



CREST
ULTRASONICS
THE INNOVATION CONSTANT™

AUTOMATED AQUEOUS & SEMI-AQUEOUS PRECISION CLEANING SYSTEMS The Power of Ultrasonics

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PRECISION CLEANING SYSTEMS (PCS) Tailor Made For Your Needs...

Custom Automated Cleaning Systems

Crest Ultrasonics provides custom automated cleaning systems for a wide range of industrial precision cleaning applications including microelectronics, pharmaceutical and precision optics to name a few. Custom designed to meet your exact cleaning requirements.



Making cleaning systems that work better, faster, safer, more efficiently and effectively is a challenge Crest has met over and over.

Crest is uniquely qualified to offer you a choice of customized automated precision cleaning systems to meet your exact cleaning requirements. The systems are unequalled in their capacity to handle high volume production and, if required, can meet Class 10 or 100 clean room standards (Class 10 or 100 cleanroom on site).

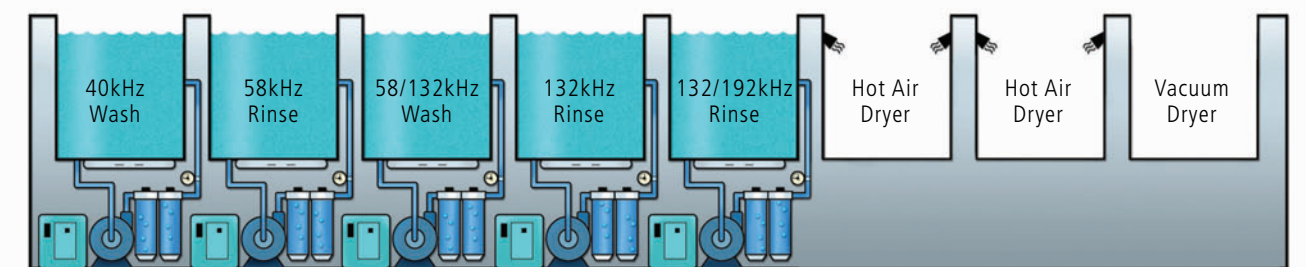
We also provide an outstanding level of service. Crest Design & Development teams will examine your requirements, evaluate your cleaning needs, design the system, test it, supervise its installation, and ensure that the process that worked in the lab works in full scale production.

At Crest, we're not only dedicated to developing innovative cleaning systems, but also to creating safe environmentally sound ones as well. It's the kind of commitment that you expect and get from the leader in the custom automated precision cleaning systems.



Let us design your submicron cleaning system around our family of patented ceramically enhanced ultrasonics unmatched by any other cleaning technology.

Progressive high-frequency ultrasonic cleaning systems are proving extremely effective in submicron particle removal. Below is a sample of an eight-station cleaning system:



Drying stations, automation, and environmental enclosures can be added as needed.
Class 10 or 100 cleanroom on site.

RIGIBOT™ SYSTEMS

Versatility, Ease of Operation, Consistency, Affordability

RIGIBOT™ are Crest's line of proprietary robots designed to provide outstanding flexibility and versatility in multiprocess applications. Essentially, RIGIBOTS™ are a "pick and place" system that offers you the ability to use them for a wide variety of different processes with only simple programming changes. RIGIBOTS™ are available in three sizes to meet specific load capacity requirements. And, they are available with a variety of options for maximum efficiency to meet your special requirements.

RIGIBOTS™ Automation Systems can reduce or eliminate the need for operator handling, providing a safer work environment. Automation also improves process consistency and efficiency.

PC/PLC controlled two-axis Automation system with user-friendly graphical color touch screen operator interface can be field-mounted to existing cleaning benches or supplied with new systems. The PC/PLC controls all process parameters and functions, tracks work through multiple process programs and can provide critical process data for offline analysis.

The Rigibot™ CTS-250

The CTS-250 has a 25lb (including Basket & Rigibot Arm) lifting capacity and is clean room compatible.

Clean room compatible belt drive and precision bearings.

Counter-top mounted, small footprint.

Features and Benefits

- Crash Protection
- Field Installable
- PC/PLC Controlled
- Graphical Color Touch Screen Interface
- Counter-top mounted, small footprint



The Rigibot™ CTS-1000

The CTS-1000 designed for a heavy capabilities and has a 100lb (including Basket & Rigibot Arm) lifting capacity and is clean room compatible.

Clean room compatible ball screw and precision bearings.



Multiple Rigibot

Features and Benefits

- Crash Protection
- Field Installable
- PC/PLC Controlled
- Graphical Color Touch Screen Interface
- Multiprocessor operator, easily programmed via keypad/Touch Screen for multifunction processes.
- System run multiple programs simultaneously-resulting in high throughput and programming versatility.
- Accuracy in placement and high reliability.

The Rigibot™ CTS-2000i

The CTS-2000i designed for a heavy capabilities and has a 200lb (including Basket & Rigibot Arm) lifting capacity and is clean room compatible.

Features and Benefits

- Crash Protection
- Field Installable
- PC/PLC Controlled
- Graphical Color Touch Screen Interface
- Multiprocessor operator, easily programmed via keypad/Touch Screen for multifunction processes.
- System run multiple programs simultaneously-resulting in high throughput and programming versatility.
- Accuracy in placement and high reliability.
- Upgrades such as the highest load capacity in the industry.
- Increasing processing speed.
- Smaller footprint.
- Several new control options.
- Full protected control of process and system parameters.
- Field retrofitted to any existing system.

CTS Series Automated Cantilever Transport

Features and Benefits

CTS Series Automated Cantilever Transport System (optional) is rugged and reliable. Custom Fixture Baskets configured for ideal cleaning of intricate parts.



Mass Transfer



Ladder Mass Transfer

Load Station (optional) with basket sensors to automatically activate transport and process cycle.

Tanks are constructed of 316L stainless steel. Genesis Generators patented constant power provides TRU-SWEEP™ sweep frequency cleaning action. Available in 25, 40, 58, 132 and 192 kHz frequencies, designed for specific cleaning applications.

Ultrasonic Wash provides high intensity heated ultrasonic wash. Filtered recirculation with overflow air weir removes oil and particulate contaminants.

Heated Ultrasonic Rinse provides a two stage reverse flow cascade rinse with spray-over immersion, conserving space and water usage. Maximizes rinses for spot-free drying.

Operator Controls designed for easy operator use. Includes electronically timed ultrasonics, P.I.D. temperature controllers and illuminated indicator switches.

Sliding Drying Cover with optional automatic activation.

Electrical Box conveniently located for easy access.

High Efficiency Recirculating Hot Air Dryer has unique updraft air flow to dry parts quickly. Compressed air blow off allows for speed and efficiency.

Transportation Features

- Single Rigibot
- Multiple Rigibot
- Rigibot with Multiple Arms
- Mass Transfer
- Ladder Mass Transfer

THE OPTIMUM CONSOLE™

Aqueous & Semi-Aqueous Precision Cleaning System



The Optimum Console™

is a versatile ultrasonic precision cleaning system designed to clean a wide variety of industrial components. It is available in aqueous or semi-aqueous process models to solve today's high-tech cleaning challenges. Engineered with a compact, space-saving design and rugged, stainless steel tubular frame, the Optimum Console™ is a cost-effective solution to industrial cleaning applications. It offers the convenience of an all-in-one, wash-rinse-dry design with a single point facility connection for easy installation. It's a user-friendly, manually operated console available with automation upon purchase or to be added at a later date.

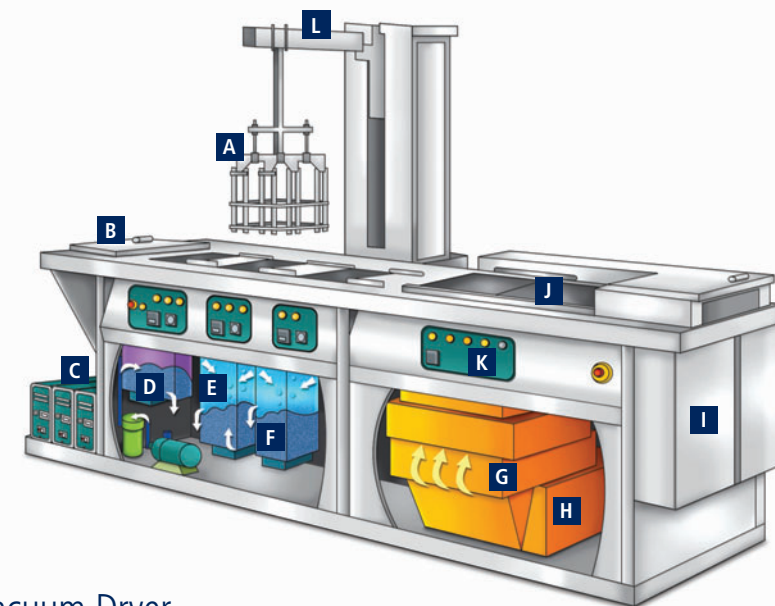
SYSTEMS CONFIGURATIONS

Available in 3, 4 or 5 station designs. Standard tank sizes range from 10" (25.4 cm) W x 14" (35.6 cm) L x 10" (25.4 cm) D to 24" (61 cm) W x 36" (91 cm) L x 20" (50.8 cm) D. Custom tank sizes are available. The three station Optimum Console™ is a wash-rinse-dry system designed for most general cleaning applications. For precision cleaning applications, the four-station console is a wash-rinse-rinse-dry system ideal for cleaning at the microscopic level. The five-station wash-wash-rinse-rinse-dry system is configured for the Dual Process™ or semi-aqueous cleaning applications. Custom configurations are available.

System Features

Model OC4 with optional CTS-1000 Rigibot Automated Cantilevered Transport

- | | |
|--|---|
| A CUSTOM FIXTURED BASKETS
configured for ideal cleaning of intricate parts. | G HIGH EFFICIENCY RECIRCULATING HOT AIR DRYER
has a unique air flow design to dry parts quickly. Compressed air blow-off allows for speed and efficiency. |
| B LOAD STATION (OPTIONAL)
with basket sensors to automatically activate transport and process. | H DRYER FILTER CHAMBER
optional HEPA / ULPA type with industrial prefilter. |
| C GENERATORS
provide constant power and True-Sweep™ frequency cleaning action. Available in 25, 40, 58, 68, 132 and 192kHz, designed for specific cleaning applications. | I POWER BOX
is conveniently located for easy access. |
| D ULTRASONIC WASH
provides high intensity heated ultrasonic wash. Filtered recirculation with overflow weir removes oil and particles. | J SLIDE DRYER COVER
with optional automatic activation. |
| E TANKS
are constructed of 316L bright annealed stainless steel. | K OPERATOR CONTROLS
are designed for easy operator use. Includes electronically timed ultrasonics, PID temperature controllers, and illuminated indicator switches. |
| F HEATED ULTRASONIC RINSE
provides a 2-stage reverse flow spray-over immersion conserving space and water usage. Maximizes rinses for spot-free drying. | L RIGIBOT™ AUTOMATED CANTILEVER TRANSPORT SYSTEM
(optional) Rugged and reliable. Provides consistent processing for industrial and cleanroom applications. |



Optional-Vacuum Dryer

Features

- Simple design - for ease of use, low maintenance, safety
- Fast cycle times
- Automatic cycle - for consistently dry parts - time after time
- Complete spot-free drying, even for parts with complex geometries
- Stainless steel materials of construction for durability and cleanliness
- Power sliding cover
- Chamber has strip heater with thermostat to heat the chamber
- Quartz heat lamps used to warm parts and freezing

Optional Features

- Custom size and configuration
- Oil coalescing and special filtration systems
- Rigibot™ cantilever transports
- RoTumbler™ rotational process baskets (standard and custom basket)
- Closed-loop rinse water systems

Product Information of Optimum Console™ (OC)

Model	Tank Dimensions L x W x D inches centimeters	Console Dimensions L x W x D inches centimeters	Ultrasonic Power Per Station	Heated Ultrasonic Wash	Heated Ultrasonic Rinse	Dryer Heat/CFM
OC3-1014-HE	10 x 14 x 10 25.4 x 35.6 x 25.4	66 x 34 x 38 167.6 x 86.4 x 96.5	500 W	1 kW	2 kW	5 kW / 1100
OC4-1014-HE	10 x 14 x 10 25.4 x 35.6 x 25.4	80 x 34 x 38 203.2 x 86.4 x 96.5	500 W	1 kW	2 kW	5 kW / 1100
OC5-1014-HE	10 x 14 x 10 25.4 x 35.6 x 25.4	95 x 34 x 38 241.3 x 86.4 x 96.5	500 W	1 kW	2 kW	5 kW / 1100
OC3-1218-HE	12 x 18 x 12 30.5 x 45.7 x 30.5	72 x 38 x 39 182.9 x 96.5 x 99.1	1000 W	3 kW	3 kW	5 kW / 1100
OC4-1218-HE	12 x 18 x 12 30.5 x 45.7 x 30.5	89 x 38 x 39 226.1 x 96.5 x 99.1	1000 W	3 kW	3 kW	5 kW / 1100
OC5-1218-HE	12 x 18 x 12 30.5 x 45.7 x 30.5	106 x 38 x 39 269.2 x 96.5 x 99.1	1000 W	3 kW	3 kW	5 kW / 1100
OC3-1622-HE	16 x 22 x 16 40.6 x 55.9 x 40.6	88 x 43 x 44 223.5 x 109.2 x 111.8	1000 W	4 kW	4 kW	10 kW / 1100
OC4-1622-HE	16 x 22 x 16 40.6 x 55.9 x 40.6	110 x 43 x 44 279.4 x 109.2 x 111.8	1000 W	4 kW	4 kW	10 kW / 1100
OC5-1622-HE	16 x 22 x 16 40.6 x 55.9 x 40.6	132 x 43 x 44 335.2 x 109.2 x 111.8	1000 W	4 kW	4 kW	10 kW / 1100
OC3-1826-HE	18 x 26 x 18 45.7 x 66 x 45.7	95 x 46 x 44 241.3 x 86.4 x 96.5	1500 W	3 kW	6 kW	12.5 kW / 1100
OC4-1826-HE	18 x 26 x 18 45.7 x 66 x 45.7	119 x 46 x 44 302.3 x 116.8 111.8	1500 W	3 kW	6 kW	12.5 kW / 1100
OC5-1826-HE	18 x 26 x 18 45.7 x 66 x 45.7	141 x 46 x 44 358.1 x 116.8 x 111.8	1500 W	3 kW	6 kW	12.5 kW / 1100
OC3-2436-HE	24 x 36 x 20 61 x 91.4 x 50.8	113 x 56 x 48 287 x 142.2 x 121.9	3500 W	8 kW	12 kW	20 kW / 1100
OC4-2436-HE	24 x 36 x 20 61 x 91.4 x 50.8	145 x 56 x 48 368.3 x 142.2 x 121.9	3500 W	8 kW	12 kW	20 kW / 1100
OC5-2436-HE	24 x 36 x 20 61 x 91.4 x 50.8	175 x 56 x 48 444.5 x 142.2 x 121.9	3500 W	8 kW	12 kW	20 kW / 1100

Specification subject to change without notice.

Notes:

- Standard power requirement:
 - 208/240/480 volts three-phase optional (transformer required for 480 v)
 - 380/415 volts three-phase optional (transformer required for 480 v)
- Dimensions do not include load/unload tables for automation or 15" (38 cm) external generator rack
- Ultrasonic frequency ranges from 25 kHz, 40 kHz, 58 kHz, 68 kHz, 132 kHz & 192 kHz
- For higher frequencies i.e. megasonics 470 kHz & 1 mHz (1,000kHz), send us your enquiries.

THE OPTIMUM CONSOLE JUNIOR™
Your Cost-effective Cleaning Solution

Four-Station Wash-Rinse-Rinse-Dry System

Crest Ultrasonics' Optimum Console Junior™ is a four-station ultrasonic cleaning system designed to clean many types of industrial components using a wide variety of aqueous cleaning chemistries. With the compact, cost-effective Junior, you can eliminate the use of CFCs and solvents without sacrificing cleaning performance. It is versatile for use in many applications and ideal for cleaning a wide variety of metal, plastic, and glass components as well as composites.

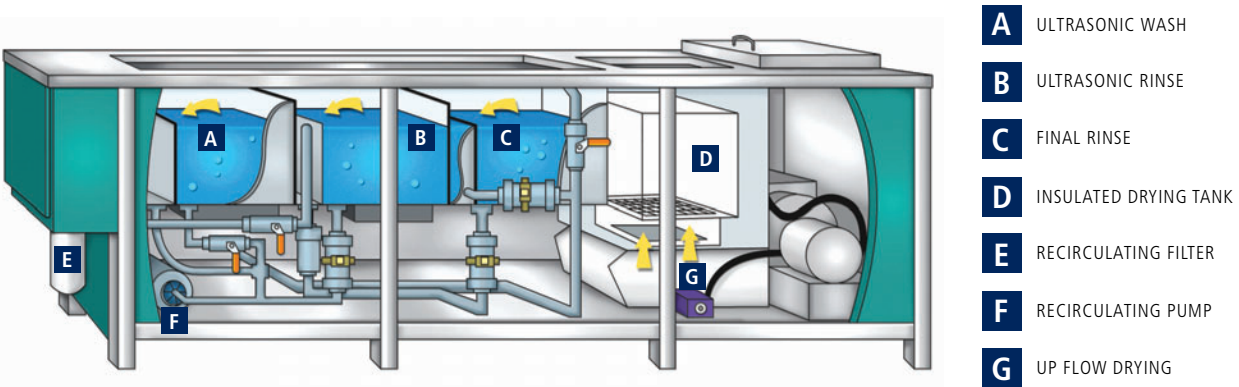


POPULAR OPTIONS

Oil Coalescers - For cleaning applications that require ongoing removal of oil and other contaminants without interrupting the processing. Custom sized to fit system.

Automated materials handling systems - For loads up to 250 lbs (114 kgs), Crest's famous Rigibot™ materials handling systems are smooth, fast, efficient, and affordable. Custom sized to fit cleaning system.

Other options include: Timers on the ultrasonic stations, lift-off covers, and hand-held spray wand.



THE OPTIMUM CONSOLE JUNIOR™

You Can Ultrasonically Clean Your Parts Cost-effectively

SYSTEM FEATURES AND BENEFITS

Stainless steel tanks	Corrosion resistance and extended life span.
Space-saving small footprint	Maximum utilization of space and easy replacement of vapor degreasers or optimization of your present cleaning method
Ultrasonic wash and rinse tanks are fitted with high quality Vibra-Bar™ transducers which produce 40 kHz Tru-Sweep™ ultrasonic frequency.	Ideal cleaning power for most applications. Provides consistent and effective cleaning and lifting of soils away from small ecesses and grooves. 25 kHz, 40kHz, 58 kHz, 68 kHz, 132 kHz & 192 kHz frequencies are also available.
Full-length overflow weir for wash tank and cascade rinse tank configurations	Helps remove contaminants from the wash and rinse tanks to maintain a cleaner solution in all process tanks.
High flow recirculation / filtration system on wash tank	Particulate contaminants are filtered continuously improving cleaning consistently.
High efficiency recirculating hot air dryer	Quick and thorough drying.
Thermostatically-controlled heated tanks	Improves cleaning efficiency and speeds drying times.
Fully plumbed and valved for single point utility connections	Quick and easy installation.
Stainless steel frame with powder-coated epoxy liftoff panel cabinetry	Attractive and corrosion resistant. Easy front access for maintenance.

Product Information of Optimum Console Junior™ (OCJ)

Applies to our standard four-station wash-rinse-rinse-dry model

Model	Internal Tank Dimensions L x W x D inches / centimeters	Console Dimensions L x W x D inches / centimeters	Ultrasonic Wash Power & Frequency*	Ultrasonic Rinse Power & Frequency*	Dryer Heat (Watts) & Recirc. (CFM)
OCJ-1014	10 x 14 x 10 10" liquid depth 25.4 x 35.6 x 40.6	82 x 28 x 41 208.3 x 71.1 x 104.1	500 Watts 40 kHz	500 Watts 40 kHz	3750 Watts / 800CFM
OCJ-1218	12 x 18 x 16 10" liquid depth 30.5 x 45.7 x 40.6	90 x 32 x 41 228.6 x 81.3 x 104.1	1000 Watts 40 kHz	1000 Watts 40 kHz	5000 Watts / 800 CFM
OCJ-1622	16 x 22 x 16 13.5" liquid depth 40.6 x 55.8 x 40.6	105 x 36 x 41 226.7 x 91.4 x 104.1	1000 Watts 40 kHz	1000 Watts 40 kHz	12500 Watts / 800 CFM
OCJ-1826	18 x 26 x 20 14" liquid depth 45.7 x 66 x 50.8	114 x 40 x 41 289.6 x 101.6 x 104.1	1500 Watts 40 kHz	500 Watts 40 kHz	12500 Watts / 1000 CFM
OCJ-2424	24 x 24 x 20 16" liquid depth 61 x 61 x 50.8	155 x 38 x 41 292.1 x 96.5 x 104.1	2000 Watts 40 kHz	2000 Watts 40 kHz	12500 Watts / 1000 CFM

Specification subject to change without notice.

Notes:

- 25 kHz, 58 kHz, 68 kHz, 132 kHz & 192 kHz as optional
- Standard power requirement:
 - 208 / 240 / 408 volts three-phase optional (transformer required for 480 v)
 - 380 / 415 volts three-phase optional (transformer required for 480 v)

Optional features:

- Automation System • Timer • Oil Coalescer Package • Lift-off Covers Hand
- Hand Spray Wand • Pump-out Station for Drainage • Closed-loop Water Treatment Systems