



TOQUARTZ

Tech Specifications

Quartz Crucible

Integrated Engineering & Agile Production
for Demanded Specifications



TOQUARTZ®

FUSED QUARTZ CZOCHRALSKI CRUCIBLE

Product Overview



TOQUARTZ® Fused Quartz Czochralski Crucibles are high-purity containers designed for monocrystalline silicon growth in solar and semiconductor industries. With 99.99% SiO₂ purity, temperature resistance up to 1600°C, and exceptional dimensional stability, these crucibles deliver reliable performance for continuous crystal pulling processes.

FUSED QUARTZ CZOCHRALSKI CRUCIBLE

Key Features

- **Superior Thermal Stability:** Withstands temperatures up to 1600°C with excellent thermal shock resistance
- **High Purity Composition:** 99.99% SiO₂ purity with controlled trace elements
- **Exceptional Dimensional Precision:** Manufactured with tight tolerances ($\pm 0.2\text{mm}$)
- **Excellent Chemical Resistance:** Highly resistant to corrosion from molten silicon and fluorine gases
- **Superior Electrical Insulation:** Provides reliable electrical isolation at high temperatures
- **Consistent Wall Thickness:** Uniform thermal distribution prevents temperature gradients

FUSED QUARTZ CZOCHRALSKI CRUCIBLE

Applications



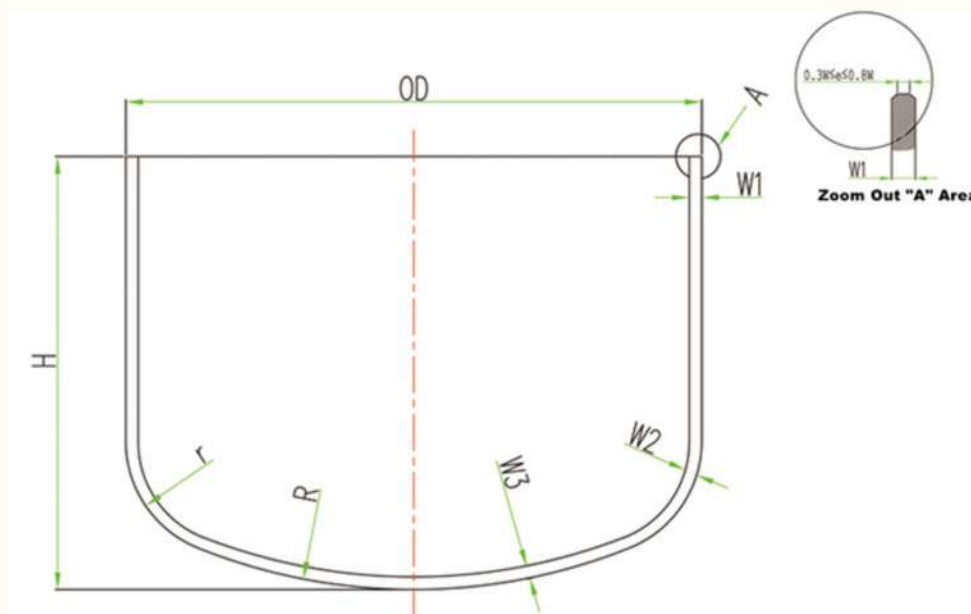
- Solar-grade silicon production for photovoltaic applications
- Semiconductor crystal growing for electronics industry
- Material research and development laboratories
- Crystal growing equipment manufacturing
- Specialized crystal development applications



SIZE CHART



FUSED QUARTZ CZOCHARLSKI CRUCIBLE



Model	Size (Inch)	OD (mm)	Height - H(mm)	Thickness - T(mm)			Standard Radius - R(mm)	Standard Radius - r(mm)	Gap(mm)	SiO ₂ Purity (%)
				W1	W2	W3				
AT-SY-GG1001	14	355.6(±2.0)	Can be customized	8.5(±2.0)	10.5(±2.0)	8.5(±2.0)	381	89	≤5	99.99
AT-SY-GG1002	16	406.5(±2.5)		9.0(±2.0)	11.0(±2.0)	9.0(±2.0)	406	76		99.99
AT-SY-GG1003	18	457.0(±2.5)		9.5(±2.0)	11.5(±2.0)	9.5(±2.0)	500	120		99.99
AT-SY-GG1004	20	505.0(±3.0)		10.0(±2.0)	11.0(±2.0)	10.0(±2.0)	508	90		99.99
AT-SY-GG1005	22	555.0(±3.0)		11.0(±2.0)	12.0(±2.0)	11.0(±2.0)	558	130		99.99
AT-SY-GG1006	24	607.0(±3.0)		12.0(±2.0)	13.0(±2.0)	12.0(±2.0)	609	120		99.99
AT-SY-GG1007	25	632.0(±3.0)		11.0(±2.0)	11.0(±2.0)	14.0(±2.0)	635	120		99.99
AT-SY-GG1008	26	655.0(±3.0)		12.0(±2.5)	14.5(±2.5)	12.0(±2.5)	669	120		99.99
AT-SY-GG1009	28	710.0(±3.0)		12.0(±2.5)	16.0(±2.5)	12.0(±2.5)	710	120		99.99
AT-SY-GG1010	30	758.0(±3.0)		13.5(±2.0)	13.5(±2.0)	19.0(±3.0)	760	120		99.99
AT-SY-GG1011	32	810.0(±3.0)		14.0(±2.5)	23.0(±2.5)	14.0(±2.5)	810	160		99.99
AT-SY-GG1012	36	912.0(±3.0)		18.0(±2.5)	26.0(±2.5)	18.0(±2.5)	910	180		99.99
AT-SY-GG1013	40	1016.0(±3.0)		20.0(±3.0)	30.0(±3.0)	20.0(±3.0)	1016	186		99.99



MATERIAL PROPERTIES

Physical Properties

- Density: 2.21 g/cm³
- Mohs Hardness: 6.5
- Compressive Strength: 1100 MPa
- Tensile Strength: 50 MPa
- Bending Strength: 67 MPa

Thermal Properties

- Thermal Expansion Coefficient: $5.11-5.65 \times 10^{-7}/^{\circ}\text{C}$ (100-1100°C)
- Thermal Conductivity: 1.47–2.68 W/(m*°C) (100-1100°C)
- Specific Heat: 772–1052 J/(Kg*°C) (100-500°C)

Purity Specifications

- SiO₂ Content: ≥99.99%
- Controlled trace elements (Fe, Mg, Mn, K, Li, etc.)



CUSTOM ENGINEERING SERVICES

TOQUARTZ® provides comprehensive customization services tailored to your specific silicon crystal growing requirements:

- Dimensional Customization: Modify dimensions to match exact specifications
- Specialized Wall Profiles: Custom variations in wall thickness
- Surface Treatment Options: Specialized interior and exterior finishes
- Material Composition Adjustments: Fine-tuning of SiO₂ content and trace elements
- Technical Drawing Support: Assistance with specification development



QUALITY ASSURANCE

All TOQUARTZ® Fused Quartz Czochralski Crucibles undergo rigorous quality control to ensure consistent performance in demanding applications.:

- Dimensional verification
- Material composition analysis
- Visual inspection for defects
- Thermal shock resistance testing

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.