



ACCUMEG™

MEGASONIC CLEANING SYSTEMS



**WET PROCESS
MODULES AND SYSTEMS**

ACCUBATH®
with AquaSeal®
Constant temperature baths
Nitride Reflux Systems

ACCUHEAT®
In-line Quartz Heaters

RESISTGARD®
Safelight Shields

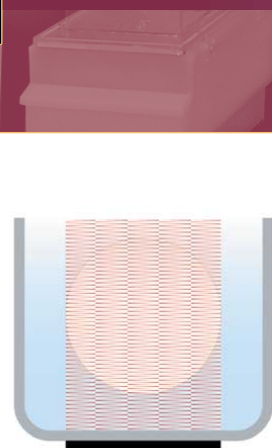
ACCUSONIC
Ultrasonic Cleanings Systems

IMTEC®

Corporate Offices
1295 Forgewood Avenue
Sunnyvale, CA 94089 USA
Phone: (408) 745-7800
Fax: (408) 734-4883
e-mail: sales@imtecacculine.com
www.imtecacculine.com

IMTEC®

MEGASONIC CLEANING SYSTEMS



A world leader in wet processing components for the semiconductor industry, IMTEC manufactures a complete line of process proven megasonic cleaning and rinsing systems – ACCUMEG™.

Effective wet process cleaning requires a precise integration of technology and components. With the ACCUMEG™, IMTEC combines over thirty years of wet processing experience with the most reliable megasonic components available. ACCUMEG™ systems not only deliver world-class cleaning performance, but offer the reliability and productivity that insure excellent uptime, minimum maintenance and the lowest cost of ownership.

Engineered by IMTEC and backed by our extensive 36 month warranty, ACCUMEG™ Megasonic Systems provide outstanding solutions for a wide range of applications.

ACCUMEG™ offers a unique and effective megasonic transducer design. Complete megasonic energy coverage of all wafer surfaces is essential for complete cleaning. Other systems attempt to deliver the sonic energy in a variety of configurations including “pulsed” arrays, “fan dispersed” transducer arrays and others, each in an attempt to achieve even, full power coverage. ACCUMEG™ delivers continuous high energy throughout the process vessel by virtue of a full coverage transducer configuration. This megasonic array covers the entire process load capacity of the tank without any of the energy loss associated to “shadowing” or “sequencing” the energy to the surface of the wafers.

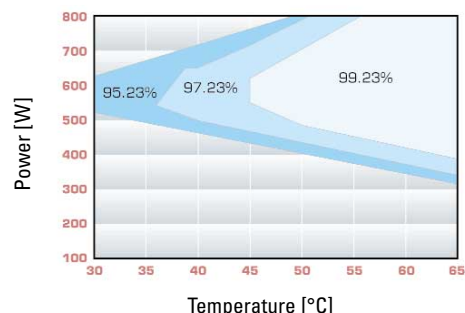
The ACCUMEG™ is designed to provide continuous megasonic energy across the full width and depth of all the wafers in the process vessel. This constant energy is the key to complete, fast, efficient cleaning and the elimination of particle reattachment.

Continuous Full Coverage, high performance cleaning

PROCESS PERFORMANCE

The use of megasonic technology has been shown to be an essential performance element for sub-micron cleaning applications. Particle removal efficiencies up to 99.2% are achievable for particle sizes to 0.12µm. Testing confirms that ACCUMEG™ systems reduce process time, preserve and prolong bath life and help insure maximum throughput for cleaning solutions such SC-1, and other alternative cleaning and rinsing chemistries.

As more dilute chemistries and lower process temperatures continue to demand optimization of the cleaning process, the continuous, high energy coverage ACCUMEG™ provides can deliver up to 5.4 w/cm² to reduce process times, improve throughput, while providing high efficiency cleaning.



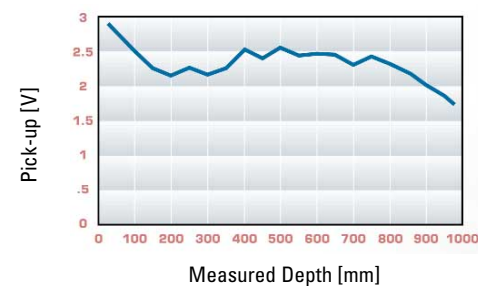
Silicon Nitride Particle Removal Efficiency

CONFIGURATIONS

Complete ACCUMEG™ systems are available in a wide range of tank materials, styles, and sizes.

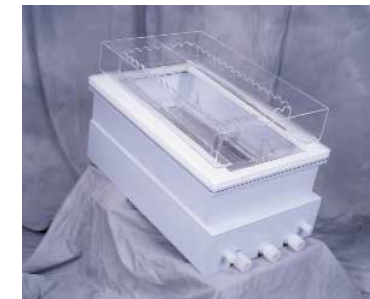
- | | |
|---------------------|------------------------|
| Tank Styles: | Tank Materials: |
| Recirculating | Quartz |
| Quick Dump Rinsers | PVDF |
| Cascade Rinse | Stainless Steel |
| | PFA |

Standard Sizes:
Single and dual 150, 200 and 300mm
Standard and cassetteless
Custom Sizes available



Megasonic energy transmission in various tank depths

Effective across a wide range of substrates and tank sizes, the ACCUMEG™ transducer continuously provides megasonic energy evenly throughout the depth of the process vessel with no significant loss of intensity or efficiency.



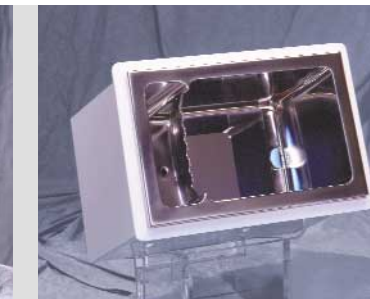
Ultrapure Quartz • Recirculating



PVDF or PFA • Recirculating



Quickdump PVDF or PFA • Rinsing



Stainless Steel • Solvent

QUARTZ RECIRCULATING CLEANING SYSTEMS

Reduced process times for wafer and non-wafer applications

Higher particle removal efficiency – Cleans at > 97% at 0.12µm with dilute chemistries.

Reduces processing time – Continuous Full Coverage megasonic energy provides shorter processing times at lower temperatures with no damage.

Higher operating temperatures – Processing temperatures up to 130°C with the water-inter-layer design.

Easier to replace transducers – Lower MTTR, field replaceable transducer arrays minimize inventory cost of spares.

Flexible designs – Available in cassette and cassetteless configurations for up to 300mm and larger flat panel display applications.

Higher MTBF – Megasonic components rated > 50,000+ hours MTBF.

Higher watt-densities – Watt-densities of up to 5.4 w/cm² and above provide more power for tougher jobs.

QUICK DUMP RINSER

Extended bath life, reduced defect density, lowest CoO

Extends usable bath life – Phosphoric and sulfuric acid applications can be extended up to 400%, reducing chemical usage.

Reduces DI water consumption – Up to 80% reduction compared to overflow rinsing.

Faster processing – Process times reduced by up to 75% by removing chemistry from the wafer and cassette surfaces more rapidly.

Prevents particle reattachment – Reduced defect density.

Reduces sulfate regrowth – For post H₂SO₄ applications.

Easily programmable – Operate in either QDR or Overflow mode.

Operates at up to 70°C – Use hot DI for post-phosphoric and sulfuric acid applications.

Quicker dumps – Drains in < 2 sec. through 360° opening.

STAINLESS STEEL SOLVENT RESIST STRIPPING SYSTEMS

Eliminate resist re-deposition, effectively clean deep vias and trenches

Higher operating temperatures – Processing to 70°C. Higher processing temperatures of up to 130°C possible when using the water-inter-layer-coupled transducer design in quartz recirculating systems.

Safe operation – Rugged tanks and multiple redundant interlocks.

Enhanced sidewall polymer removal – Effectively cleans in deep vias and trenches.

Eliminates resist re-deposition and reattachment – Continuous Full Coverage megasonic energy effectively eliminates resist re-deposition and particle reattachment.

36 Month Warranty

ACCUMEG™ carries the IMTEC extensive 36 month warranty. As with all IMTEC products, ACCUMEG™ benefits from the over 30 years of experience and innovation that have made IMTEC the industry leader in bath products for the semiconductor industry. IMTEC products conform to the standards UL and CE. IMTEC Acculine, LLC is ISO 9001:2000 registered.