

**MS 72 Titanium microtip**  
Order no. 492

The microtip MS 72 is an exponentially tapered probe made of high grade titanium alloy Ti-Al6-V4.

MS 72 is used to expose smallest volumes in test tubes or Eppendorf tubes to ultrasound.

- HD 2070/HD 3100: 1 to 25 ml
- HD 2200/HD 3200: 2 to 30 ml

The MS 72 probe may only be immersed in the liquid up to 2 cm.

Due to its shape (diameter 2 mm) it achieves a multiple amplitude magnification and therefore achieves highest ultrasound density in liquids. It is used for complicated laboratory tasks such as the disruption of cells and bacteria in biology and to speed up reactions in chemistry.

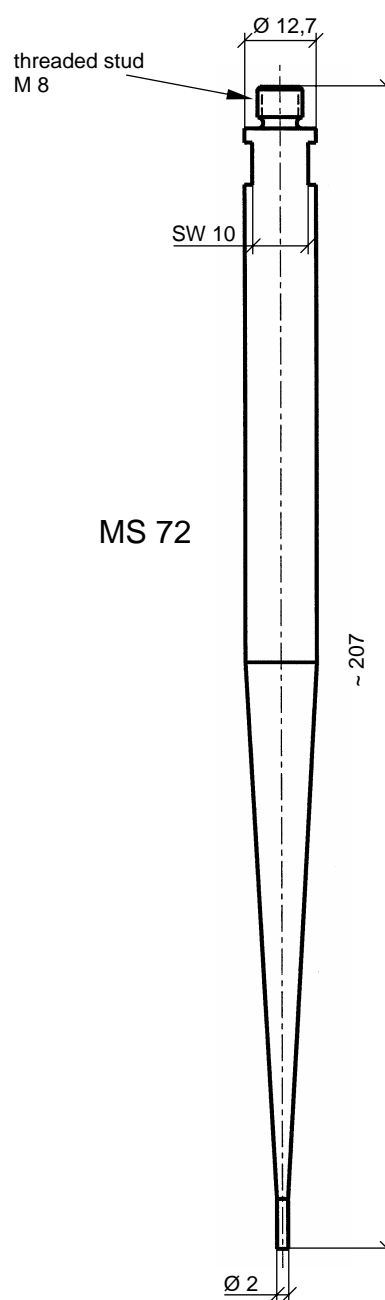
**Supply**

- 1 MS 72 microtip
- 1 spanner SW 10

**Assembly**

Microtip MS 72 is screwed tightly with stud M 8 to standard horn SH 70 G or to high gain horn SH 213 G. Use sickle spanners HS 40 / 42 and spanner SW 10. See instructions for homogenizers.

Please ensure that the mating surfaces on microtip and standard or high gain horn are clean.



## Attention !

- The delicate microtips are sensitive to impact, bent microtips can break due to transverse oscillations, lead to decreased output and can cause damage to the generator.
- Damaged microtips cannot be repaired.
- Do not touch MS 72 during operation, danger of injury.
- The MS 72 must not come into contact with the processing vessel during operation as this leads to breakage or consumption of the microtip or walls of the vessel (glass vessels break).
- High density at the surface emitting ultrasonic waves causes metal particles to wear away (erosion) from the microtip. If erosion reaches a value of approx. 1 mm, performance is reduced. If high amplitudes are being used, the MS 72 must be replaced if erosion has reached 1 mm.  
Detailed information can be found in the operating instructions.
- Life of the tip can be increased if it is not used at maximum amplitude setting but at the setting necessary for the particular task.  
Due to the high density the amplitude is limited as follows:
  - HD 2070 → max. amplitude 100 % = 253 μm peak to peak
  - HD 3100 → max. amplitude 97 % = 285 μm peak to peak
  - HD 2200 → max. amplitude 50 % = 282 μm peak to peak
  - HD 3200 → max. amplitude 52 % = 286 μm peak to peak

## Possible malfunctions

Malfunctions	Cause	Remedy
Fluctuating percentage indication or "whistling" tips	Attachment to the standard horn not tight enough	attach correctly in accordance with operating instructions
	damaged stud	use new probe
	Attaching surface damaged	return to manufacturer
	Tip bent	use new probe