

Item	Shape/Specification	Materials														Silicon Nitride	Aluminum Nitride	Silicon Carbide
		Alumina				Zirconia				Gemstone		Sapphire						
Length Range	Tube	≤1000	≤1000	99.90%	99.95%	Zirconia	ATZ	ZTA	Blue Zirconia	Black Zirconia	Ruby		Customization	Customization				
	Rod	≤1000	≤1000	≤1000	≤1000	≤1000	≤1000	≤1000	≤1000	≤1000	≤100	≤300						
	Plate	≤400*400	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤100*100	≤200*200			≤200*200	≤200*200		
	Customization	≤300	≤300	≤300	≤300	≤300	≤300	≤300	≤300	≤300	≤40	≤100			≤100	≤100		
Outer Diameter	Tube	≤150	≤150	≤150	≤150	≤150	≤50	≤50	≤150	≤150	≤50	≤50	≤50	≤50				
	Rod	≤150	≤150	≤150	≤150	≤150	≤50	≤50	≤150	≤150	≤50	≤50	≤50	≤50				
	Plate Width	≤400*400	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤300*300	≤100*100	≤200*200	≤200*200	≤200*200				
	Customization	≤150	≤150	≤150	≤150	≤150	≤50	≤50	≤150	≤150	≤50	≤50	≤50	≤50				
Inner Diameter	Through Hole	≤200	≤200	≤200	≤200	≤200	≤200	≤200	≤200	≤200	≤100	≤200	≤50	≤50				
	Blind Hole	≤30	≤30	≤30	≤30	≤50	≤50	≤50	≤50	≤50	≤10	≤10	≤50	≤50				
	Stepped Hole	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤10	≤10	≤50	≤50				
Ball Diameter	Ball	≤70	≤70	≤70	≤70	≤100			≤100	≤100	Customization	Customization	≤20	≤20				
Ball Precision	Depending on the drawing requirements, the highest precision can reach 0.002mm.	±0.002	±0.002	±0.002	±0.002	±0.002			±0.002	±0.002			±0.002	±0.002				
Minimum Wall Thickness		0.2	0.2	0.2	0.2	0.1			0.1	0.1			0.2	0.2				
Drilling	Min. Hole Diameter	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4	≥φ0.4				
Screw Thread		≥φ3	≥φ3	≥φ3	≥φ3	≥φ2	≥φ2	≥φ3	≥φ2	≥φ2			≥φ3	≥φ3				
Minimum Fillet		R0.1	R0.1	R0.1	R0.1	R0.1	R0.1	R0.1	R0.1	R0.1			R0.1	R0.1				
Outer Diameter Precision		1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm 50-100mm → ±0.100mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm	1-25mm → ±0.002mm 20-50mm → ±0.003mm			
Inner Diameter Precision		1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	1-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.100mm 30-100mm → ±0.050mm 100-150mm → ±0.100mm 150-200mm → ±0.200mm	0.5-3mm → ±0.001mm	0.5-3mm → ±0.001mm	0.5-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.010mm 30-50mm → ±0.050mm	0.5-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.010mm 30-50mm → ±0.050mm	0.5-3mm → ±0.001mm 3-10mm → ±0.005mm 10-30mm → ±0.010mm 30-50mm → ±0.050mm			
Length/Thickness Precision		±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05				
Surface Roughness		Ra0.1	Ra0.1	Ra0.1	Ra0.1	Ra0.05	Ra0.05	Ra0.05	Ra0.05	Ra0.05	Ra0.04	Ra0.04	Ra0.05	Ra0.05				
Roundness		0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm	0.002mm				
Concentricity		0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm	0.01mm				
Straightness		0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm	0.006mm				
Perpendicularity		0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm				
Parallelism		0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm	0.003mm				
Flatness		0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm	0.005mm				
Precision for Custom Shapes		0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm				

加工能力表（中英文对照）		
材料 Materials		
氧化铝 Alumina	氧化锆 Zirconia	宝石 Gemstone
96%, 99%, 99.9%, 99.95% 纯度	蓝/黑锆 Blue/Black Zirconia	红宝石 Ruby
氧化锆增韧氧化铝 ZTA(Zirconia Toughened Alumina)	氧化铝增韧氧化锆 ATZ(Alumina Toughened	蓝宝石 Sapphire
其他材料 Other Materials	氮化硅 Silicon Nitride	氮化铝 Aluminum Nitride
	碳化硅 Silicon carbide	

尺寸能力范围 Size Capability

项目 Item	形状 Shape	最大/最小尺寸 Max/Min Size
长度范围 (Length Range)	管 (Tube)	≤1000mm （部分材料≤100mm）
	棒 (Rod)	≤1000mm (部分材料≤100mm)
	板 (Plate)	≤400×400mm (部分材料≤100×100mm)
	异形结构件 (Custom Shapes)	≤300mm （部分材料≤40mm）
外径范围 (Outer Diameter)	管 (Tube)	≤150mm （部分材料≤50mm）
	棒 (Rod)	≤150mm （部分材料≤50mm）
	板 (Plate)	≤400×400mm (部分材料≤100×100mm)
	异形结构件 (Custom Shapes)	≤150mm （部分材料≤50mm）
内径范围 (Inner Diameter)	通孔 (Through Hole)	≤200mm （部分材料≤50mm）
	盲孔 (Blind Hole)	≤50mm （部分材料≤10mm）
	台阶孔 (Stepped Hole)	≤50mm （部分材料≤10mm）
球直径范围 (Ball Diameter Range)		≤100mm （部分材料需定制）
最小壁厚 (Minimum Wall Thickness)		0.1 – 0.2mm (取决于材料)
打孔最小孔径 (Minimum Drilling Diameter)		≥0.4mm
螺纹 (Threading Capability)		≥Φ2mm
最小清根 (Minimum Fillet Radius)		R0.1mm

加工精度 Processing Precision	
项目 Item	精度 Precision
外径精度 (Outer Diameter Precision)	1-25mm: ±0.002mm 20-50mm: ±0.003mm 50-100mm: ±0.10mm 100-150mm: ±0.20mm
内径精度 (Inner Diameter Precision)	0.5-3mm: ±0.001mm 3-10mm: ±0.005mm 10-30mm: ±0.01mm 30-100mm: ±0.05mm 100-150mm: ±0.10mm
长度（厚度）精度 (Length/Thickness Precision)	±0.05mm
球精度 (Ball Precision)	±0.002mm
异形结构件加工精度 (Precision for Custom Shapes)	≤0.03mm
表面粗糙度 (Surface Roughness)	Ra0.04 – Ra0.2 （取决于材料）

几何公差 Geometric Tolerances

项目 (Item)	精度 (Precision)(取决于产品结构)
圆度 (Roundness)	0.002mm
同心度 (Concentricity)	0.002mm
直线度 (Straightness)	0.006mm
垂直度 (Perpendicularity)	0.005mm
平行度 (Parallelism)	0.003mm
平面度 (Flatness)	0.005mm

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