



TOQUARTZ  
Tech Specifications

# TOQUARTZ® Quartz Acid Cleaning Tank Product Catalog

Integrated Engineering & Agile Production  
for Demanded Specifications



# TOQUARTZ® QUARTZ ACID CLEANING TANK

TOQUARTZ® is a specialized manufacturer of high-purity quartz products based in China, serving global B2B clients in laboratory instrumentation, biomedical research, and environmental monitoring. With in-house engineering support and flexible production capabilities, we offer both standard and custom TOQUARTZ® Quartz Acid Cleaning Tank with fast delivery and consistent quality.



## Product Overview



**TOQUARTZ® high-purity quartz acid cleaning tanks are engineered for demanding semiconductor wafer processing, photovoltaic cell manufacturing, and laboratory chemical applications.**

**Manufactured from 99.99% SiO<sub>2</sub>, these tanks provide exceptional resistance to aggressive chemicals including HF, HCl, and HNO<sub>3</sub> while maintaining dimensional stability at elevated temperatures up to 1100°C.**

# TOQUARTZ® QUARTZ ACID CLEANING TANK



## Key Features

### Superior Chemical Resistance

- Complete resistance to all semiconductor process acids including HF, HCl, HNO<sub>3</sub>
- No material degradation even after prolonged chemical exposure
- Prevents process contamination and extends service life

### High Thermal Stability

- Operating temperature range up to 1100°C (long-term) / 1350°C (short-term)
- Low thermal expansion coefficient ( $5.5 \times 10^{-7}/^{\circ}\text{C}$ )
- Maintains dimensional stability during thermal cycling

### Ultra High Purity

- 99.99% SiO<sub>2</sub> content ensures minimal contamination
- Critical for semiconductor and photovoltaic manufacturing
- Prevents yield loss from impurities

### Optical Transparency

- $\geq 93\%$  transmission (1mm thickness, 280-780nm)
- Enables process monitoring and visual inspection
- Compatible with optical sensors for process control



# TOQUARTZ® QUARTZ ACID CLEANING TANK



## Applications

### Semiconductor Manufacturing

- Wafer cleaning processes
- Wet etching operations
- Chemical processing of silicon wafers
- Specialty chemical treatments for advanced node fabrication

### Photovoltaic Cell Production

- Solar cell surface texturing
- Cleaning and etching processes
- Specialty treatments for efficiency enhancement
- Multi-cell batch processing

### Laboratory & Research

- Advanced materials research
- Chemical processing for specialty materials
- Sample preparation and processing
- Analytical chemistry applications



# TECHNICAL SPECIFICATIONS

## I Physical Properties

Property	Value
Material Composition	High purity quartz ( $\geq 99.99\%$ SiO <sub>2</sub> )
Density	2.2 g/cm <sup>3</sup>
Flexural Strength	48 MPa
Elastic Modulus	72 GPa
Poisson's Ratio	0.14-0.17
Compressive Strength	1100 MPa
Bending Strength	67 MPa
Mohs Hardness	5.5-6.5



# TECHNICAL SPECIFICATIONS

## II Thermal Properties

Maximum Working Temperature (Long-term)	1100°C
Maximum Working Temperature (Short-term)	1350°C
Thermal Conductivity	1.4 W/m·K
Thermal Expansion Coefficient	$5.5 \times 10^{-7} / ^\circ\text{C}$
Maximum Working Temperature (Long-term)	1100°C



# TECHNICAL SPECIFICATIONS

## III Optical & Electrical Properties

Property	Value
Refractive Index	1.4585
Optical Transmission (1mm thickness, 280-780nm)	≥93%



# CUSTOMIZATION OPTIONS

## Design Customization

- Custom dimensions with precision tolerances
- Specialized inlet/outlet configurations
- Internal partitions or chambers
- Reinforced edges or corners
- Custom wall thickness
- Integrated mounting features

## Material Specifications

- Standard high-purity quartz (99.99% SiO<sub>2</sub>)
- Opaque quartz options for light-sensitive applications
- Surface treatments for enhanced chemical resistance
- Precision-polished surfaces for critical sealing applications
- Fire-polished edges for improved mechanical strength





# INSTALLATION & MAINTENANCE GUIDELINES

## Handling and Installation

- Handle with care to avoid impacts
- Install on level, stable surfaces
- Use PTFE or compatible gaskets
- Allow clearance for thermal expansion
- Use compatible fittings for connections

## Operating Conditions

- Do not exceed maximum operating temperatures
- Maintain appropriate temperature ramp rates
- Ensure even heating distribution
- Avoid alkaline solutions at high temperatures
- Verify seal integrity for wet processing

## Maintenance and Cleaning

- Rinse thoroughly with deionized water after use
- Use appropriate solvents for persistent contaminants
- Inspect regularly for microcracks
- Store in clean, dust-free environments
- Cover openings for long-term storage



# ABOUT TOQUARTZ®

TOQUARTZ® is a specialized manufacturer of high-quality quartz glass products for industrial, laboratory, and optical applications. Our factory-direct approach eliminates intermediaries, providing cost-effective solutions with responsive technical support. We welcome small batch orders and offer 24-hour shipping for standard items.

## Contact Information

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*For technical specifications, custom requirements, or pricing information, please contact our sales team.*