



TOQUARTZ
Tech Specifications

TOQUARTZ® Quartz Reaction Vessels Product Catalog

Integrated Engineering & Agile Production
for Demanded Specifications



TOQUARTZ® QUARTZ REACTION VESSELS

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 Reaction Vessels with fast delivery and consistent quality.



Product Overview

TOQUARTZ® specializes in manufacturing high-purity quartz reaction vessels (99.995% SiO₂) designed for demanding chemical synthesis, laboratory research, and industrial processing environments. Our vessels combine exceptional temperature resistance (up to 1200°C), superior chemical stability, and precise dimensional control to provide reliable performance in critical applications.

TOQUARTZ® QUARTZ REACTION VESSELS



Key Features

- **Superior Temperature Resistance:** Withstands continuous operation at temperatures up to 1200°C
- **Exceptional Chemical Stability:** Resistant to acids, bases, molten salts, and fluorinated gases
- **High Material Purity:** Up to 99.995% SiO₂ for contamination-sensitive applications
- **Excellent Mechanical Properties:** Fracture modulus exceeding 350MPa
- **Thermal Stability:** Low thermal expansion coefficient ($0.5 \times 10^{-6}/K$)
- **High Thermal Conductivity:** 120-160 W/m·K for efficient heat transfer
- **Customization Options:** Tailored dimensions, connections, and configurations

TOQUARTZ® QUARTZ REACTION VESSELS



Applications

- High-temperature chemical synthesis
- Materials research and development
- Photochemical reactions
- CVD/ALD processes
- Specialized laboratory applications
- Industrial processing



MATERIAL PROPERTIES

- Physical Properties

Property	Value	Testing Method
Maximum Working Temperature	1200°C	ASTM C1055
Thermal Expansion Coefficient	$0.5 \times 10^{-6}/K$	ASTM E228
Thermal Conductivity	120-160 W/m·K	ASTM C177
Density	2.2 g/cm ³	ASTM C693
Fracture Modulus	≥ 350 MPa	ASTM C1161

- Optical Properties

Property	Value	Testing Method
Refractive Index (589.3nm)	1.4585	ASTM D542
UV Transmission (254nm)	$\geq 80\%$ (2mm thickness)	Spectrophotometry
IR Transmission (2.7μm)	$\geq 85\%$ (2mm thickness)	Spectrophotometry



MATERIAL PROPERTIES

- Chemical Properties

Property	Value	Testing Method
SiO ₂ Purity	99.995%	ICP-MS
Acid Resistance (HF excluded)	Excellent	ASTM C724
Alkali Resistance (≤80°C)	Very Good	ASTM C225
OH Content	≤20 ppm	IR Spectroscopy
Metal Impurities (Total)	≤50 ppm	ICP-MS



CUSTOMIZATION SERVICES

TOQUARTZ offers comprehensive customization services for quartz reaction vessels:

- Design optimization for manufacturability
- Material selection guidance
- Technical drawing assistance
- Prototype development and validation



USAGE & MAINTENANCE RECOMMENDATIONS

- Avoid thermal shock (temperature changes >200°C/minute)
- Ensure even mechanical support during installation
- Clean with appropriate non-abrasive methods
- Inspect regularly for microcracks or devitrification



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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TOQUARTZ® - Precision Quartz Solutions for Industry and Research

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