

Optical Domes Datasheet

Felix Glass Precision Optical Domes Datasheet

Product Overview

Custom hemispherical & hyper-hemispherical optical domes manufactured from BK7 glass, fused silica, sapphire for LiDAR, deep-sea ROV, aerospace, surveillance camera.

Base Material Parameters

Material	Transmission Range	Hardness	Max Water Pressure Resistance	Operating Temp	Surface Roughness
BK7 Optical Glass	350 – 2200 nm	Medium	1000m	-30°C ~ +70°C	Ra ≤0.5 nm
Fused Silica Quartz	185 – 2500 nm	Medium-High	1800m	-80°C ~ +900°C	Ra ≤0.3 nm
Sapphire Al ₂ O ₃	150 – 5500 nm	Highest	6000m	-70°C ~ +1200°C	Ra ≤0.2 nm

Standard Geometry

1. Hemispherical Dome: Radius 10–300mm, wall thickness 2–15mm
2. Hyper-Hemispherical Dome: Extended spherical profile for wide FOV LiDAR
3. Flanged Dome: Custom O-ring sealing groove, mounting flange for waterproof assembly

Optional Coatings

- AR Coating (Visible band 400–700nm)
- IR AR Coating (900–1700nm LiDAR)
- Dual-band Vis+IR Anti-reflection coating
- Hard scratch-resistant protective coating
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Quality Standard

ISO 9001 full inspection, interferometer surface test, spectrometer transmittance test, dimensional tolerance $\pm 0.01\text{mm}$. Contact: james@felixglass.com for custom size quotation