



Discover how we can improve your
instrumentation and supply chain
experience today!

KO | BRINGING QUALITY INTO FOCUS

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Diamond Turned Aspheric Lenses for Thermal Imaging

We can supply you with a custom made [Diamond turned aspheric lenses](#) for use within [Thermal Imaging Cameras](#).

Thermal Imaging Cameras work similarly to traditional visible camera systems; while traditional cameras form images using visible light; thermal cameras form images using infrared radiation; operating in wavelengths as long as 14µm.

Spherical aberration occurs in common singlet lenses, which results in an image that appears distorted, aspheric lenses correct spherical aberration. An aspheric lens surface is designed non-spherical, which allows a single component lens to collimate or focus highly divergent rays, potentially replacing a multi-lens system. This in turn provides the camera system with a better image quality.

Knight Optical offers diamond turned aspherics from a range of infrared materials including Germanium (Ge), Calcium Fluoride (CaF₂), Zinc Sulphide (ZnS), Zinc Selenide (ZnSe), Aluminium (Al) and chalcogenide glasses like [AMTIR \(Ge₃₃As₁₂Se₅₅\)](#).

Typical specs:

Material:	Germanium, ZnSe, Caf ₂ , Silicon, Zinc Selenide (For LWIR)
Diameter:	Up to 200mm dia +0, -0.02mm
Thickness:	+/- 0.2mm
Flatness:	< 1/2 wave over 90% aperture
Surface Quality:	< 40-20 scratch/dig
Parallelism:	5 arcmin
Coating:	AR/DLC (3-5 micron, 7-14 micron, 10-12 micron)

Our Aspheric lenses are checked for quality in our state-of-the-art Metrology laboratory using equipment from Trioptics, Varian and Starret allowing us to work to the highest [QA standards](#) and meet the tolerance specifications on these **precision components**.

[Contact our technical sales team](#) to discover how Knight Optical's high quality Diamond Turned Aspherics and superior service can improve your instrumentation and supply chain experience.

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- View our [QA and metrology information](#)
- Watch our [Corporate Video](#)
- [View Our Corporate Brochure](#)