



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

KO | BRINGING QUALITY INTO FOCUS

www.knightoptical.com | Tel: +1 401 583 7846 | Fax: +1 401 583 7851
Knight Optical (USA) LLC | 1130 Ten Rod Road, Suite D102 | North Kingsdown RI 02852 USA
www.knightoptical.com | Tel: +44 (0) 1622 859444 | Fax +44 (0) 1622 859555
Knight Optical (UK) Ltd | Roebuck Business Park | Harrietsham | Kent ME17 1SB UK

Diamond Turned Aspheric Lenses for Defence and Aerospace

Diamond turning is an Aspherics best friend!

Knight Optical can supply you with a custom made [Diamond turned aspheric lenses](#).

Diamond turned aspheric lenses are typically used in missile guidance systems, night vision/thermal Imaging cameras and other military based and commercial infrared systems.

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 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, Caf2, 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 Dichroic Filters and superior service can improve your instrumentation and supply chain experience.

UK, Europe, Asia & RoW: E-Mail info@knightoptical.co.uk Tel +44 (0)1622 859444

USA & Canada: E-Mail usasales@knightoptical.com Tel +001 401-583-7846

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