

Are beam splitters expensive

Article Overview

Beam splitter prices vary widely, typically ranging from \$50 for standard plate types to several hundred dollars for high-precision or polarizing cubes, depending on material, size, and coating.

General Price Ranges

- o Plate Beam Splitters: Standard glass or quartz plates for visible light typically cost \$50-\$150 for small sizes (e.g., 12.5 x 17.5 mm) and can go up to \$300-\$500 for larger or UV/IR-compatible plates with anti-reflection coatings .
- o Cube Beam Splitters: Optical glass cubes, including non-polarizing or polarizing types, generally range from \$100-\$400 for standard sizes (50-100 mm sides). High-end polarizing cubes or custom coatings can exceed \$500-\$800 .
- o Pellicle and Polka Dot Beam Splitters: These specialty types, often used in laser systems or imaging, can cost \$200-\$600, depending on wavelength range and damage threshold .
- o Dichroic Beam Splitters: Designed to split light by wavelength, prices vary from \$150-\$500 for standard visible or near-IR applications, with higher costs for broadband or custom coatings .

Factors Affecting Price

- o Material: Fused silica, calcium fluoride, and zinc selenide are more expensive than standard optical glass due to higher transmission and durability in UV or IR ranges .
- o Coatings: Anti-reflection (AR) coatings, dielectric layers, or polarization-specific coatings increase cost. Multi-layer coatings for broadband or high-power lasers are pricier .
- o Size: Larger beam splitters require more material and precision polishing, raising the price.
- o Polarization: Polarizing beam splitters are generally more expensive than non-polarizing types due to precise alignment and coating requirements .
- o Custom Specifications: Custom angles, splitting ratios, or high-power handling capabilities can significantly increase cost, sometimes exceeding \$1,000 for specialized research or aerospace applications .

Suppliers and Bulk Options

- o Edmund Optics and Thorlabs offer a wide range of standard and specialty beam splitters with transparent pricing online .
- o Alibaba provides bulk purchasing options, often with competitive pricing for standard plate or cube splitters, including AR-coated glass and ZnSe options with warranties .
- o GoPhotonics and DirectIndustry list multiple manufacturers, allowing users to request quotes for specific sizes, coatings, and polarization types . In summary, beam splitter prices are highly dependent on type, material, size, and coating, with standard small plates starting around \$50 and high-precision polarizing cubes or custom devices exceeding \$500-\$1,000. Bulk orders or standard off-the-shelf components can reduce costs,

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while specialized research-grade splitters command premium pricing.

Beamsplitters Selection Guide Beamsplitters selection Guide A beamsplitter is an optic that splits light into 2 directions. The split ratio

Optical components that create two beams by splitting incident light are beamsplitters. Read more about the different types of

As the name suggests, a beam splitter refers to an optical device which is used to split or divide a beam of light into

A beam splitter or power splitter is an optical device that can split an incident light beam e.g. a laser beam into two or

The transmittance and reflectance curves shown in Figures 1 through 6 are for unpolarized inputs at an angle of incidence of 45° . As

Beamsplitters play a critical role in a variety of optical applications, splitting or combining beams. They are used in microscopy, laser

A beam splitter is defined as an optical device that effects a linear transformation of fields presented at two input ports, producing

Beam splitter cubes are commonly used in various optical instruments and applications, including microscopy, spectroscopy, and

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Beam splitters are a fundamental element in optical systems. Beam splitters are, in essence, optical components used

A beam splitter or beamsplitter is an optical device that splits a beam of light into a transmitted and a

Optical beam splitters are widely used in laser systems, microscopy, interferometry, imaging, and photonics applications. Shanghai

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In practice, beam-splitters are often constructed in in complete accord with the standard quantum-optical treatment of beam-splitters

Beamsplitters (Beam Splitters) are components that split light at a specified point. These are used in

Learn how beam splitters work, compare cube and plate designs, and explore applications in lasers, microscopy, and interferometry.

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