

CREST ULTRASONICS

Industrial Ultrasonic Cleaning Tanks, Immersibles, and Generators

Ultrasonic Frequencies

Cavitation can occur at any ultrasonic frequency, but each transducer is specifically tuned to operate at a set frequency. Crest offers transducerized cleaning systems at 25 kHz, 40 kHz, 58 kHz, 132 kHz, 192 kHz, 470 kHz and 1000 kHz as well as custom combinations including 25/40 kHz and 58/192 kHz.

Choosing Your Frequency:

- Lower frequencies produce larger cavitation bubbles with stronger implosions for heavy duty cleaning.
- Higher frequencies produce smaller cavitation bubbles with milder implosions for more delicate cleaning or for sub-micron particulate removal.

Cleaning Process Development

Crest offers a very liberal demo tank loaner program as well as three full-service application labs to help you develop a cleaning process that includes the correct ultrasonic frequency, chemistry, and cleaning procedures.

The Ultrasonic Cleaning Process

Ultrasonic energy introduces high and low pressure phases into a cleaning solution, which creates small vacuum bubbles throughout the solution. Once these bubbles reach a critical size, they violently implode creating an intense scrubbing action. This process is known as ultrasonic cavitation. These bubbles are microscopic in size and scrub the complex surfaces of a part to be cleaned.

To create ultrasonics energy, piezoelectric transducers are bonded to the tank. An ultrasonic generator takes line voltage and converts it to a high frequency pulse that is applied to the transducers. The crystals in the transducers expand and contract with these electrical pulses creating acoustical energy in the solution. It is this acoustical energy that creates the pressure changes leading to ultrasonic cavitation.

Industrial Ultrasonic Tanks

Tanks are constructed of cavitation resistant, bright annealed 316L stainless steel providing the optimum environment for precision cleaning with extended service life. Tanks are welded inside and out to insure a long life and sturdy performance. Transducerized tanks are a plug-and-play solution for a number of cleaning needs.

Ultrasonic Immersible Transducers

Immersibles are also constructed of cavitation resistant, bright annealed 316L stainless steel with robotically welded seams to insure a long life. Immersible transducers are a perfect way to introduce ultrasonic energy into existing tanks. Also, the units are easily replaceable for economical repairs.

Ultrasonic Generators

Both Genesis and MW ultrasonic generators have a history of outstanding performance in wattages from 250 to 2000 watts. They have the ability to monitor watt output to insure consistent cleaning time after time. Only Crest offers TRU-SWEEP™ sweep frequency, which eliminates inconsistent cleaning by sweeping a +/- 1kHz around the center frequency at a set repetitive rate.

Industrial Ultrasonic Cleaning Tanks Specifications

Note: The "X" represents the Ultrasonic Frequency (Example: 4HT= 40 kHz, 13HT= 132 kHz)

Standard options:

- **Stainless steel tank cover**
- **Stainless steel work basket**
- **Manual drain ball valve**
- **Recirculating filter system**
- **Electric cycle timer**
- **Non-transducerized tanks**
- **Heated or non-heated tanks**
- **Chem-Crest Chemistries**

Custom Options:

- **Water jacket**
- **Condensing collar**
- **Overflow Weir**
- **Cove corner construction**
- **Ground and polished welds**
- **Sealed skirts**
- **Explosion proof packages**

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