



KO | BRINGING QUALITY INTO FOCUS    

Europe, UK, Asia and RoW

Knight Optical (UK) Ltd
Roebuck Business Park
Harrietsham
Kent, ME17 1AB

contact@knightoptical.co.uk

USA and Canada

Knight Optical (USA) LLC
1130 Ten Rod Road
Suite D102
North Kingstown
Rhode Island 02852

usasales@knightoptical.com

Injection Moulded Aspheric Lenses for Virtual Reality Headsets

Knight Optical's [injection moulded aspheric lenses](#) can be found in Head Mounted Displays (HMDs) globally.

Virtual Reality headsets are typically known as HMDs consist of a pair of lenses which typically forms an image directly into the eyes of the wearer. The lenses shape and focus the picture for each eye thus creating a stereoscopic 3D image. This used in conjunction with an accelerometer in the system allows for an immersive experience, where the wearer can feel like they are part of another reality.

Optical aberration typically occur in common spherical singlet lenses which results in an image that appears distorted. Consequently HMD manufacturers have started to incorporate aspherical lenses which can replace multiple element systems. Aspheric lenses allows a single component lens to collimate or focus highly divergent rays, potentially replacing a multi-lens system.

Knight Optical offers injection moulded aspherics from a range of visible materials including PMMA, polycarbonate, polystyrene and Lexan. This makes for a quality, cost effective product which can be provided in high volumes.

Typical specs:

Material:	PMMA, Polycarbonate, Polystyrene and Lexan
Diameter:	Up to 100mm dia +0, -0.02mm
Surface Quality:	< 80-50 scratch/dig
Coating:	AR/AR 400-700nm Ravg <0.5%

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 Moulded Aspherics 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](#)

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