

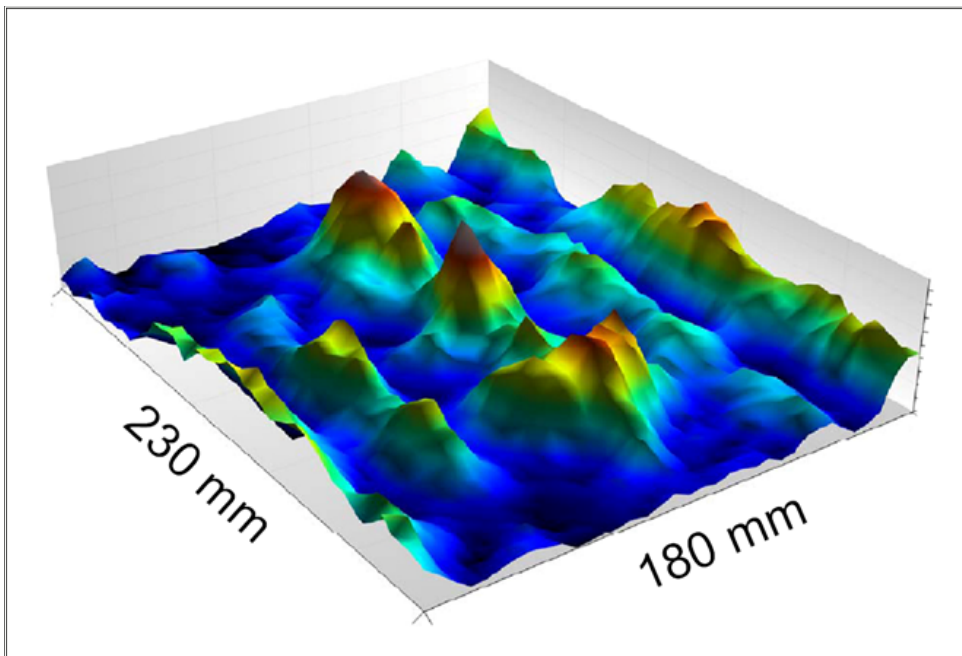
## Cleaning Tank Hydrophone with Digital Pressure Meter

*HCT-0320, MCT-1200*

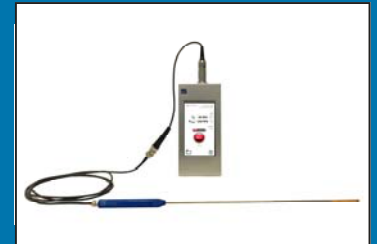
Despite the wide adoption of ultrasonic cleaning, the acoustic characteristics are not well understood. The portable HCT hydrophone with MCT pressure meter bridges this gap, offering a reliable solution to characterize and monitor the acoustic properties of ultrasonic cleaners. Its unique single point sensing design allows measurements with high spatial resolution to offer true 3-dimensional mapping of the cleaning tank. The rugged construction allows routine mapping of the acoustic pressure and ultimately determination of the cleaning efficiency of the tank.

### Applications

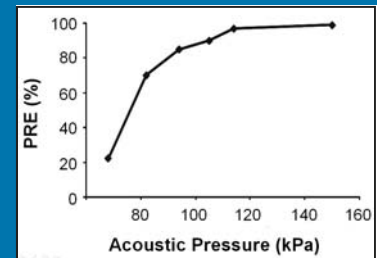
- Acquire acoustic maps to optimize cleaning efficiency of ultrasonic baths
- Routinely spot check acoustic field of cleaning tank for process control monitoring
- Continuously monitor the acoustic output by integrating with a central PC
- Compare tank-to-tank performance to maintain matching in production environments
- Tune process recipes by characterizing the ultrasonic cleaner fully loaded with substrates
- Identify cleaning tank issues such as debonded or malfunctioning transducers
- Self-calibrate with an absolute reference meter to match test results



**Acoustic Pressure Plot of a 40 kHz Industrial Cleaning Tank**

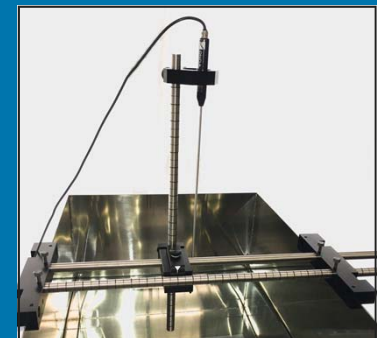


**HCT Hydrophone with  
MCT-1200 Digital  
Pressure Meter**



**Effect of Acoustic Pressure on  
PRE for 520 nm particle size**

[ Courtesy of Seoul University, Kim, et al ]



**Hydrophone Slide Assembly  
(40, 80, 120, 160, 200 cm)**

## Technical Specifications

### HCT-0320 Hydrophone

- *Useful Frequency Range:*  
20 to 1200 kHz
- *Maximum Operating Temperature:* 70 °C
- *Chemical Compatibility:* pH Range 4 to 12 (Teflon)
- *Probe Dimensions:*  
Shaft Length: 270 mm  
Shaft Diameter: 3 mm  
Handle Length: 80 mm  
Handle Diameter: 12 mm
- *Cable:* LEMO connector with embedded hydrophone calibration file, 1.5 meter length
- *Hydrophone Slide (Optional):*  
40, 80, 120, 160, 200 cm

### MCT-1200 Pressure Meter

- *Measured Parameters:*  
Fundamental Frequency,  $F_0$  (kHz)  
Total Pressure,  $P_{TOT}$  (kPa or unitless) \*
- \* kPa units require self-calibration to absolute reference
- *Data Management:*  
Touch panel display  
Time averaging interval: 1-60 sec  
Data logging to local memory  
Self-calibration to match with reference meter  
Remote access via Ethernet  
Real-time data transfer for continuous monitoring
- *Power:* rechargeable battery, charger (5 VDC, 3A)
- *Labels:* CE Mark, FCC
- *Dimensions:*  
76 mm (W) x 169 mm (H) x 30 mm (D)

Specifications are subject to change without notice.

## Simple Measurement Set-up

