

## UP100H – Compact Ultrasonic Laboratory Device

The ultrasonic processor UP100H (100W, 30kHz) is the perfect device for the sonication of small and medium size lab samples. This compact, yet powerful, lab homogenizer is commonly used for sample preparation, such as emulsifying, dispersing, dissolving and cell disruption.



The ultrasonic processor UP100H (100 watts, 30kHz) has the same compact and ergonomic design as the UP50H homogenizer (50 watts, 30kHz) but it comes with twice the ultrasonic power. At 1.1kg, it is lightweight to hold. Of course, an operation at a stand is possible, too. The ultrasonic generator and the transducer are combined in one unit, so that there are no hassles with connecting cables. One power supply cable. That's all.

This device is most suitable for the ultrasonication of very small as well as medium-sized samples. With the use of the 10mm sonotrode MS10 the range of application expands to the sonication of volumes of up to 500ml. Therefore, this ultrasonic device is mainly used for the preparation of samples in the lab, such as:

- Emulsifying (mixing of immiscible liquids)
- Dispersing (mixing of powders into liquids)
- Homogenizing
- Cell disruption, lysis and extraction
- Deagglomeration of nanomaterials
- Degassing

In combination with the flow cell D7K you can sonicate material in continuous flow, e.g. at 10 to 100mL/min. By this, you can simulate continuous sonication processes in smallest scale. As the UP100H can be operated 24 hours per day (24h/7d), this setup could process up to 140L per day (depending on the application).

## Feasibility Testing

The UP100H is often used for general feasibility studies. For this, a small sample volume, e.g. 5mL is put into a small vial and is being exposed to intense sonication for a long time. The picture to the right shows a typical setup for the intensive sonication of small samples. Since ultrasonic

power is put into the sample, the liquid would heat up quickly, unless cooled by a water bath. As the heat can dissipate to the cooling bath, the sample can be sonicated for a longer time, e.g. 20 minutes.



UP100H with MS7

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