



Ultra sonic disintegrator series UDS 751/UP200S with mounting tripod

### Application

The UDS 751 enables a high powered ultra sonic admission into liquids. The power density can be until  $600\text{W}/\text{cm}^2$ .

By this instrument specification the UDS 751 can be used for a great number of application in laboratories and shops like:

- Dispersing of suspensions
- Membrane destroying of cells in the biological research or medicine
- Intensify Chemical processes
- Generating of suspensions
- Influencing of lattice structures
- Homogenisation of mixtures
- Intensify the micro-sieving process
- Cleaning fine-structured textures or small holes of technical constructions

### Advantages

The ultrasonic disintegrator UDS 751 is based on an innovative technical concept with a set of advantages:

- The new electronic unit with efficiencies of  $>90\%$  allows a very compact design. That saves laboratory space because no extra HF-generator and cables are necessary. Both the easy-to-use operating controls and the sample are in the same range of vision.
- The innovative 24-KHz-oscillation system considers in comparison to other 20-kHz-systems the current occupational medical cognitions that are supported by expert opinion of Technical Inspection Agency (TÜV). It is well below the human hearing threshold level and avoids that hear-sensitive persons get affected by ultra sonic waves.
- The realized technical concept guarantees highest reliability, no-load and short-circuit safety, a save operation and accurate compliance with adjusted amplitude under all practical conditions. That applies for a wide range of sonotrodes even if by cavitation mechanical wear occurs. By the used sonotrodes material a long service life is assured.
- A new kind of frequency scanning allows a perfect start of sonotrode oscillation even if there has been an extreme wear by cavitation after long working hours.

The sonotrodes can be changed fast and easy. The device is protected against splash water from below.



# Specifications

## Principle

The Ultra Sonic Disintegrator UDS 751/UP 200S consists of a high-frequency generator, a sonic transformer and the sonotrode, which is mounted at the sonic transformer.

The high-frequency generator transforms the 50Hz-power supply frequency into a 24kHz high frequency. The electrical energy is changed by the sonic transformer to mechanical vertical oscillations of same frequency.

The sonotrodes can be screwed on the sonic transformer and are designed as a  $\lambda/2$  vibrator manufactured in a high-elastic titanium alloy.

They intensify the vertical oscillations and transfer the ultrasonic energy with extremely high power densities via their frontal areas into the fluid.

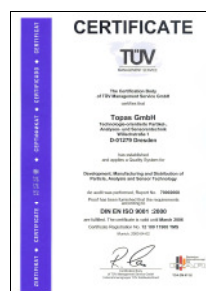
The thereby arising cavitation enables the solution of a big variety of application tasks in such fields as biology, medicine, chemistry, engineering, and other ranges.

## Operation instructions

1. Place the tripod on a planar place.
2. Connect the device to the mains.
3. Adjust the turning knob „Intensity“ into left position.
4. Immerse the sonotrode into the liquid, which has to be exposed to ultrasonic waves. (The maximum immersion depth depends on the type of the sonotrode.)
5. Switch on the device.
6. Choosing the desired amplitude by turning the knob „Intensity“.
7. Do not touch the sonotrode during operation!
8. The device can also be used without immersed sonotrode.

## Specifications

Power supply	230VAC 48-63Hz 115VAC 48-63Hz (optional)
Max. acoustic power	600W/cm <sup>2</sup>
Efficiency	>90%
Operating frequency	24kHz
Range of frequency control	±1kHz
Amplitude adjustment	20%-100%
Accuracy of the amplitude adjustment	±10%
Sonotrods:	Ø 1, 2, 3, 5, 14, 40 mm titanium
Noise suppression:	Limit values of the DIN VDE 0875 part II class B are met
Dimensions	300 x 210 x 100 mm <sup>3</sup>
Weight	<2,35kg



As manufacturers of instruments related to particle technology and filter testing Topas has been certified against the high requirements specified in DIN EN ISO 9001:2000 (and it's predecessors) since 1999.

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