imLab
SCIENTIFIC EQUIPMENT FOR LABORATORY & INDUSTRY
+32(0)16 73 55 72
+33(0)3 20 55 19 11
www.imlab.eu
info@imlab.eu
Oude Vijvers 1
B-3370 Boutersem
Centre d'Affaires de l'Horlogerie
48 rue des Canonniers
F-59000 Lille

UP100H - Compact Ultrasonic Lab Homogenizer

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 (50 watts, 30kHz) but it comes with twice the ultrasonic power. At 1.1kg, it is **lightweight in the hand.** 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 al.

This device is most suitable for the **ultrasonication of very small as well as medium-sized samples.** With the use of the 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 and disintegration**
- **Cell disruption (lysis) and extraction**
- **Eagglomeration of nanomaterials**
- **Degassing**

Ultrasonic Lab Homogenizer UP100H
Compact ultrasonic processor - 100 watts - 30kHz
• For handheld operation or for stand use • 100 watts • Ultrasonic frequency 30kHz • Automatic frequency tuning system • Amplitude adjustable from 20 to 100% • Pulse adjustable from 0 to 100% • Dry running protected • With 9-pin DSUB interface • In portable case • With stand holder for use with stand ST1-16 or sound protection box SB2-16 • With mounting tools • IP40 grade • Titanium horn with female thread M6x0.75 • Dimensions (LxWxH): 185x130x85mm • Weight: 1.1kg

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). The optional PC-control may be helpful, if a test record is necessary or to optimize processes.

Feasibility Testing

The UP100H (100 watts) is commonly used for **feasibility testing** of ultrasonic applications. 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.

Soorten Sonotrodes:

The sonotrodes, in titanium, are the tools that transmit the ultrasound into the liquid.

Sonotrode	Ø (mm)	Lengte (mm)	Sample volume
MS0.5	0,5	80	0,01 - 0,5ml
MS1	1	80	0,1 - 5ml
MS2	2	80	2 - 50ml
MS3	3	80	5 - 200ml
MS7	7	80	20 - 500ml
MS7D	7	80	With D7K only
MS7L2D	7	160	With D7K only
MS10	10	160	20 - 500ml

Accessoires :

Referentie	Omschrijving
STH-16	**Fixture** for stand
ST1-16	**Stand**, diam. 16mm height 600 mm, base 300 x 150mm
ST1-Clamp	**Clamp** for use with stand stand ST1-16
T1	**Timer**, from 00:00 to 99:59 (min:sec)
PowMet230	**Power meter PowMet230**, versatile, for display of current power, 230V~1P, 50-60Hz, safety plug: European standard type
SPB-L	**Sound protection box**, with vertically adjustable table and Ø 16mm stand bar, for UP50H or UP100H 
LabLift	**LabLift** for the easy positioning of samples under the ultrasonic probes to control immersion depth, stainless steel, footprint 100mm x 100mm, adjustable height: 50 to 125mm
D7K	**Flow cell, made of stainless steel**, with cooling, including fast connection kit, for fluids, autoclavable, for operation with MS7D, volume approx. 13ml
GD7K	**Flow cell made of glass,** for 50-100 watts, with cooling, including fast connection kit, for fluids, autoclavable, for operation with MS7D (or with MS7L2D in combination with NSA1), volume approx. 80ml