

Branson Ultrasonic Cleaning for Injection Molds

General Description

Ultrasonics is a well-established, highly effective technology of cleaning injection molds. It has proven to be superior to traditional cleaning methods because it is a non-contact system that does not damage or alter the mold cavity details. It protects close tolerances and can significantly extend the useful life of the mold. In addition, the higher levels of cleanliness achieved by ultrasonic cleaning result in:

- Better releases
- Improved productivity
- Fewer maintenance man-hours
- Longer runs
- Reduced scrap and waste
- More shots between maintenance tasks

Ultrasonic Cavitation Cleaning Technology

S-8500 ultrasonic cleaning uses cavitation, or the rapid formation and collapse of minute bubbles, or cavities, in a cleaning solution to dislodge soils and contaminants from the mold surfaces. The turbulence created by cavitation enhances the action of cleaning chemistries by constantly exposing surfaces to fresh chemistry, and when combined with heat and an appropriate cleaning chemistry, ultrasonic cavitation creates a unique cleaning action that penetrates even blind holes and tiny crevices.

The thermal, chemical, and mechanical energies produced by ultrasonics combine to effectively remove residual burnt polymers and mold releases from mold components, extending their useful life well beyond molds cleaned with traditional methods. In addition, ultrasonic cleaning is capable of removing buildup from internal cooling ports and channels, thereby improving polymer flow. No other process cleans faster, more safely, or more thoroughly than Branson ultrasonic cleaning technology.



Heated Ultrasonic Cleaning Tank

The ultrasonic injection mold cleaning tank is an immersion technology that consists of three components: the heated stainless steel tank which holds the cleaning solution and mold components or plates, several immersible ultrasonic transducers to convert electrical energy to sound energy, and a power supply to generate the 25 kHz frequency power, the preferred frequency for larger parts.

Branson injection mold cleaning tanks are available in standard as well as custom configurations to meet the needs of a wide variety of applications. Tank sizes can vary from tabletop units for small mold components or segments to much larger tanks capable of cleaning entire mold plates or higher-volume cleaning found in larger molding operations. In addition, a recirculating pump and filter are available to remove particulates from the cleaning solution as they are cleaned from the mold components.

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Key Features

- S-8500 Series ultrasonic generator for maximum power and process control
- Advanced piezoelectric transducers for reliability
- 316 stainless steel construction
- Thermostatically controlled heat to enhance ultrasonics and improve cleaning

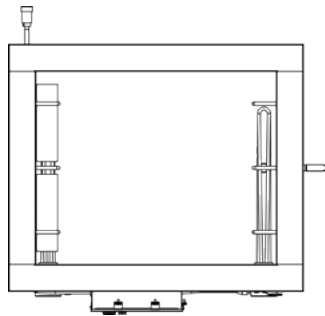
Available Options

- Recirculating pump and filter on the cleaning tank
- 40 kHz piezoelectric immersible transducer (for smaller applications)
- Digital timer to control the dwell time of the ultrasonics
- Heated rinse tank

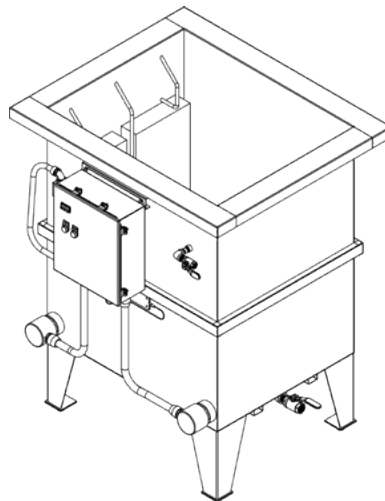
Free Cleaning Application Evaluation

The most effective cleaning chemistry will vary based on the mold material or the type of soil or contaminants that inhabit the mold surface. Most molds are cleaned with in a buffered alkaline solution. These materials are widely available and cost effective. And to ensure your system performs to its maximum potential, Branson maintains a complimentary application evaluation service to help you determine the best ultrasonic unit and chemistry for your application. Your soiled mold components can be submitted to the Branson applications laboratory where they will be cleaned and returned to you along with a recommendation for appropriate equipment and chemistry process to meet your application need.

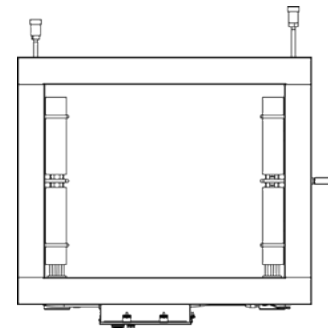
Typical Ultrasonic Cleaning Tank



**Single side-mounted
ultrasonic transducers**



**Side and front view of
ultrasonic cleaning tank**



**Dual opposed
side-mounted transducers**

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