Guide to Cleaning Brass Instruments Using Ultrasonic Power
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At first glance ultrasonic instrument cleaners look like very simple soak tanks but these stainless steel work horses are a band room’s best friend. Ultrasonics provide a safe and efficient way of cleaning, for you and your instrument.

**What is Ultrasonic Cleaning?**

A high tech ultrasonic cleaner works by introducing sound waves into a cleaning liquid by means of a series of transducers mounted onto the cleaning tank. As the sound travels throughout the ultrasonic cleaner’s tank, waves of compression and expansion are created in the liquid. In the compression wave, the molecules of the cleaning liquid are compressed together tightly, while, in the expansion wave, the molecules are rapidly pulled apart. The expansion is so dramatic that molecules are ripped apart, creating microscopic bubbles that exist for only a split second. During their brief existence, these bubbles contain a partial vacuum. As the pressure around the bubbles becomes greater, the fluid around the bubble rushes in, collapsing the bubble very rapidly.

Ultrasonic equipment manufacturers take advantage of the associated phenomena to deliver ultra-precise cleaning capabilities. When the bubbles collapse, a jet of liquid is created that travels at an extremely high rate. An associated rise in temperature as high as 5000°C occurs; this is roughly the temperature of the surface of the sun. This extreme temperature, combined with the liquid jet’s velocity provides a very intense cleaning action in a very concentrated area that ultrasonic manufacturers can use. Because of the very short duration of the bubble expansion and collapse cycle, the liquid surrounding the bubble quickly absorbs the heat and the area cools rapidly. As a result, the tank and liquid only becomes warm and does not heat excessively due to the introduction of parts in the ultrasonic washing equipment.
Why Ultrasonics is a Perfect Solution for Cleaning Brass Instruments

Brass instruments, such as trumpets, french horns and tubas, have oddly shaped surfaces, intricate valves, and interior areas that are difficult to clean by hand. When submerged in an ultrasonic cleaning tank, the cleaning fluid enters these hard to reach areas, cleaning the instrument inside and out.

Ultrasonics can clean brass instruments in only 2-4 minutes without using nasty chemicals. Traditional chemical baths can expose personnel to toxic fumes. Ultrasonic cleaning technology uses sound waves to create microscopic cavitation bubbles that implode and basically create a slight scrubbing action on any hard surface the water touches.

School Districts, universities, and instrument repair shops are all using ultrasonic technology. Ultrasonics can thoroughly clean the nooks and crannies of instruments that manual cleaning can miss. This results in a better and faster cleaning process with purer sound result from the instrument and improved cleanliness.
The Steps for Cleaning Brass Instruments

1. Felt and leather pads should be removed from the instrument prior to cleaning. Synthetic pads can be left on the instrument.

2. The instrument should be disassembled and the parts placed into the stainless steel mesh basket.

3. The water bath should be room temperature water or slightly warmer.

4. We recommend using our environmentally friendly brass instrument cleaner, Ultra-Power 132-B detergent at 1-2 oz per gallon.

5. The basket is then placed into the ultrasonic bath. Typical cleaning timeframes are 2-4 minutes.

6. Rinse the instrument with clean water.

7. Dry with a forced air parts blower.

8. Re-assemble.
Conclusion

Costs for sending your instruments to be cleaned by outside vendors can vary depending on your location. Ultrasonic cleaners can pay for themselves quickly and you can set up a maintenance schedule to clean at your leisure. You have to clean your instruments. Save time and money with ultrasonics!

To learn more, contact the professionals at

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