

## KO | BRINGING QUALITY INTO FOCUS

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### Ball Lenses and Half Ball Lenses for Fibre Lasers

**Knight Optical** offer a range of [Stock Ball Lenses and Half Ball Lenses](#), for use within [Fibre](#) Lasers.

As the name suggests ball lenses are completely spherical lenses mostly made out of High Refractive Index Glass such as Sapphire, and LASFN-9 Glass. The reason ball lenses are most commonly used is for their ability to focus light when leaving a fibre optic, so that it can therefore be used for a laser application.

The key feature of ball lenses is their **short back focal length** allowing for precision coupling where size or space is a limiting factor in the system. Ball lenses are typically used in pairs with one lens acting as a collimator for the second to focus the light back into the coupled fibre. Where a more compact solution is required a half-ball lens is typically more suitable.

#### We hold a large inventory of Ball Lenses.

- Stock sizes from 0.5 5mm to 10mm diameter.
- Custom sizes available to quotation.
- Half Ball lenses also available.

#### Typical specs:

<b>Material:</b>	<a href="#">BK7 or equivalent</a> , <a href="#">Sapphire</a> , <a href="#">Ruby</a> , <a href="#">Quartz</a>
<b>Diameter Tolerance:</b>	+/-2.5µm
<b>Figure (sphericity):</b>	1λ
<b>Focal Length Tolerance:</b>	± 0.2% (<10mm) ± 2.0% (10-1000mm) ± 5.0% (>1000mm)
<b>Wavelength Range:</b>	0.17 – 5.5µm
<b>Surface Quality:</b>	<40-20 Scratch/Dig
<b>Options available:</b>	

- Antireflective coating of stock lenses
- Stock ball lenses can be edged down to produce a drum lens.
- Mounting into cells.

**All our Sapphire Ball Lenses are fully inspected on their quality in our ISO 9001 certified, state-of-the-art Metrology laboratory**, using our Trioptics Optispheric, 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 Ball Lenses and superior service can improve your instrumentation and supply chain experience.

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