

# Ultrasonic Generator



# 201M

# Ultrasonic Generator Model 201M

## Powerful ultrasonic generating system

The effectiveness of the ultrasonic generator is determined by the power of its ultrasonic waves. Insonator model 201M uses a cylindrical ultrasonic vibrator which consists of laminated thin nickel plates. With this system, the supersonic waves becomes more powerful than the insonator which uses PZT (lead zirconate titanate) and ferrite oscillators. Therefore to make the ultrasonic waves even more effective, the oscillating plate of the vessel (from which the waves enter the vessel) is used as resonator.

201M uses in low frequency at 9,000Hz. Supersonic waves will generate heat on the sample. The produced heat is equal to the square root of frequency. In other words, the lower the frequency is, the less heat is produced. Various tests prove that the heat which is generated by insonator 201M does not cause damage to the sample. 201M is an ideal option for a wide range of applications such as breaking down of bacteria, microorganism and cells, production of vaccines and extraction of superficial antigens.



## No leaking Aerosol

The treatment vessel is made from SUS304 stainless steel which can be sterilized with steam, therefore it has a fully-enclosed structure, to prevent the leakage of gas or aerosol outside from the vessel.

## Temperature control

Especially when extracting enzymes and superficial antigens, bioactivation must not be allowed to deteriorate through the side production of heat. The 201M uses a power of water cooling system not only for the vessel but also for the ultrasonic vibrator. With this system, the temperature of the sample will not differ so that the effectiveness of the ultrasonic treatment can be kept at a high level. The other required temperature can be maintained; with using of water to reach specified temperature, the liquid solution with a temperature of less than 0°C can be used by mixing water with ethanol or other antifreeze agents.



**10~100mL  
Standard treatment vessel**  
(code no.061-3070)



**Less than 10mL  
Small capacity treatment vessel**  
(optional)  
(code no.061-3060)  
Replace the adaptor when changing from  
3mL or less to 3~10mL.





**Standard sound-proof box**  
(code no.047-3991)

## Specifications

Model 201M		
Output	●	0–200 W
Values	●	0–200 W (continuously variable)
Frequency	●	9,000 Hz (with sync. adjustment)
Standard treatment vessel	●	For treatment of 10–100 mL specimen
Micro treatment vessel	●	Adaptors provided for treatment of specimens less than 3 mL and 3–10 mL
Cooling system	●	Water cooling (water/ethanol, etc. mixtures can be used)
Timer	●	1–9999 minutes
Electrical rating	●	110 V–50/60 Hz, 7.7 A 220/230 V–50/60 Hz, 3.5 A
Dimensions	●	<div>Ultrasonic generator 24(W)x45(D)x44(H) cm</div> <div>Cooling system 16(W)x16(D)x40(H) cm</div> <div>Sound proof box 29(W)x29(D)x51(H) cm</div>
Net weight	●	<div>Ultrasonic generator 30 kg</div> <div>Cooling system 7 kg (transducer and treatment vessel included)</div> <div>Sound proof box 12 kg</div>

All specifications and outside appearance are subject to change without notice.

## Kubota has acquired ISO 9001 and ISO 13485 certification.

<b>Precautions for use</b>		Products in this catalogue are designed for use only by people who have the requisite technical knowledge, and must always be used with considerable care and only for their intended purpose. People who do not have adequate technical knowledge or training should only use the products under appropriate supervision by someone with expert knowledge, or else accidents are likely to occur.
 <b>Prohibited</b>	<b>Please immediately stop using the products in any of the cases listed on the right.</b> <ul style="list-style-type: none"> <li>• The equipment emits a burning smell or becomes abnormally hot.</li> <li>• You receive a weak electric shock when you touch the equipment with your bare hands.</li> <li>• When any other abnormality or indication of failure is noticed.</li> </ul>	<b>IMPORTANT</b> <p>If any of the cases listed at the left occurs, immediately turn off the power, disconnect the power cable plug or connecting terminals from the main power outlet, place a "Do not use" sign on the unit, and contact the nearest branch of Kubota Corporation.</p>
 <b>Safety Precautions</b>	<p>To use the equipment safely, be sure to read the instruction manual carefully before you start operations.</p>	<p>Do not misplace the instruction manual. Keep the instruction manual nearby so that you can refer to it whenever necessary.</p>

- The term of supplying spare parts for repair is 7 years after discontinuation of production (except spare parts which we are unable to procure).
- This catalogue is not for distribution in the USA, Canada and Mexico as products shown are not for sale in these countries.

# KUBOTA CORPORATION

[www.centrifuge.jp](http://www.centrifuge.jp)

29-9 Hongo 3-chome, Bunkyo-ku, Tokyo 113-0033, Japan  
Tel +81 3 3815 1331 Fax +81 3 3814 2574