# 4.76mm Diamet...

Sapphire and Ruby Ball Lenses

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- 1 +

€33,25

ADD TO CART

| Volume Pricing | |
|---|---|
| Qty 1-10 | €33,25 each |
| Qty 11-49 | €26,75 each |
| Need More? | Request Quote |

Prices shown are exclusive of VAT/local taxes

## Product Downloads

STEP:stp | PDF Drawing:pdf

IGES:igs | Zemax:zar

Zemax:zmx | eDrawing:eprt

Code V:seq | EO Spec Sheet

Download All

## General

| | |
|---|---|
| **Type:** | Ball Lens |

## Physical & Mechanical Properties

| | | | |
|---|---|---|---|
| **Diameter (mm):** | 4.76 | **Specific Gravity ($g/cm^3$):** | 3.98 |
| **Compressive Strength (psi):** | 300,000 | **Diameter Tolerance (µm):** | ±2.54 |

## Optical Properties

| | | | |
|---|---|---|---|
| **Substrate:** ⓘ | Ruby Doped Sapphire ($Al_2O_3$) | **Coating:** | Uncoated |
| **Wavelength Range (nm):** | 600 - 5500 | **Index of Refraction ($n_d$):** | 1.77 |
| **Sphericity (µm):** | 0.625 | **Wavelength Range (µm):** | 0.6 - 5.5 |

## Material Properties

| | | | |
|---|---|---|---|
| **Coefficient of Thermal Expansion CTE ($10^{-6}$/°C):** | 8.4 | **Porosity (%):** | 0.00 |

## Environmental & Durability Factors

| | |
|---|---|
| **Melting Temperature (°C):** | 2053.00 |

## Regulatory Compliance

| | | | |
|---|---|---|---|
| **RoHS 2015:** | Compliant | **Certificate of Conformance:** | View |

| | |
|---|---|
| Reach 247: | Compliant |

Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

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## Need different spec

Edmund Optics offers comprehensive custo lication requirements. Whether in the prototyping p s. Our experienced engineers are here to assist—from concept

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our **custom manufacturing capabilities** or submit an inquiry **here.**

## Product Details

- Excellent for Severe Environments
- High Strength and Hardness
- High Chemical Stability
- **Sapphire and Ruby Half-Ball Lenses** Also Available

Sapphire and Ruby Ball Lenses are both made from Al203. Ruby or Ruby-Doped sapphire owes its red color to traces of chromium oxide (chromium content for ruby balls is typically >0.5%). While their physical and chemical properties are similar, Sapphire has superior optical transmission. Ruby Ball Lenses are easier to see and handle for physical applications. Sapphire and Ruby Ball Lenses are ideal for improving signal coupling between fibers, emitters, and detectors. They are also used in endoscopy, bar code scanning, ball pre-forms for aspheric lenses, and sensor applications. **Sapphire and Ruby Half-Ball Lenses** are also available.

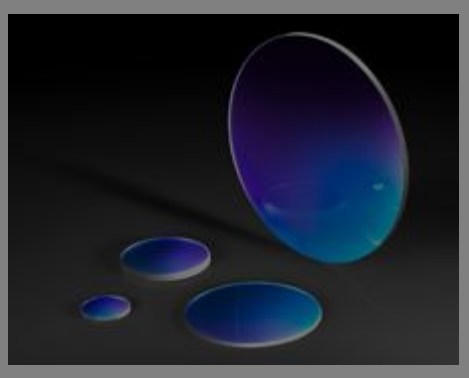
For general information about ball lens, as well as how to calculate the NA and Focal Length, view **Understanding Ball Lenses.**

## Related Products


#13-800 - Small Lens Clamp for 4-8mm Dia. Optics
**€172,00**

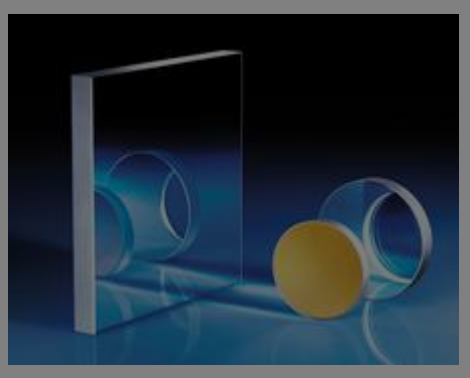
Qty

## Frequently Purchased Together



#43-365 - 5mm Dia., 1mm Thick, Uncoated, Sapphire Window
**€32,00**

Qty



#48-455 - 35 x 50mm Protected Gold, 4-6λ Mirror
**€80,00**

Qty

## Compatible Mounts

| | Title | Type | Compare | Stock Number | Price ☐ | Buy |
|---|---|---|---|---|---|---|
| MORE+  | Small Lens Clamp fo… 8mm Dia… Optics | | | | €172,00 | 14 In Stock 1 |

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# Resources

**Media Type**

- ☐ Application Note
- ☐ Technical Tool
- ☐ FAQ
- ☐ Glossary

APPLICATION NOTE
Anti-Reflection (AR) Coatings

TECHNICAL TOOL
Ball Lens Calculator

APPLICATION NOTE
Understanding Ball Lenses

? FAQ
I am trying to determine whether it is possible to us...

GLOSSARY
Sphericity

TECHNICAL TOOL
Fiber Coupler Calculator

View More

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