

## KO | BRINGING QUALITY INTO FOCUS

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### Polarisers for Head-mounted Displays

**Knight Optical** offer a complete range of [Stock Polarisers](#) for a range of applications that could be used for Head-mounted Displays. Our stock polarisers cover wavebands  $<0.2$  to  $>2\mu\text{m}$ , we can also supply custom polariser options made to your complete custom specifications.

A head-mounted display (abbreviated to HMD), is a display device worn on the head or part of a helmet that has a small display optic in front of one (monocular HMD) or both eyes (binocular HMD) and can be used in applications within gaming, aviation, engineering and medicine. There are also optical head-mounted display (OHMD) which is a wearable display that can reflect projected images and allows a user to see through it (often used in conjunction with a Beamsplitters). Using polarisers for HMD helps to align the light onto a plane and reduce the scatter of the light reaching the users eye. By filtering out unpolarised light a polariser can convert a beam of light of undefined or mixed polarisation into a beam of well-defined polarised light, thus reducing the reflections and glare of the image being viewed by the user, whilst at the same time increasing the colour saturation. In doing so this allows the user of the HMD to have a more defined image of what is being displayed inform of them.

We can offer both linear sheet and circular polarisers to suit your needs in the visible, UV and IR ranges in many different formats such as HN32, HN38 and HN42 as well as high performance materials such as HN38S for visible use and our UV and IR range of HNP'B replacement material which is very efficient at 290nm.

#### We hold a large inventory of Polarisers for use with Head-Mounted Displays.

- We stock large sheets up to 1270x480mm in some cases; we can cut these into special shapes at short notice.
- Mounting options are also available.
- Special Glass laminating to CAB polarisers
- Special AR coatings.

#### Typical specs for our stock Polarisers (custom capabilities available upon request):

Material:	<a href="#">N-BK7 or Equivalent</a>
Diameter Tolerance:	+0.0/-0.25mm
Length/width Tolerance:	$\pm 0.5\text{mm}$ ( $<100\text{mm}$ ) $\pm 1\text{mm}$ (100-400mm), nominal ( $>400\text{mm}$ )
Axis direction:	$\pm 2^\circ$

Non- glare coatings available on our circular polarisers with the option of left or right handed polarisation. We can also offer acrylic or glass laminations.

**All our Polarisers are fully inspected on their quality in our ISO 9001:2015 certified, state-of-the-art Metrology laboratory**, with our Trioptics, Optispheric, Varian and Starrett AV300. This allows 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 N-BK7 Windows and superior service can improve your instrumentation and supply chain experience.

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