



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

Single-tank Cleaning Consoles

For Larger-than-table-top Parts Cleaning



Single-tank consoles are defined as frame-mounted ultrasonic cleaning tanks which are typically used for applications which require tanks which are larger and parts being cleaned are heavier than can be satisfactorily cleaned in a table-top ultrasonic cleaning system.

Since these tanks are usually used for the cleaning of larger and/or heavier parts, these systems include the support structure and features which are required to provide for decades of operation without failure. We take no shortcuts in this design. You will find many systems out there that use stainless steel sheet-metal as a main support structure, ultrasonic transducers which are mounted directly to the bottom of the cleaning tank, and filter pumps and systems which are made of plastic and lack the power to effectively filter fluids. You will not find such designs in our systems for a very good reason; an investment such as this should last for decades.

Tank Specifications and Design Features:

- All tanks are manufactured of polished 316L stainless steel and are internally and externally-welded for superior durability in this abusive environment. Tanks which are not welded internally are subject to ultrasonic fracturing of the welds after a few years.
- Tanks include centrally-located externally-welded Flex Support Bands which prevent excessive stress on welded joints and prevent “oil canning” noise when tanks are filled and drained.
- Tanks are supported by the included stainless steel table-top AND from underneath by tubular stainless steel.
- Locking swivel casters are included on most sizes for easy movement of the system to alternative locations.



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Heating Systems:

- Heating systems are composed of a screw-plug immersion heater and is sized to heat tanks quickly.
- 7-day timers are available as optional equipment to pre-heat tanks prior to the arrival of employees while simultaneously shutting the heating system off automatically at the end of the day.
- Liquid level protection switches are included to protect the heating and ultrasonic systems against dry-run operation that would quickly destroy these devices.

Filtration Systems:

- Include dual 20" stainless steel cartridge filter housings on most models. Larger tanks can be equipped with a bag filter housing, or a combination of bag filter housing AND cartridge filter housing.
- Stainless steel pressure gauges are included to indicate when filter cartridges require replacement.
- 1/2HP stainless steel filter pumps for the power needed to filter these larger tanks.
- Plumbing is designed specifically to force settling contaminants towards the filter suction port.
- Zenith's exclusive "Dual-draw Filtration System" is available that filters both the main cleaning tank while simultaneously sweeping the surface of the fluid to remove any floating contaminants which could re-deposit onto the parts when they are removed from the tank.
- Optional oil skimmers to remove floating oils.
- Flexible PVC hose or stainless steel plumbing options



Ultrasonic Systems:

- The single most important feature of any ultrasonic cleaning tank:
- Single-frequency options include 25kHz, 40kHz, 80kHz, 120kHz and 200kHz.
- Optional patented CROSSFIRE Multiple Frequency Ultrasonic Systems are most commonly purchased which include transducers and generators of 2 or more frequencies all of which are activated



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simultaneously to provide the power of low frequencies with the even energy distribution and penetration of higher frequencies (US Patents 5,865,199 and 6,019,852).

- All systems include Zenith's Orion digital ultrasonic generators which feature a multi-function display for amperage, frequency, and other operations, overload indicator, Power Intensity Controller, Automatic Frequency Tracking, and Automatic Load Compensation System.
- Immersible Ultrasonic System Design: Whereas many manufacturers mount their transducers directly to the bottom of the cleaning tank to save cost and increase profits, there are significant negative consequences that are not disclosed. When the ultrasonic system requires servicing, a technician will need to visit your facility or the entire system must be returned to the manufacturer for repair. These costs are not covered under the system warranty. Second, when the radiating surface of the ultrasonic transducers eventually fail due to Cavitation Erosion (also not covered under most warranties) the ENTIRE TANK OR SYSTEM would need to be replaced! This is not the case when immersibles are used. When immersibles fail, they are simply unbolted and replaced. The photo to the right depicts an ultrasonic radiating surface after 5 years of operation. Optional coatings are available to protect these radiating surfaces and drastically extend their lives.
- Internally-mounted Generators prevent the need for support shelving and wiring between the cleaning tank and generator mounting location.



Control Features:

- Circuit breakers, contactors, Programmable Logic Controllers, and other control devices are housed in a NEMA4X control enclosure.
- All switches are industrial-grade for long-term durability. No membrane switches which are subject to wear and breakage are used in Zenith ultrasonic equipment.
- NFPA79 Wiring Standards are used throughout the system.
- Liquid-tight fittings are included wherever the risk exists for liquids to enter wiring paths.



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Optional Equipment

- Intermittent Oscillation Systems: Will drastically improve cleaning results by intermittently moving the parts up and down. This flushes contaminants which are loosened by the ultrasonic system but remains trapped inside of detail or blind hole out into the cleaning fluid while simultaneously protecting parts which are sensitive to ultrasonic attack (such as highly polished or machined aluminum) from being damaged. In addition, our Advantage Oscillation Systems (patent pending) support the basket from overhead rather than underneath to eliminate the energy loss encountered by the submerged agitation rack. This leads to a 200-500% improvement in the amount of ultrasonic scrubbing force which is dedicated to cleaning parts.
- Pump Drain Systems: To evacuate the contents of the ultrasonic cleaning tank to an overhead or distant location of choice.
- Cavitation Erosion Coatings: To prevent cavitation erosion and significantly extend the life of the immersible ultrasonic transducer packs.
- CROSSFIRE Multiple Frequency Ultrasonics: No other system compares to CROSSFIRE, and is chosen over 95% of the time by our customers after ultrasonic testing of their product.
- Oil Skimming Systems and Dual-draw Filtration
- Automatic Liquid Level Maintenance Systems: Add water automatically when liquid levels in the tank are too low.



Standard Sizes:

- STC-2000: 20" x 12" x 14" tall basket size
- STC2400" 24" x 18" x 15" tall basket size
- STC-3600: 36" x 24" x 18" tall basket size
- STC-4800: 48" x 36" x 24" tall basket size
- ANY SIZE can be manufactured as custom equipment, and we do not charge higher prices for custom designs.

For more information regarding the single-tank console, or any other Zenith product, contact us directly for a quotation or applications assistance.