



TORONTECH

ULTRASONIC PARTS CLEANER



Ultrasonic Parts Cleaner - ToronUC™ SP Series

ToronUC™ SP Series Ultrasonic Parts Cleaner is a rugged, versatile benchtop ultrasonic cleaning system designed for automotive service shops, maintenance and repair operations (MRO), industrial manufacturing facilities, and technical service environments requiring reliable, high-throughput cleaning of mechanical spare parts, assemblies, and precision components.

The SP Series features both Normal and Soft ultrasonic power modes, enabling the same unit to serve as a high-power industrial ultrasonic parts cleaner for automotive components — including ultrasonic carburetor cleaner applications, injector cleaning, and degreasing of gears, bearings, and sprockets — and as a gentler cleaning platform for more sensitive precision parts. The combination of knob-based mechanical controls for timer and temperature with an innovative thermostat sensor creates a thermally accurate, operator-simple cleaning environment.

Available in seven tank sizes from 2L to 27L and featuring an on/off power switch on the rear panel for double electrical safety protection, the ToronUC™ SP Series is the go-to ultrasonic cleaner for spare parts and MRO cleaning applications across the North American automotive, aerospace, heavy equipment, and industrial manufacturing markets.

40 kHz FREQUENCY	2-27 L VOLUME	500 W MAX US POWER	20-80°C TEMP. RANGE	2 Modes NORMAL + SOFT
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APPLICATIONS

Ultrasonic Parts Cleaner - ToronUC™ SP Series Applications

The ToronUC™ SP Series Ultrasonic Parts Cleaner is designed for the following professional and industrial cleaning use cases:

- Automotive Spare Parts: The benchmark ultrasonic carburetor cleaner and fuel system cleaning platform — removes varnish, fuel gum, corrosion, and carbon deposits from carburetors, fuel injectors, throttle plates, EGR valves, and fuel rails. Also cleans gears, sprockets, chains, bearings, and transmission components.
- MRO & Industrial Parts: Functions as a heavy-duty industrial ultrasonic cleaner for maintenance, repair, and overhaul facilities processing metal stampings, castings, machined components, hydraulic valve bodies, and pneumatic fittings coated in cutting oils, greases, and industrial soils.
- Watch & Clock Mechanisms: Cleans watch movements, gears, springs, jewels, and escapements prior to reassembly — removing oil oxidation products, dust contamination, and assembly debris with the gentle Soft power mode.
- Jewelry & Silverware: Serves as a professional ultrasonic jewelry cleaner and ultrasonic cleaner jewelry polisher for production jewelers, removing polishing compounds, plating pre-treatment soils, and residues from high-volume jewelry manufacturing batches.
- Dental & Medical Tools: Provides pre-sterilization ultrasonic dental cleaner capability for dental instruments, burs, endodontic files, and prosthetic components. Normal mode for bulk instrument cleaning; Soft mode for delicate or ceramic-coated instruments.
- Electronic Assemblies: Removes flux residues, conformal coating residues, and process contamination from assembled PCBs, wire harnesses, and precision electronic sub-assemblies using Soft power mode and compatible aqueous cleaning chemistry.



FEATURES

Ultrasonic Parts Cleaner - ToronUC™ SP Series Key Features

Beautiful & Practical Basket



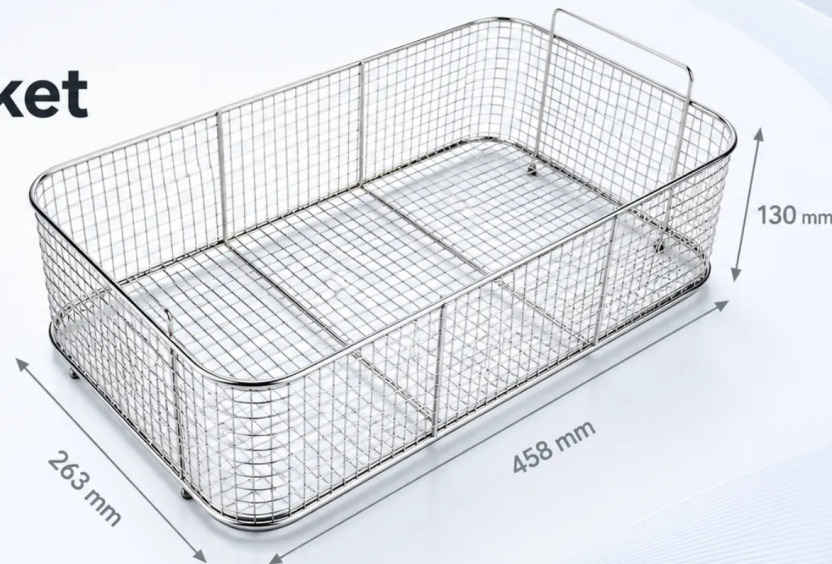
Smooth Edge

Carefully rounded edges for safe and comfortable use.



Bearing without Deformation

Sturdy stainless steel construction offers strong load-bearing capacity.



- Normal & Soft Ultrasonic Power: Two selectable power modes allow the operator to choose between maximum cavitation intensity for high-soil industrial ultrasonic parts cleaner applications and reduced-intensity Soft mode for delicate or sensitive parts requiring gentler ultrasonic cleaning.
- One-Button Rear Power Switch: A dedicated power switch on the rear panel provides a second layer of electrical safety, ensuring the unit is fully de-energized when not in use. This double-safety design exceeds standard benchtop appliance safety requirements.

- **Innovative Thermostat Sensor:** The integrated thermostat sensor provides accurate feedback-controlled temperature regulation, maintaining the bath within the programmed temperature band and improving cleaning consistency across varying ambient conditions.
- **0–30 Minute Mechanical Timer:** Mechanical knob timer provides intuitive, fast-setting time control from 0 to 30 minutes, suitable for the majority of spare parts and general industrial ultrasonic cleaning cycles.
- **20–80°C Temperature Control:** Wide heating range from 20°C to 80°C supports both room-temperature ultrasonic cleaning and elevated-temperature solvent acceleration for removal of heavy industrial soils and greases.
- **Stainless Steel Throughout:** Tank and external panels are constructed from 304 stainless steel, providing chemical resistance to industrial cleaning solvents, alkaline degreasers, and acidic descaling solutions commonly used in industrial ultrasonic cleaning.
- **Seven Tank Sizes:** The 2L to 27L model range allows matched selection for every application — from compact bench-top spare parts cleaning to large-batch automotive components processing in workshop environments.
- **Drainage & Fan (6L+):** Available drainage tap and cooling fan on 6L and larger models enable in-place solution change and prevent thermal overload during sustained production-volume ultrasonic cleaning operation.

THEORY & METHOD

Theory & Ultrasonic Cleaning Method

Ultrasonic cleaning is based on the physical phenomenon of acoustic cavitation. When high-frequency sound waves typically 40 kHz are transmitted through a liquid cleaning solution, they generate millions of microscopic vacuum bubbles that form and violently implode at rates corresponding to the ultrasonic frequency. Each implosion releases an intense local jet of energy reaching temperatures of several thousand degrees Celsius and pressures exceeding 500 atmospheres but only at a microscopic scale, ensuring the parts being cleaned are unaffected by thermal or mechanical shock.

This cavitation process is the core mechanism of all ultrasonic cleaning. The energy released by each collapsing bubble penetrates into surface pores, blind holes, threads, crevices, and complex geometries that brushes, sprays, and manual

wiping methods simply cannot reach. Contaminants including oils, greases, flux residues, machining chips, polishing compounds, biological debris, fingerprints, and corrosion products are dislodged from the substrate surface and dispersed into the cleaning solution, leaving a thoroughly clean part surface in a fraction of the time required by conventional methods.

The heating function complements cavitation by reducing the viscosity of oily contaminants, improving the solubility of cleaning chemistry, and accelerating the overall cleaning reaction. The degas function (where available) purges dissolved gases from the cleaning solution during the initial warm-up phase, improving cavitation intensity and ensuring optimal ultrasonic cleaning performance from the first cycle.

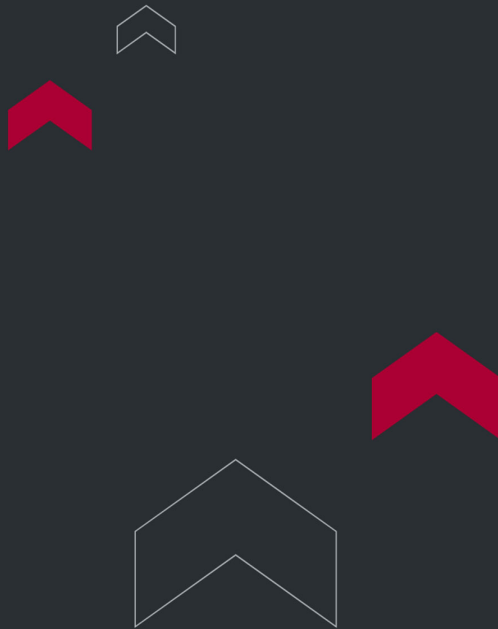
Ultrasonic Cleaning Process Steps

- 1. Solution Preparation** — Fill the tank with an appropriate water-based cleaning solution or solvent compatible with the parts being cleaned. Add recommended cleaning chemistry at the manufacturer-specified dilution ratio.
- 2. Pre-Heat (if required)** — Activate the heating function and set the target temperature. Allow the bath to stabilize before loading parts to ensure consistent cavitation intensity.
- 3. Degas (if available)** — Run the degas cycle to purge dissolved gases from the cleaning solution, maximizing cavitation efficiency and cleaning effectiveness from the first production run.
- 4. Load & Run** — Submerge parts in the basket or cleaning cradle, ensuring all surfaces are exposed to the cleaning solution. Set the timer and activate the ultrasonic transducers.
- 5. Rinse & Dry** — Remove parts and rinse with clean water to remove residual cleaning chemistry and loosened contaminants. Dry with compressed air or a clean cloth as appropriate.

TECHNICAL SPECIFICATIONS

Ultrasonic Parts Cleaner - ToronUC™ SP Series Technical Specifications

Model	Tank Size L×W×H (mm)	Unit Size L×W×H (mm)	Volume (L)	US Power (W)	Freq. (kHz)	Heating Power (W)	Timer (min)	Temp. (°C)
ToronUC™ 50SP	150×140×100	190×170×220	2	50	40	100	0-30	20-80
ToronUC™ 100SP	240×140×100	270×170×240	3	100	40	100	0-30	20-80
ToronUC™ 150SP	300×155×150	330×180×310	6	150	40	300	0-30	20-80
ToronUC™ 200SP	300×240×150	330×270×310	9	200	40	300	0-30	20-80
ToronUC™ 300SP	330×300×150	360×330×310	13	300	40	400	0-30	20-80
ToronUC™ 400SP	500×300×150	550×330×310	20	400	40	500	0-30	20-80
ToronUC™ 500SP	500×300×200	550×330×360	27	500	40	500	0-30	20-80



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