ONDA

Putting Confidence in Ultrasound

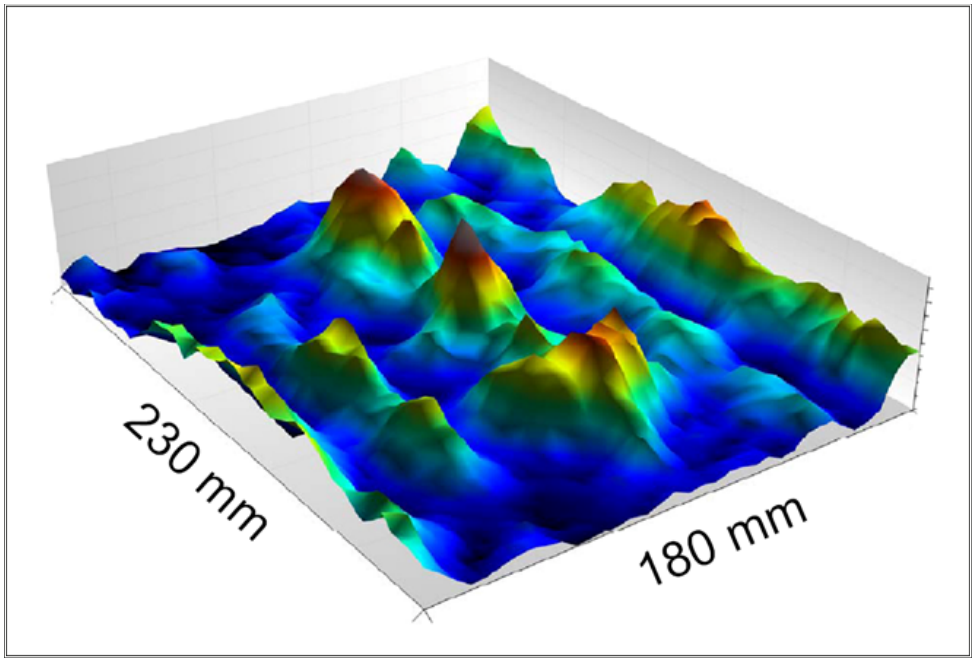
Cleaning Tank Hydrophone with Digital Pressure Meter

HCT-0320, MCT-1200

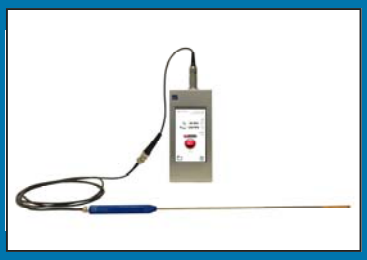
Despite the wide adoption of ultrasonic cleaning, the acoustic characteristics are not well understood. The portable HCT hydrophone with MCT pressure meter bridges this gap, offering a reliable solution to characterize and monitor the acoustic properties of ultrasonic cleaners. Its unique single point 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

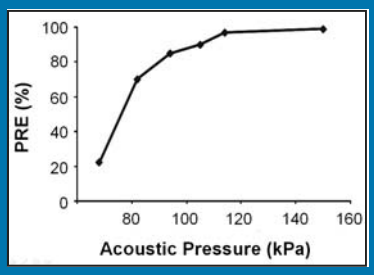
- Acquire acoustic maps to optimize cleaning efficiency of ultrasonic baths
- Routinely spot check acoustic field of cleaning tank for process control monitoring
- Continuously monitor the acoustic output by integrating with a central PC
- Compare tank-to-tank performance to maintain matching in production 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

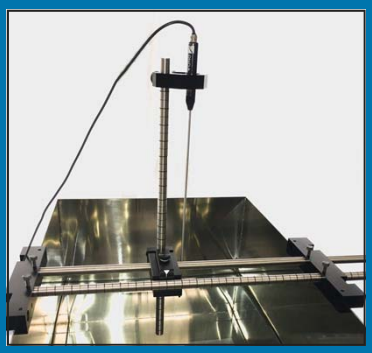


HCT Hydrophone with MCT-1200 Digital Pressure Meter



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 ºC
- *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

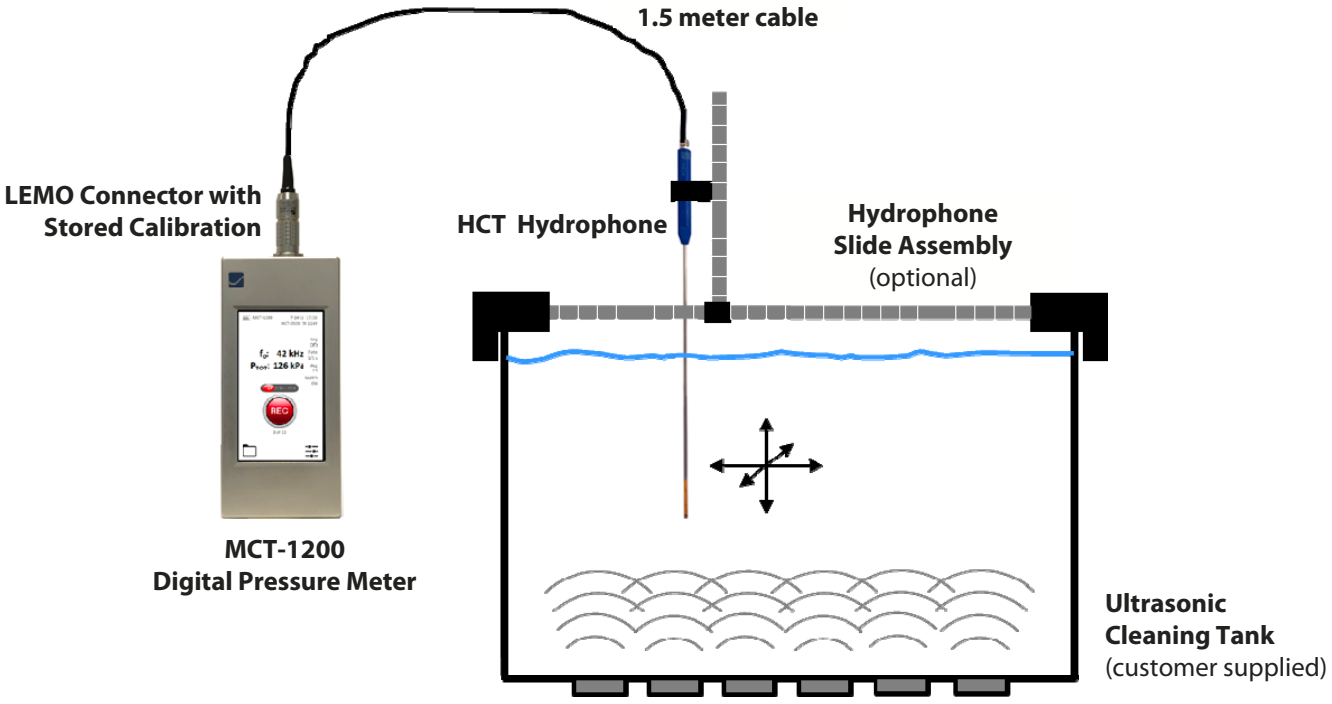
MCT-1200 Pressure Meter

- *Measured Parameters:*
  Fundamental Frequency, F_O (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



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