

ULTRASONIC CLEANER - ULTRASONIC BATH



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Complete Ultrasonic Cleaning Solutions for Petrochemical, Industrial & Professional Laboratories

Torontech's Ultrasonic Cleaner category is the most comprehensive ultrasonic cleaning lineup available from a single American supplier. Ten product series — spanning 0.7-liter compact countertop units through 288-liter heavy-duty industrial platforms — address every scale and type of ultrasonic cleaning requirement: from professional jewelry and dental instrument processing through large-scale petrochemical equipment decontamination, engine overhaul, and production-line industrial parts cleaning.

Ultrasonic cleaning, also referred to as ultrasonicator cleaning, operates on the principle of acoustic cavitation. When a high-frequency electrical signal (28 kHz or 40 kHz) is applied to piezoelectric transducers bonded to a stainless steel tank, the transducers convert the signal into mechanical vibration. These vibrations propagate through the liquid cleaning medium as pressure waves, alternately compressing and expanding the fluid millions of times per second. During expansion phases, microscopic vacuum bubbles nucleate in the liquid; during compression, these cavitation bubbles collapse with tremendous localized energy — releasing shockwaves, micro-jets, and heat in a zone far too small to damage the substrate, but energetic enough to dislodge any surface contamination, including oils, greases, scales, carbon deposits, biological debris, flux residues, and polishing compounds.

Every series in the ToronUC™ lineup is constructed from SUS304 stainless steel, validated to international electrical safety standards, and configured with the specific combination of power control, temperature range, frequency, and operational features required by its target application. From the touch-panel ToronUC™ SS Series for optical and jewelry retail through the 288-liter E Series for heavy industrial production, every ToronUC™ Ultrasonic Cleaner delivers reliable cavitation, precise control, and consistent results cycle after cycle.

The ToronUC™ Range at a Glance

Ten product series covering the complete spectrum of professional and industrial ultrasonic cleaning applications:

Benchtop & Professional Series (7 Series)	Industrial Series (3 Series)
• ToronUC™ SS Series — Stainless Steel Touch-Panel (2-9 L, 40 kHz) • ToronUC™ D Series — Dental & Medical (2-27 L, Degas + LED + Memory) • ToronUC™ C Series — Anti-Corrosion Variable Power (2-27 L, 30-100%) • ToronUC™ SP Series — Spare Part / Normal+Soft (2-27 L) • ToronUC™ S Series — Small Digital Full-SS (1.3-27 L) • ToronUC™ M Series — Manual Knob-Control OEM (0.7-27 L) • ToronUC™ DG Series — Digital + Sound-Proof Lid (2-27 L)	• ToronUC™ H Series — Heated Industrial (13 & 36 L, 28/40 kHz, 0-100%) • ToronUC™ I Series — Efficient Heavy-Duty (53-288 L, 28/40 kHz, 30-110°C) • ToronUC™ J Series — Jewelry Production / Sweep (40-206 L, 16-Level Power)

Ultrasonic Frequency — Choosing 28 kHz vs. 40 kHz

The operating frequency directly determines the character and intensity of cavitation. The ToronUC™ benchtop series operate at 40 kHz, producing a fine, dense cavitation field ideal for precision parts, jewelry, dental instruments, optical components, and laboratory glassware where surface finish must be preserved. The industrial H, E, and J Series offer a choice of 28 kHz or 40 kHz: 28 kHz generates larger, more energetic bubbles suited to heavy-duty degreasing, engine component cleaning, and scale removal from robust metal parts; 40 kHz provides precise surface action for production jewelry, dental central sterilization, and mixed industrial loads. Having both frequencies available in a single platform eliminates the need for separate machines for different cleaning tasks.

Applications

The ToronUC™ Ultrasonic Cleaner lineup is widely deployed across the full petroleum and petrochemical value chain — from upstream exploration and production facilities through downstream refinery operations, fuel distribution, and natural gas processing — as well as in the adjacent industrial sectors of automotive manufacturing, aerospace maintenance, metalworking, precious metals production, dental and medical device reprocessing, and analytical laboratory operations. The following sections outline the primary application environments.

- Petrochemical Refinery: Cleans heat exchanger tube bundles, orifice plates, flow meters, thermocouple assemblies, valve internals, and small process instrument components contaminated with crude oil residues, hydrocarbon wax,

coke deposits, and inorganic scale. Ultrasonic cleaning penetrates complex internal geometries — cooling channels, heat exchanger tubes, valve seat profiles — inaccessible to pressure washing, restoring full heat transfer and flow performance without disassembly damage.

- **Fuel System Service:** The benchmark Ultrasonic Cleaner application for petroleum-powered vehicle and equipment service — removing varnish deposits, fuel gum, carbon buildup, and corrosion from carburetors, fuel injectors, throttle bodies, pressure regulators, fuel rails, and EGR valves. The 28 kHz industrial H and E Series are preferred for high-throughput fuel system cleaning in automotive dealerships, engine rebuilding shops, and fleet maintenance facilities.
- **Lubrication System Parts:** Cleans oil filters, lube oil coolers, pump housings, valve bodies, and bearing housings from compressors, turbines, and rotating machinery at petroleum production and refining facilities. Removes sludge, oxidized lubricant residues, and metallic wear particles from complex internal oil galleries and passages without further mechanical disassembly.
- **Pipeline & Valve Maintenance:** Decontaminates check valves, control valves, safety relief valves, instrumentation block valves, and pipeline sampling system components removed from service in hydrocarbon pipelines and compression stations. Removes scale, corrosion products, hydrocarbon residues, and thread sealants from precision valve seats, trim, and actuator components prior to inspection and recertification.
- **Petrochemical Laboratory:** Provides analytically clean surfaces for ASTM test apparatus, chromatography glassware, sample containers, pipettes, analytical vessel sets, and laboratory instruments used in petroleum quality control labs, refinery process control labs, and petrochemical R&D facilities. Removes hydrocarbon residues, catalyst fines, and reagent contamination that compromise analytical accuracy.
- **Offshore & Marine Equipment:** Cleans electrical connectors, subsea instrument housings, ROV components, marine engine parts, deck hardware, and navigation equipment used in offshore petroleum production operations. The SUS304 stainless steel construction and compatibility with marine-grade cleaning chemistry make ToronUC™ units appropriate for offshore platform and FPSO maintenance environments.
- **Natural Gas Processing:** Cleans gas meter internals, pressure regulators, control valve trim, gas chromatograph sample handling components, dehydration unit parts, and amine system heat exchanger sections contaminated with glycol carryover, compressor oil, hydrocarbon liquids, and iron sulfide in natural gas gathering, processing, and distribution facilities.
- **Industrial Manufacturing & MRO:** Provides production-scale ultrasonic parts cleaning for automotive OEM production lines, aerospace maintenance operations, metalworking facilities, and industrial MRO departments. Removes machining

fluids, stamping oils, grinding compounds, phosphate coatings, rust inhibitors, and assembly lubricants from parts batches at throughput rates and cleanliness levels unachievable by spray washers or manual methods.

Series Selection Guide by Petrochemical Application

The following cross-reference identifies the recommended ToronUC™ Ultrasonic Cleaner series for common petrochemical and industrial cleaning tasks:

Application	Recommended Series	Key Reason
Fuel injectors & carburetors	ToronUC™ H Series, ToronUC™ I Series (28 kHz)	28 kHz maximum cavitation removes varnish and gum from blind passages in fuel system components
Petroleum laboratory glassware	ToronUC™ D Series, ToronUC™ S Series	Degas function + 0–80°C, gentle 40 kHz for analytically clean vessels and instruments
Valve internals & small precision parts	ToronUC™ C Series, ToronUC™ SP Series	Variable power + welding-free corrosion-resistant tank handles varied part sizes and chemistry
Heat exchanger tube bundles	ToronUC™ I Series (large tanks)	53–288 L tanks accommodate bundles; 110°C heating for scale and fouling removal
Precision instruments & sensors	ToronUC™ D Series, ToronUC™ DG Series	Degas + memory + 40 kHz gentle cavitation for delicate analytical and process sensors
Large petroleum equipment assemblies	ToronUC™ I Series, ToronUC™ J Series	High volume + continuous operation + caster mobility for heavy industrial cleaning batches
Offshore / corrosion-prone environments	ToronUC™ C Series, ToronUC™ H Series	Welding-free stamped tank + 2mm SUS304 + acid and alkali resistance for marine duty
Production-volume mixed parts batches	ToronUC™ J Series (Sweep function)	Sweep eliminates dead zones, ensuring uniform cavitation across complex full-tank batch loads
Retail / counter-top service	ToronUC™ SS Series, ToronUC™ M Series	Compact footprint, fast cycle, low maintenance for optical, jewelry, and dental counters

Application	Recommended Series	Key Reason
OEM / reseller supply programs	ToronUC™ M Series	Mechanical simplicity, low cost, fast delivery, and OEM-ready configuration for bulk supply

Product Series Comparison

The table below compares all ten ToronUC™ Ultrasonic Cleaner series across key specification parameters to support selection of the optimal series for any application:

Series	Name	Volume	Freq. (kHz)	Power Control	Temp.	Key Feature	Best For
ToronUC™ SS	Stainless Steel	2-9 L	40	Fixed	30-80°C	Mirror-finish touch panel <150ms	Jewelry · Optical · Lab
ToronUC™ D	Dental	2-27 L	40	Normal + Soft	0-80°C	Degas + LED + Power-off Memory	Dental · Medical · Lab
ToronUC™ C	Anti-Corrosion	2-27 L	40	30-100% variable	20-80°C	Welding-free stamped tank	Industrial · Automotive · Optical
ToronUC™ SP	Spare Part	2-27 L	40	Normal + Soft	20-80°C	Rear safety switch + thermostat	MRO · Automotive · Parts
ToronUC™ S	Small Digital	1.3-27 L	40	Fixed	0-80°C	Full SS · widest size range	Counter · Lab · Jewelry
ToronUC™ M	Manual	0.7-27 L	40	Fixed (knob)	20-80°C	Mechanical knob · OEM-ready	Retail · Optical · Automotive
ToronUC™ DG	Digital	2-27 L	40	Fixed	20-80°C	Sound-proof lid + Degas + Memory	Dental · Retail · Jewelry
ToronUC™ H	Heated Industrial	13 & 36 L	28/40	0-100% + 24h	20-80°C	2mm SUS304 + improved PCB	Automotive · Dental · Industrial
ToronUC™ E	Efficient Industrial	53-288 L	28/40	0-100% + cont.	30-110°C	Moisture-proof PCB · Wheels · Custom	Engine overhaul · Heavy industry
ToronUC™ J	Jewelry Industrial	40-206 L	28/40	16-level 0-100%	30-110°C	Sweep function · °C/°F display	Jewelry mfg · Plating · Automotive

All ToronUC™ series are constructed from SUS304 stainless steel and comply with IEC 60335-1, CE Marking, RoHS, and FCC Part 15 electrical safety and EMC standards for US and Canadian market deployment.

Product Lineup

The ToronUC™ Ultrasonic Cleaner family comprises ten series, covering benchtop professional applications through large-scale industrial production cleaning. Each series card below summarizes the platform’s key specifications, standout features, and optimal deployment environments.

Benchtop & Professional Series

SS Series ToronUC™ Best For: Jewelry · Optical · Dental · Lab	Stainless Steel Ultrasonic Cleaner — ToronUC™ SS Series 2L – 9L · 40kHz · 30–80°C · Touch Panel → Titanium-black mirror-finish SUS304 exterior — fingerprint-resistant and scratch-resistant → Advanced plexiglass smart touch panel with ultra-fast <150 ms response time → Industrial PCB with vibration-resistant component mounting for transportation durability → Ceramic heating element; 1–99 min programmable digital timer → Available in 2L, 3L, 6L, and 9L tank capacities
D Series ToronUC™ Best For: Dental · Medical · Lab · Jewelry	Dental Ultrasonic Cleaner — ToronUC™ D Series 2L – 27L · 40kHz · 0–80°C · Degas + LED → Dedicated degas function purges dissolved gases for maximum cavitation intensity from cycle one → LED digital display shows real-time temperature and timer simultaneously → Power-off memory function automatically restores last-used settings on startup → Normal and Soft power modes eliminate cleaning blind spots on sensitive instruments → Seven tank sizes from 2L to 27L; 1–99 min timer

C Series ToronUC™ Best For: Industrial · Automotive · Optical · Lab	Corrosion Resistance Ultrasonic Cleaner — ToronUC™ C Series 2L – 27L · 40kHz · 20–80°C · 30–100% Power → Continuously adjustable ultrasonic power from 30% to 100% of rated output → Stamped welding-free tank construction for maximum corrosion resistance and watertight integrity → Ceramic heaters; integrated drainage valve and cooling fan on 6L and above models → Special internal cooling system maintains stable component operating temperatures → Seven sizes 2L–27L; robust mechanical knob control for industrial environments
SP Series ToronUC™ Best For: MRO · Automotive · Spare Parts · Jewelry	Ultrasonic Parts Cleaner — ToronUC™ SP Series 2L – 27L · 40kHz · 20–80°C · Normal + Soft → Selectable Normal and Soft ultrasonic power modes for full-range substrate compatibility → Rear-panel one-button power switch provides a second layer of electrical safety → Innovative thermostat sensor ensures accurate feedback-controlled temperature regulation → Seven tank sizes from 2L to 27L; 0–30 min mechanical timer → Drainage tap and cooling fan standard on 6L and larger models
S Series ToronUC™ Best For: Counter · Lab · Jewelry · Glasses · Parts	Compact Ultrasonic Cleaner — ToronUC™ S Series 1.3L – 27L · 40kHz · 0–80°C · Full SS → Widest capacity range in the ToronUC™ family: nine models from 1.3L to 27L → Complete 304 stainless steel construction throughout — case, inner tank, and basket → LED digital display for temperature and timer; ceramic heating elements → Ergonomic side handles and skid-proof rubber feet; drainage + fan on 6L+ models → 1–99 min digital timer; OEM-ready fast-delivery program
M Series ToronUC™ Best For: Retail · Optical · Automotive · OEM Supply	Manual Ultrasonic Cleaner — ToronUC™ M Series 0.7L – 27L · 40kHz · 20–80°C · Mechanical Knob → Mechanical knob controls for timer and heater — direct, reliable, no-circuit-board-dependent → Broadest model range: ten sizes from ultra-compact 0.7L through full-scale 27L → Full 304 stainless steel construction; ceramic heaters on heated models → Drainage valve and cooling fan on 6L and above models; skid-proof rubber feet → OEM fast-delivery program for resellers, integrators, and volume buyers

DG Series ToronUC™ Best For: Dental · Retail · Jewelry · Lab · Industrial	Digital Ultrasonic Cleaner — ToronUC™ DG Series 2L – 27L · 40kHz · 20–80°C · Sound-Proof Lid → Sound-proof lid with SUS304 stainless steel basket included as standard — reduces operating noise → Degas function maximizes cavitation efficiency from the first cleaning cycle → Power-off memory function eliminates repetitive reprogramming in busy environments → LED dual display for simultaneous real-time temperature and timer monitoring → Seven tank sizes 2L–27L; drain tap and fan on 6L+ models
Industrial Series	
H Series ToronUC™ Best For: Automotive · Dental · Industrial · Jewelry	Heated Ultrasonic Cleaner — ToronUC™ H Series 13L & 36L · 28/40kHz · 20–80°C · 0–100% Power → Dual frequency: 28 kHz (heavy industrial) or 40 kHz (precision) — A/B variants → 0–100% continuously adjustable ultrasonic power output → 0–30 min programmable timer or 24-hour continuous operation mode → 2mm SUS304 acid-proof tank with improved industrial PCB design → Stronger and more uniform ultrasonic wave distribution across the full tank volume
E Series ToronUC™ Best For: Engine Overhaul · Aerospace · Heavy Industry · Mfg	Industrial Ultrasonic Cleaner — ToronUC™ I Series 53L – 288L · 28/40kHz · 30–110°C · Up to 3000W → Six high-volume tanks from 53L to 288L; ultrasonic power up to 3000 W → 30–110°C extended heating for hot-alkaline and high-temperature industrial processes → Industrial-grade moisture-proof PCB; heavy-duty caster wheels on all models → Stainless steel lid and SUS304 basket included; full customization available → 0–60 min timer + continuous operation; 2mm SUS304 full-machine construction
J Series ToronUC™ Best For: Jewelry Mfg · Plating · Automotive · Industrial	Ultrasonic Jewelry Cleaner — ToronUC™ J Series 40L – 206L · 28/40kHz · 30–110°C · Sweep Function → Sweep function continuously modulates frequency to eliminate standing-wave dead zones → 16-level 0–100% power adjustment; industrial-grade IC control system → 30–110°C with Celsius or Fahrenheit display — convenient for North American operators → 2mm SUS304 acid and alkali-proof tank; caster wheels; lid and SUS304 basket included → Six tank sizes from 40L to 206L; 0–60 min timer + continuous working

Why Choose Torontech for Ultrasonic Cleaners

Torontech is a North American analytical and industrial instrument specialist with deep domain expertise in petroleum, petrochemical, and laboratory equipment. Selecting Torontech as your Ultrasonic Cleaner supplier delivers advantages that extend well beyond instrument hardware — it means partnering with a team that understands your application, your compliance requirements, and your operational environment.

10 Most Complete Lineup — 10 Series, One Supplier	Ten series covering 0.7L to 288L, 40 kHz benchtop through 28/40 kHz industrial, mechanical knob through sweep-function digital LED — every ToronUC™ Ultrasonic Cleaner variant from a single source. Eliminating multi-supplier procurement reduces complexity, aligns service contracts, and ensures consistent product quality across your entire cleaning infrastructure from laboratory bench to production floor.
OIL Petrochemical & Industrial Domain Expertise	Torontech's application team specializes in petroleum and petrochemical equipment. We understand the specific challenges of hydrocarbon varnish removal, scale and sulfide deposit cleaning from refinery instrumentation, chemical compatibility requirements for Ultrasonic Cleaners used with petroleum-based solvents and alkaline degreasers, and the temperature and material requirements of offshore and refinery environments. This expertise is embedded in every series recommendation and application support conversation.
STD Full International Standards Compliance	All ToronUC™ series comply with IEC 60335-1 (electrical safety), IEC 60335-2-45 (heated appliances), CE Marking (EU LVD and EMC directives), RoHS Directive (hazardous substance restrictions), FCC Part 15 (US RF interference), and ISO 9001 (quality management). UL and CSA compliance is targeted for North American market deployment. Full compliance documentation is available for every series to support laboratory quality audits and procurement qualification processes.
SUS SUS304 Stainless Steel Throughout	Every series in the ToronUC™ lineup from the 0.7L M Series to the 288L E Series is built from SUS304 stainless steel, the same material grade specified for petroleum process equipment, food processing, pharmaceutical manufacturing, and laboratory environments. This ensures long-term chemical compatibility with the acidic, alkaline, solvent-based, and aqueous cleaning chemistries used in petrochemical and industrial ultrasonic cleaning applications.

NA North American Sales, Service & Support	Torontech provides sales, technical support, application engineering, and spare parts supply across the United States and Canada. Domestic distribution eliminates the import lead times, customs delays, and post-sale support gaps associated with direct overseas procurement — critical for maintaining laboratory accreditation, instrument calibration schedules, and production uptime in refinery and industrial plant environments.
FIT Right-Sized Solution for Every Application	With ten series and a combined model range spanning 0.7L to 288L, the ToronUC™ family always provides a correctly sized Ultrasonic Cleaner for the task. Over-sizing wastes cleaning chemistry and energy; under-sizing compromises cleaning quality and throughput. Torontech's application-matching process by series, volume, frequency, power control, and temperature range identifies the optimal model for each specific use case.
VAL Performance-to-Value Leadership	Torontech delivers laboratory-grade and industrial-grade ultrasonic cleaning performance at pricing that reflects a direct-to-customer supply model — eliminating distributor margins embedded in major-brand pricing. Laboratories and facilities across North America gain access to instruments meeting or exceeding the specifications of premium multinational brands at a significantly lower total cost of ownership, including instrument acquisition, cleaning chemistry, and ongoing service.
OEM Custom & OEM Programs Available	The industrial E and J Series support customer-specified customization of tank dimensions, transducer arrays, power and heating configurations, and control interfaces for integration into automated wash systems and production line deployments. The M Series is purpose-optimized for OEM and reseller supply programs. Torontech supports volume purchase agreements, private-label programs, and integrated equipment projects for petrochemical plant builders and industrial OEM equipment manufacturers.

Torontech's ToronUC™ Ultrasonic Cleaner lineup delivers the complete North American solution for petrochemical, industrial, and professional laboratory ultrasonic cleaning — from 0.7L countertop to 288L plant-scale, backed by application domain expertise, international standards compliance, and dedicated domestic support.



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