homogenizer is According to the design concept of more simple and more reliable developed a simple structure and reliable portable ultrasonic processor, the generator is the first time smallest one ultrasonic processor, its size: 190 mm x 55 mm horns are the product made of titanium alloy material has high strength, high velocity, good corrosion resistance, high heat resistance, etc, to prolong the service life of the instrument. The product circuit made of SMT process with frequency automatic tracking, automatic amplitude control, load stability, acoustic conversion efficiency is high, the characteristics of the over temperature protection and so on. It can be manual control ultrasonic, is especially suitable for trace or a small amount of sample processing (such as: EP tube ultrasonic).

users can use battery or solar power supply used in the outdoor operation, the use of the diversity of input voltage, solve the problem brought by the different input voltage source at home and abroad. Have it will make you feel absolutely value.



# Result Explanation

The resulting homogenate can be further analyzed for: particle size distributions in emulsions. the homogenizer breaks down complex sample into smaller particles, homogeneity of mixture for drilling fluid tests.

# Sample Type

UltraSonic Homogenizers can process a variety of sample types including:

- 1-Drilling fluid in oil industry
- 2-Chemistry
- 3-Environment
- 4-General analysis laboratory
- 5-Sample gas remove.
- 6-Biology

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