



Zenith Ultrasonics

Waves at Work

85 Oak St., Norwood, NJ 07648-0412 Tel: 800-432-SONIC (7664) sales@zenith-ultrasonics.com www.zenith-ultrasonics.com

Product Line

Automated Cleaning Systems

Advantage Automated Multi-stage Cleaner:



Zenith's patented ADVANTAGE Automation System (US Patent 10,112,221), is designed specifically for industrial cleaning applications and used to automate systems with 2-10 processing tanks. This unique system has been engineered to be easy to operate while simultaneously maximizing the cleaning performance of the machine by including a dedicated oscillation platform on each tank that serves to intermittently oscillate the product being processed DURING the cleaning and rinsing process. In addition, parts are suspended from overhead to maximize ultrasonic performance by eliminating basket structures under the basket which reduce ultrasonic cleaning performance.

Transtar Automated Multi-stage Cleaner:



The Transtar Automation System is an overhead pick & place robotic transfer system that engages with baskets using a series of hooks, lifting and transferring them from tank-to-tank one at a time. These systems are the preferred choice in clean-rooms and ultra-critical cleaning applications. 2 different versions are available; Transtar 1 which lifts baskets using an overhead pneumatic cylinder and is more economical and the top-of-the-line Transtar 2 which lifts baskets using a ball screw actuator. Both designs transfer baskets using a servo-motor-controlled transfer device for the highest possible accuracy. Available with 2-10 process tanks and basket rotation

Ultramatic HV:



The Ultramatic HV is a high-performance clean/rinse/dry system that includes a number of cleaning and rinsing technologies in a smaller package. Ultrasonic cleaning, ultrasonic rinsing, spray rinsing, and cleaning/rinsing oscillation are all included, along with a



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multi-position conveyor which allows queuing of multiple baskets and programmable recipe control.

Ultramatic Clean/Rinse/Dry System:



The standard Ultramatic is a lower-volume lower-cost option to our Ultramatic HV and is designed based on Zenith patent #4,409,999. All cleaning, rinsing, and drying takes place in a single ultrasonically-activated tank for the ultimate in convenience and ease of use. Parts do not need to be transferred through multiple tanks making the system perfect for large and heavy parts cleaned at low volumes or other low-volume applications. Fluids can be re-used continuously, or replenished after each cycle with our low-cost NR version.

VORTEX Centrifugal Ultrasonic Cleaner:



Designed specifically for high volume zero-residue cleaning of small parts or stampings, the Vortex is an automated clean/rinse/dry system which includes centrifugal rotation in all cycles to virtually eliminate detergent drag-out into rinse baths, eliminate water spotting, and eliminate the drying tank bottleneck which slows the speed of the system. Baskets typically eject every 5-7 minutes continuously, features such as filtration, multi-position conveyors, water quality control and more are all included.

CORONA Clean & Dry System:



The Corona is a 2-tank clean & dry system that is designed to clean steel parts or other components not requiring a rinse operation. Parts are cleaned using proprietary cleaning/rust preventative agents and immediately dried thereafter. The cleaning fluid leaves no residues that will interfere with subsequent painting or coating operations and the rust-preventative properties will prevent oxidation on parts prior to coating. This lower-cost automated



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system is available process are enclosures and exhaust blowers, and a host of other options

AERO-CLEAN Automated Aerospace Cleaner:



The Aero-clean is an automated clean/rinse/dry system designed to clean high volumes of complex aerospace parts to zero-residue cleaning results. Ensures that all blind holes, cavities, and channels in multiple orientations are completely clean, and includes a multi-position drying tunnel to dry multiple baskets simultaneously. Includes a host of options such as a powered automated multi-position conveyor, random recipe processor, surface particle removal, automatic water quality maintenance, automatic liquid maintenance, filtration, and much more.

ANGSTROM Automated Cleaning & Passivation System:



The Angstrom series of cleaning & passivation systems are multi-use machines that can rough clean, zero-residue clean, or clean & passivate metal parts. Baskets requiring any one of these processes can be added at any time. No need to queue particular parts for one of the included processes. This system, available in standard 7-tank or ultra-high-volume 9-tank versions includes both citric and nitric passivation tanks, ultrasonic cleaning and rinsing tanks, and high-efficiency drying tank, along with every conceivable option such as a stainless steel process area enclosure with fume exhaust, automatic rinse quality maintenance, rinse collection & pump drain systems, large touch-screen HMI, internal process area lighting, a TRANSTAR II automation system, automated covers, and much more. Perfect for medical components or those companies requiring cleaning of parts, or cleaning and passivation of parts at any particular time of day.



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ORBIT 1450 Basket-less Ultrasonic Cleaning System

The ORBIT is a basket-less conveyor ultrasonic cleaning system that was originally designed for ultra-clean applications. Parts are placed onto a moving conveyor which passes them through an ultrasonic cleaning tank, spray cleaning area, deionized water rinsing tank, final spray rinsing area, and a compressed air blow-off dry before exiting the system. The ORBIT is a perfect replacement for an in-line spray washer, but includes ultrasonic cleaning, rinsing, and spray operations all in a very unique and basket-less operating mode.

MTC Multi-stage Cleaning Systems



Multi-stage cleaning systems include more than just the ultrasonic cleaning tank. Typically, rinsing and drying are included as well, but there are many multi-stage cleaning systems available, each one of which is used for different purposes. The following is a list of the standard multi-stage cleaning systems available at Zenith, and all of the following systems can be equipped with our Transtar or Advantage Automation Systems found on the first pages.

MTC2 2-tank Cleaning System: The MTC2 is a 2-tank system that can include a single ultrasonic cleaning tank and single rinse tank. When rinsing is not required, the 2nd tank can be a drying tank. This

system is usable when customers do not require a drying operation. The clean/dry tank combination is usable when customers are cleaning steel parts and need a rust preventative.

MTC3 3-tank Cleaning System: The MTC3 includes 3 processing tanks which are usually composed of a single ultrasonic cleaning tank, single rinse tank, and a single drying tank. Other tank arrangements such as single cleaning tank and dual cascade overflow rinse tanks are also available when drying is not required. Since the standard clean/rinse/dry arrangement includes only a single rinse tank, water and detergent spots



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may be present on parts after the process unless a great deal of water is used in the rinse tank to keep detergent levels in check. Not recommended when zero-residue cleaning results are required.

MTC4 4-tank Cleaning System: The MTC4 is the most popular Zenith multi-stage cleaning system and includes 4 processing tanks; a single ultrasonic cleaning tank, dual cascade overflow rinse tanks, and a drying tank. This system is capable of producing zero-residue cleaning results on parts which are lightly contaminated with typical manufacturing residues such as cutting or machining lubricants, coolants, metal chips and fines, and other similar contaminants. Since 2 rinse tanks are included, the amount of water needed to maintain zero-residue cleaning results is greatly reduced.

MTC5 5-tank Cleaning System: The MTC5 is another popular Zenith multi-stage cleaning system that includes 5 tanks. 2 different standard formats are available; clean/clean/rinse 1/rinse 2/dry or clean/rinse 1/rinse 2/rinse 3/dry. The dual cleaning tank system is great when your parts are highly contaminated and need 2 ultrasonic cleaning tanks to ensure that all contaminants are removed or when 2 different cleaning fluids are needed for different parts. The triple-rinse system is for ultra-clean application where zero-residue cleaning results are required and the customer wants to reduce water consumption as much as possible.

Standard MTC and STC Basket Sizes: All of our multi-tank systems are based on the basket sizes rather than tank sizes since the basket size is most important. Tanks are larger to support the basket sizes listed.

MTC1200: 12" x 10" x 10" height

MTC2000: 20" x 12" x 14" height

MTC2400: 24" x 18" x 15" height

MTC3000: 30" x 22" x 18" height

MTC3600: 36" x 24" x 24" height



Economy Multi-tank Systems: When your parts loads are less than 30 pounds and you don't need complex options, the economy multi-tank series might be for you. These systems are manufactured using table-top ultrasonic cleaners which are positioned next to one another to produce a multi-stage cleaning system. Support carts are available to produce a single-piece roll-around design, but multiple power connections are typically required in this series.



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STC Single-tank Consoles:

Single-tank consoles are larger frame-supported ultrasonic cleaning tanks that can support heavier loads than our table-top series, and are available with options not available on the table-top line such as pump drain systems, auto-fill systems, high-capacity agitation systems, load supporting covers, casters, surface sparger bars, and more. Single-tank consoles are available up to 3500 gallons in size.

Custom Ultrasonic Cleaners

Zenith understands that it's standard systems are not always the perfect fit for our customers, and under these conditions the system is customized for a particular use. At other ultrasonic vendors, custom ultrasonic systems drastically increases cost but at Zenith, the cost for a custom system is the same as it would be if it were a standard system. There are no engineering up-charges or additional costs. Zenith will prepare 3D solid model representations after order placement for your review prior to manufacturing, and just about anything can be modified from tank sizes, direction of travel, location of components, reductions in overall dimensions, features included, etc. In fact, a custom system can actually SAVE you thousands of dollars.



Custom ultrasonic equipment has no limitation on design. Tanks can be long and narrow, include any number of processing tanks, and include any feature you wish. We have manufactured custom ultrasonic cleaning equipment to clean items as complex as missile guidance hardware and for more simple cleaning of automotive and aviation components and everything in-between. Automation platforms with over 2000 pound load capacities can be manufactured when overhead cranes are not available and agitation is required to obtain the cleaning results you desire.

Zenith has a long history of manufacturing custom ultrasonic cleaning equipment and stands ready to assist you with your application



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Wire & Strip Cleaning Systems

Ultrasonic Metal Strip Washers

Zenith ultrasonic strip washing systems are used to remove stamping lubricants, metal fines, and other contaminants from continuous lengths of metal strip as they exit a stamping press when formed in a progressive stamping operation, or other payout/take-up operation. Several models are available from our SSS-960 full-length strip washer which includes ultrasonic cleaning & ultrasonic rinsing and our SSS780 which includes spray rinsing and a shorter system length. All systems include Zenith's patented CROSSFIRE Multiple Frequency Ultrasonic system for the ultimate in cleaning performance.



Ultrasonic Wire Cleaning Systems

High speed wire cleaning is a challenging task since the contaminants, usually dry stearate lubricants, are difficult to remove. Zenith's ultrasonic wire cleaning systems are designed to remove these contaminants using biodegradable cleaning agents, and systems are available that can clean wire up to 1000FPM and achieve perfectly clean product. Single and multi-strand systems, with a large selection of options to customize the system to suit your specific needs.



Pre-annealing Wire Cleaning Systems

Our pre-annealing wire cleaning systems are positioned in front of an annealing furnace to remove contaminants from multiple strands of wire before it enters the furnace to prevent contaminants from burning into the surface and destroying the finish while simultaneously reducing or eliminating the need to constantly change the annealing furnace tubes as a result of buildup. Includes a host of options to enhance operation and ease maintenance.





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Available Options for Multi-tank and Single-tank Consoles

Agitation Systems to improve cleaning performance
CROSSFIRE Patented Multi-frequency Ultrasonics
Automatic Fill & Liquid Level Maintenance
Automatic Rinse Water Quality Maintenance
Air-knife Blow-off Systems
Compressed Air Wands for hand blow-off
Surface Spargers to remove oils & particles from liquid.
Oil Skimming Systems to extend detergent life
Oil Coalescing Systems to extend detergent life
Dual-draw Filtration Systems
Instant Hot Water Heaters to heat incoming water
Deionization Systems for zero-residue rinsing results
Pump Drain Systems
Rinse Overflow Drain Systems
PH Neutralization Systems

Right-angle Conveyors for automated systems
Automatic Basket Return Conveyors
Custom baskets & fixtures
Process Area Enclosures & Clean-rooms
Water Vapor Collection for Process Enclosures
Exhaust Systems for Process Enclosures
Fume Hoods & Vents
Liquid Chilling Systems
Basket Rotation Systems
Automatic Drying Tunnels for multi-basket drying
Automatic Ultrasonic Frequency Selection
Allen Bradley PLC & HMI Upgrades for automation
Light Towers & Horns
Spray Over & Under Submersion Systems
Wastewater Evaporators