What is Ultrasonic Cleaning?

Ultrasonic cleaning is the rapid and complete removal of contaminants from objects which are immersed in a tank of liquid that is flooded with high frequency sounds waves. These non-audible sound waves create a gentle scrubbing action within the fluid, removing contaminants from all surface areas the fluid comes into contact with.



How Ultrasonic Cleaning Works

The process is brought about by high frequency electrical energy that is converted by a transducer into high frequency sound waves – ultrasonic energy.



Ultrasonic energy enters the liquid within the tank or bath, this causes the rapid formation and collapse of minute bubbles; a phenomenon known as cavitation. These bubbles travel at high speed within the tank, causing them to implode against the surface of any immersed object with an enormous release of energy. As the bubbles implode and cavitation occurs, the cleaning solution rushes into the gap left behind by the bubbles, gently lifting any contaminants, dirt and tarnishing from both the surface and innermost recesses of intricately shaped parts.

Its ability to clean even the most tenacious substances from items derives from the core of the unit: the transducer. Therefore, the cleaning power of your ultrasonic equipment stems from the transducer's performance.



It is this ability to clean box joints, hinges and threads quickly and effectively that has made ultrasonic cleaners the first choice for many industries for over 27 years.

There are many variables which need taking into account when cleaning items. Heat, power, frequency, detergent type and time all affect the cleaning process but the flexibility of ultrasonic means that these can all incorporated into the process in order to achieve the most effective results.

This photograph (below) shows Ultrasonic cleaning in action on a pair of surgical forceps. The bubbles can be clearly seen forming around the item.



As the bubbles implode and cavitation occurs, the cleaning solution rushes into the gap left by the bubble, creating a gentle scrubbing action to the surface area it comes into contact with. As this fluid makes contact with the forceps, any contaminants that are present are removed.