

## Product Specification Sheet

# Ultrasonic processor

"LS – MR 50 / 100"



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## General Information

The Ultrasonic processors LS–MR50 and LS–MR100 are ultrasonic devices especially for laboratory applications. They provide a power output of maximum 50 or 100 watts at a frequency of 30 kHz. The output-amplitude is continuously adjustable between 50 and 100 %. The Generators are equipped with an automatic frequency-tuning-unit.

The Ultrasonic processors are protected against short circuit, overload, idle run and overtemperature. The internal LCD-display provides easy readout of the process parameters e.g. power, energy, time and medium-temperature. The touchscreen makes it easy to setup different parameters. **The processors are designed for continuous operation !**

The available accessories, such as different sonotrodes and boosters, pedal-operated switch and temperature sensor for recording the medium –temperature, make the devices universally applicable for all laboratory applications, such as:

- Disruption of cells, bacteria, virus, tissue, also mixed tissue e. g. for extraction of cell contents
- Emulsifying of hardly mixable liquids, e.g. oil and water
- Deagglomeration of nanoparticles in material in medicine, biotechnology, automobile industry
- Acceleration of chemical reactions
- Production of dispersions
- Reduction of particle size

Analysis	Biochemistry – Biology - Medicine	Chemistry - Sonochemistry	Pharmacy - Cosmetics
<ul style="list-style-type: none"> <li>➤ Homogenizing of cheese samples for determination of nitrates</li> </ul>	<ul style="list-style-type: none"> <li>➤ Due to high amplitudes, disruption of high-resistant bacteria, cells or tissues is possible.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Acceleration of chemical reactions</li> </ul>	<ul style="list-style-type: none"> <li>➤ Production of larger volumes of long lasting emulsions, e. g. lotions</li> </ul>
<ul style="list-style-type: none"> <li>➤ Preparing samples for grain size determination or environmental analysis</li> </ul>	<ul style="list-style-type: none"> <li>➤ Detection of prions by cyclic amplification of protein misfolding</li> </ul>	<ul style="list-style-type: none"> <li>➤ Destruction of highly-molecular compounds</li> </ul>	<ul style="list-style-type: none"> <li>➤ Production of antigens, vaccines or liposomes</li> </ul>

## Technical Data

Mechanical Data	
Dimensions	180 x 85 x 175 ( W x H x D)
Weight	approx. 1,5 kg
Protection class	IP 20

Electrical Data	
Power Output	<b>50 / 100 watt – continuous operation !</b>
Mains Supply	230 volt                      50/60 Hz
Frequency	30 kHz                        +/- 1 kHz
Protection against overtemperature	Protection against overtemperature of the generator and the connected transducer

### Back view



socket for "Transducer" connection

"Interface" socket for connection of the pedal-operated switch

### Transducer-system



As hand held unit or for clamping in a stand

## Optional Accessories

*pedal-switch*



*stand*



*More optional accessories:*

- USB-port
- PC-Software for the recording of process-parameters, current power, energy (Joule, WS), mediumtemperature

## Sonotrodes

Type	Lenght	Front surface diameter (mm)	Material	Volumen ml/max
MR1 – 30 Tip 1	approx. 80	1	Spec. Titanium	0.1 – 0.5
MR2 – 30 Tip 2	approx. 80	2	Spec. Titanium	2 - 50
MR3 – 30 Tip 3	approx. 80	3	Spec. Titanium	5 - 100
MR7 – 30 Tip 7	approx. 80	7	Spec. Titanium	10 - 250
MR7 – 30 Tip 7 With gasket	approx. 80	7	Spec. Titanium	10 - 250
MR7 – 30L Tip 7 With gasket	approx. 160	7	Spec. Titanium	10 - 250
MR10 – 30 Tip 10 (only LS – MR00)	approx. 80	10	Spec. Titanium	20 - 500