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KO | BRINGING QUALITY INTO FOCUS

Diamond turning is an Aspherics best friend!

Knight Optical can offer custom made [Diamond turned aspheric lenses](#) for use in missile guidance systems, night vision/thermal Imaging cameras and other military based and commercial infrared systems.

We supply a range of diamond turned germanium aspherics for a range of applications. All individually QA checked and metrology tested for quality to ensure parts meet customer specification. Supplied in a range of sizes and shapes with custom coatings tailored to meet your individual applications.

The benefit of Diamond Turned Aspherics, are that lens shapes can be manufactured very accurately without an expensive tooling cost except for the diamond bit; and is cost efficient for small quantities. Which are ideal for use within the [Defence and Aerospace Industry](#).

Knight Optical offers diamond turned aspherics from a range
Read PDF for full specification...

of infrared materials including Germanium (Ge), Calcium Fluoride (CaF₂), Zinc Sulphide (ZnS), Zinc Selenide (ZnSe), Aluminium (Al) and chalcogenide glasses like [AMTIR \(Ge₃₃As₁₂Se₅₅\)](#).

Lenses can be coated with a range of antireflective coatings, e.g. for MWIR ([AR/DLC coated 3 to 5µm](#)) and LWIR ([AR/DLC coated 8 to 12µm](#)) Imaging Systems. Germanium is particularly good for MWIR band, and can be used with [Silicon](#) or [Zinc Selenide](#), given its refractive index range is higher than the two of them, to form corrected doublets and lens systems. These systems include, for example, Forward Looking Infra-Red (FLIR) systems, and thermography

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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